Clay Street Realignment and Bridge (25C-0117) Replacement Project

Natural Environment Study

City of Placerville, El Dorado County, California
Placerville 7.5-Minute Quadrangle,
Township 10N, Range 11E, Section 7
Caltrans District 3
BRCMLO-5015(011)

February 2016

CALIFORNIA DEPARTMENT OF TRANSPORTATION

Natural Environment Study

STATE OF CALIFORNIA
Department of Transportation
and City of Placerville

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Summary

The City of Placerville Engineering Division (City) is proposing to replace the Clay Street Bridge (project) due to its functionally obsolete status, as determined by the Federal Highway Administration (FHWA) criteria. The project site is located in the City of Placerville, in the eastern central portion of El Dorado County, where Clay Street crosses Hangtown Creek, south of U.S Route 50 and includes the Clay Street Bridge, portions of Main Street, Cedar Ravine Road, Thompson Way, Pacific Street, Locust Avenue, and a section of the El Dorado Trail. The Clay Street Bridge over Hangtown Creek is a reinforced concrete, filled spandrel arch bridge that was originally constructed in 1940. The bridge has two spans with a total length of approximately 33 feet. The bridge is a single lane bridge, 19 feet wide, which carries two lanes of traffic in both the northbound and southbound direction across Hangtown Creek.

The environmental review, consultation, and any other action required in accordance with applicable Federal laws for this project is being, or has been, carried out by the California Department of Transportation (Caltrans) under its assumption of responsibility pursuant to National Environmental Policy Act (NEPA) Assignment MOU (23 USC 326).

The purpose of the proposed project is to remove the existing structure, which has been determined to be functionally obsolete and hydraulically inadequate (the 50 and 100-year flows overtop the existing bridge), reconstruct with a bridge that is consistent with appropriate design standards for roadway geometry, accessibility, hydraulics, and structural integrity. As part of the project it is likely that Clay Street will be realigned with Cedar Ravine Road at the Main Street intersection.

Project Impact Area

The Project Impact Area (PIA) refers to areas that will be temporarily or permanently impacted by the project (i.e., construction-related activities). The Biological Study Area (BSA) includes the PIA and a 100-foot radius around the project limits. The PIA includes all areas affected by demolition of the existing bridge, construction of the new bridge, the realignment of Clay Street, and the staging areas. The construction staging area would be located within the existing City right-of-way.

Habitat Impacts

Habitat types and vegetation communities in the BSA include riverine (two intermittent drainages), valley foothill riparian, montane hardwood-conifer forest, ruderal grassland, and urban (developed) land. The majority of the BSA is comprised of urban (developed) habitat with a very sparse corridor of valley foothill riparian habitat in association with Hangtown

Creek. A summary of potential impacts (both permanent and temporary) to terrestrial and aquatic habitats is provided in **Table S-1**, below.

Table S-1. Potential Impacts to Terrestrial and Aquatic Habitats within the BSA

Habitat Type	Acres within BSA	Acres Impacted (Impact Type)	Percent Impacted
Terrestrial			
Valley Foothill Riparian	0.72	0.04 (Permanent) 0.00 (Temporary)	6
Montane Hardwood-Conifer Forest	3.16	0.01 (Permanent) 0.00 (Temporary)	0.3
Ruderal Grassland	0.70	0.001 (Permanent) 0.00 (Temporary)	0.1
Urban (Developed)	18.23	1.30 (Permanent) 0.00 (Temporary)	7
Aquatic			
Riverine (Hangtown Creek) - Perennial	0.27	0.001 (Permanent) 0.01 (Temporary)	0.3
Riverine (Cedar Ravine Creek) - Intermittent	0.06	0.00 (Permanent) 0.03 (Temporary)	50
Riverine (Drainage Ditch) - Ephemeral	0.02	0.00 (Permanent) 0.00 (Temporary)	0.0
Total	**23.16**	**1.35 (Permanent) 0.04 (Temporary)**	**6.0**

Special-Status Species Impacts

The BSA does not provide suitable habitat for any federally-listed species nor is it within designated critical habitat or identified as core area within a USFWS species-specific recovery plan However, the following state-listed species and species of concern may be present: foothill yellow-legged frog (*Rana boylii*), western pond turtle (*Emys marmorata*), Jepson's onion (*Allium jepsonii*), Nissenan manzanita (*Acrtostaphylos nissenana*), Pleasant Valley mariposa-lily (*Calochortus clavatus* var. *avius*), Red Hills soaproot (*Chlorogalum grandiflorum*), Brandegee's clarkia (*Clarkia biloba* ssp. *brandegeeae*), Parry's horkelia *(Horkelia parryi*) and oval-leaved viburnum (*Viburnum ellipticum*).

Avoidance and minimization measures would be incorporated into the proposed project to reduce the potential for impacts to foothill yellow-legged frog, western pond turtle, Jepson's onion, Nissenan manzanita, Pleasant Valley mariposa-lily, Red Hills soaproot, Brandegee's clarkia, Parry's Horkelia, and oval-leaved viburnum. These measures focus on conducting pre-construction surveys, isolating the work space to avoid construction activities in flowing water, preparing an aquatic organism rescue and relocation plan, ensuring a qualified biologist is on site during dewatering and vegetation removal activities and working with the appropriate resource agency if these species are detected within the PIA.

Invasive Species

Several invasive and noxious weed species occur in the BSA. In compliance with Executive Order 13112 (Invasive Species), and subsequent guidance from the FHWA, the landscaping and erosion control measures incorporated into the proposed project will not use species listed as noxious weeds. Precautions will be taken to prevent the further spread of invasive species.

Wetlands and Other Waters of the U.S.

Features such as wetlands and other waters of the U.S. that may fall under the jurisdictional purview of the U.S. Army Corps of Engineers (Corps) were delineated in the project area. Aquatic features in the BSA that are considered potentially jurisdictional consist of Hangtown Creek. Based on the preliminary project design, rock slope protection (RSP) will be installed on the banks of Hangtown Creek and will result in permanent impacts of approximately 0.001 acres. There will be no permanent impacts to Cedar Ravine Creek. The project will temporarily impact approximately 0.01 acres of Hangtown Creek and approximately 0.03 acres of Cedar Ravine Creek.

Permits, approvals, and concurrences related to biological resource issues will be required from the following agencies:

- U.S. Army Corps of Engineers – Clean Water Act, Section 404, Nationwide Permit #14 (Linear Transportation Projects).
- California Department of Fish and Wildlife – California Endangered Species Act Section 1600-1602 Streambed Alteration Agreement.
- Regional Water Quality Control Board - Clean Water Act, Section 401 Water Quality Certification.

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List of Abbreviated Terms

AASHTO	American Association of State Highway and Transportation Officials
BA	Biological Assessment
BMPs	Best Management Practices
BSA	Biological Study Area
Cal-IPC	California Invasive Plant Council
Caltrans	California Department of Transportation
CCR	California Code of Regulations
CDFW	California Department of Fish and Wildlife
CESA	California Endangered Species Act
CEQA	California Environmental Quality Act
CFGC	California Fish and Game Code
City	City of Placerville Engineering Division
CMAQ	Congestion Mitigation and Air Quality
CNDDB	California Natural Diversity Database
CNPS	California Native Plant Society
Corps	U.S. Army Corps of Engineers
CRLF	California red-legged frog
CWA	Clean Water Act
DBH	diameter at breast height
DOT	U.S. Department of Transportation
E.O.	Executive Order
EPA	Environmental Protection Agency
ESA	Federal Endangered Species Act
FHWA	Federal Highway Administration
FO	Functionally obsolete
FYLF	Foothill yellow-legged frog
GPS	Global Positioning System
MBTA	Migratory Bird Treaty Act
NEPA	National Environmental Policy Act
NES	Natural Environment Study
OHWM	ordinary high water mark
PES	Preliminary Environmental Study
PIA	Project Impact Area

Project	Clay Street over Hangtown Creek Bridge Replacement Project
RSP	rock slope protection
RWQCB	Regional Water Quality Control Board
SWPPP	Storm Water Pollution Plan
SWRCB	State Water Resources Control Board
USC	United States Code
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey

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Chapter 1. Introduction

This Natural Environment Study (NES) report was prepared for the Clay Street Realignment and Bridge Replacement Project (project). The City of Placerville Engineering Division (City) is proposing to realign Clay Street to opposite Cedar Ravine Road at that intersection, replace the existing functionally obsolete one-lane bridge over Hangtown Creek, reconfigure the Ivy House parking lot, and improve the Locust Street parking lot. The new Clay Street/Cedar Ravine Road/Main Street intersection will be a 4-way stop with supporting infrastructure for future signalization.

The City is the lead agency for the project pursuant to the California Environmental Quality Act (CEQA). Because federal funding is involved, the project requires review under the National Environmental Policy Act (NEPA). Caltrans is acting as NEPA lead agency pursuant to their NEPA responsibilities delegated under Memorandum of Understanding with the U.S. Department of transportation (DOT). The project is located on a local roadway, and is being processed through the Caltrans Local Assistance Program.

1.1. Project History

The City was previously under contract for preliminary design and environmental review (NEPA only) for the realignment of Clay Street and bridge replacement with a roundabout as the preferred alternative for the intersection at Cedar Ravine and Main Street. Due to public opposition, the City has removed the roundabout alternative for the intersection design. Subsequently, the previously approved Congestion Mitigation and Air Quality (CMAQ) funding for the roundabout intersection was de-obligated.

1.1.1. Purpose and Need

The existing vehicular bridge structure on Clay Street over Hangtown Creek has been determined to be functionally obsolete (FO), with a sufficiency rating of 65.6, and hydraulically inadequate.

Vehicles traveling eastbound on Main Street attempting to turn north onto Clay Street causes traffic to back-up on Main Street. Additionally, vehicles traveling southbound on Clay Street attempting to turn eastbound on Main Street causes back-up on Clay Street. Both turning movements are delayed by westbound traffic being stop controlled at the current Main Street/Cedar Ravine Road intersection. Both Main Street and Cedar Ravine Road are classified as Minor Arterials whereas Clay Street is considered a Local road. The area is further complicated by a Main Street mid-block pedestrian cross walk immediately east of the Clay Street/Main Street intersection.

1.2. Project Description

The proposed project is located in the central eastern portion of El Dorado County (**Figure 1-1**) in the City of Placerville where Clay Street crosses Hangtown Creek, south of U.S Route 50 and includes the Clay Street Bridge, portions of Main Street, Cedar Ravine Road, Thompson Way, Pacific Street, Locust Avenue, and a section of the El Dorado Trail (**Figure 1-2**). The proposed project is on the Placerville CA USGS 7.5' Quadrangle within Township 10 North, Range 11 East, Section 7.

The City of Placerville's Clay Street Realignment Project involves 2 primary components:

The first major project component is to reconstruct the Clay Street Bridge over Hangtown Creek (25C0117). The existing bridge is considered functionally obsolete and has a sufficiency rating of 65.6 per Caltrans' Bridge Inspection Report dated July 15, 2014 and does not pass 100-year storm water flows. The existing one-lane bridge is approximately 19 feet wide with roughly 17 feet wide barrier to barrier. Within the 17-foot width, the existing bridge has close to 3 feet of sidewalk along the west edge of the bridge that is level with the roadway causing pedestrians to contend with traffic.

The second major project component is to reconstruct the current three-way Main Street/Cedar Ravine Road intersection. The redesign would realign Clay Street to terminate opposite Cedar Ravine Road, thus creating a four-way stop controlled intersection at Main Street/Cedar Ravine Road/Clay Street. The intersection improvements are intended to help reduce congestion and improve traffic flow in the general area as well as address pedestrian safety as it relates to the adjacent El Dorado Trail and Main Street circulation. Currently, Clay Street intersects Main Street just west of the Main Street/Cedar Ravine Road intersection.

Due to the bridge reconstruction and widening to accommodate one-through lane of traffic for both northbound and southbound lanes, in combination with the intersection improvements, the existing Ivy House Parking Lot will be affectively subdivided and a loss of parking will occur. Replacement parking would be constructed within the City's right-of-way located off of Locust Avenue just north of Hangtown Creek (also being referred to as the Locust Lot). The proposed parking lot is approximately 500-feet east of the Ivy House Parking lot on the north side of Hangtown Creek.

Figure 1-1. Regional Location

Source: ESRI Online Basemap, Street Map, El Dorado County
Coordinate System NAD 83 State Plane California II FIPS
0402 Feet
Notes: This map was created for informational and display purposes only

Project Name:
Clay Street Realignment and
Bridge (25C-0117) Replacement Project
City of Placerville, California

Regional Location

Figure 1-1

Figure 1-2. Project Location

Project Impact Area

Clay Street Bridge

N

0 175 350 700 Feet

drake haglan AND ASSOCIATES

Source: ESRI Online Basemap, Street Map, El Dorado County
Coordinate System NAD 83 State Plane California II FIPS
0402 Feet
Notes: This map was created for informational and display purposes only

Project Name:
Clay Street Realignment and
Bridge (25C-0117) Replacement Project
City of Placerville, California

Project Location

Figure
1-2

1.2.1. Demolition and Construction Staging

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 bridge demolition will be removed from the project site and disposed of by the contractor. The construction contractor will prepare a bridge demolition plan.

It is anticipated that construction will occur when the creek bed is dry. However, if water is present during construction, temporary cofferdams will be installed upstream and downstream of the construction site. A temporary culvert will be installed between the cofferdams to carry water through the work area. The work area will then be dewatered by pumping. The temporary cofferdams and culvert will be removed after the completion of foundation and abutment construction and after placement of rock slope protection (RSP). All in-channel work will be limited to the dry season (June-October, or as determined appropriate by the permitting agencies).

Because the proposed bridge is relatively short, falsework beams will be able to span from one abutment to the other eliminating the need for falsework bents or other temporary supports in the creek.

1.2.2. Right-of-Way

Temporary construction easements or rights of entry may be required from the properties along Clay Street, Main Street, and Thompson Way. During the preliminary engineering phase, right-of-way take will be determined.

1.2.3. Utilities

Utility piping attached to the bridge, a large water supply line, and above ground and underground public and private utilities are located within the BSA. The existing utility infrastructure within the project area would be relocated to accommodate the new Clay Street road alignment, and the widened bridge over Hangtown Creek. In addition, the project will realign an existing sewer line under the Ivy House Parking Lot and reconnect the line to an existing sewer line on the south side of Hangtown Creek.

1.2.4. Detour Route

During the preliminary engineering phase, it will be determined whether or not the roadway will be closed during construction or the bridge will be constructed in stages to allow traffic to be un-interrupted during construction. If a road closure is determined to be preferred, a detour route will be identified.

1.2.5. Construction Guidelines

Construction will consist of the following activities:

- Installing construction area and detour signs
- Installing temporary cofferdams and temporary culvert (if necessary)
- Removing trees
- Clearing and grubbing
- Relocating utilities
- Demolishing existing bridge
- Excavating for the new bridge foundations (maximum of 10 feet deep)
- Constructing the new bridge and approaches, including excavating for and placing asphalt concrete paving and concrete curb, gutter and sidewalk on each approach.
- Realigning Clay Street with Cedar Ravine Road and the associated intersection and parking lot modifications.

Table 1-1 provides a description of the type of equipment likely to be used during the construction of the proposed project.

Table 1-1. Construction Equipment

Equipment	Construction Purpose
backhoe	soil manipulation + drainage work
bobcat	fill distribution
bulldozer / loader	earthwork construction + clearing and grubbing
Crane	placement of falsework beams, lifting rebar cages for piling
dump truck	fill material delivery
excavator	soil manipulation
front-end loader	dirt or gravel manipulation
grader	ground leveling
haul truck	earthwork construction + clearing and grubbing
roller / compactor	earthwork and paving construction
truck with seed sprayer	landscaping
drill rig	cast-in-drilled-hole (CIDH) pile construction
concrete pump	concrete placement
Bid-well paving machine	concrete bridge deck finishing
water truck	earthwork construction + dust control

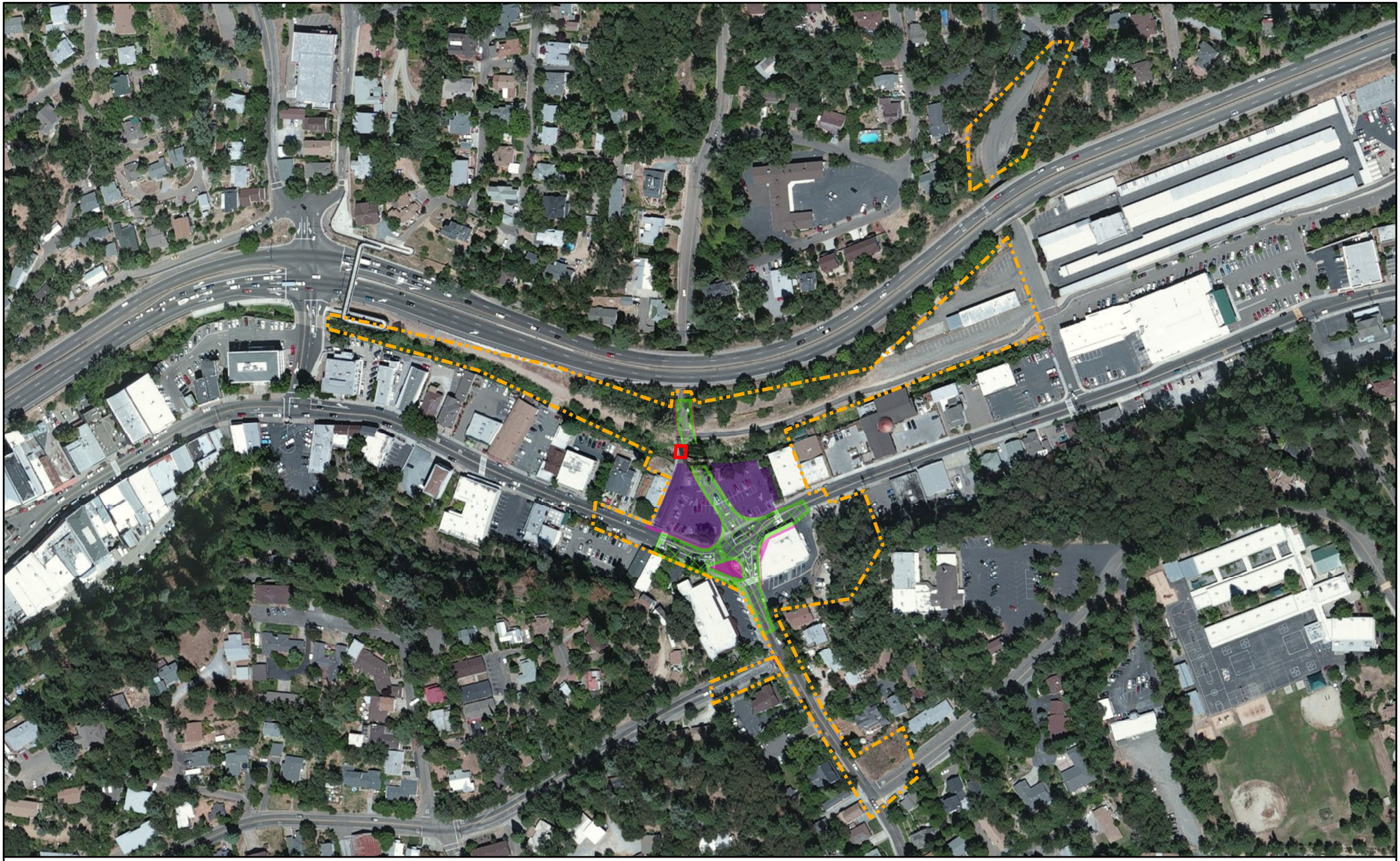
1.2.6. Construction Schedule and Timing

Construction of the proposed project is anticipated to take between 9 months and 16 months to complete, depending on closure vs. staged construction. Construction is scheduled for the 2017 or 2018 calendar year and would begin in April, or as determined appropriate by the California Department of Fish and Wildlife (CDFW) and the United States Fish and Wildlife Service (USFWS). All work within Hangtown Creek would be conducted during the dry season.

1.2.7. Project Impact Area (PIA)

The Project Impact Area (PIA) refers to areas that will be temporarily or permanently impacted by the project (i.e., construction-related activities). The PIA includes all areas affected by demolition of the existing bridge, construction of the new bridge, the realignment of Clay Street, and the staging areas (**Figures 1-3**). The construction staging area would be located within the existing City right-of-way.

Figure 1-3. Project Details and Project Impact Area



Legend

- Project Impact Area
- Existing Clay Street Bridge

Project Details

- Proposed Bridge
- Proposed Parking Lot
- Proposed Road Realignment
- Proposed Sidewalk and Median

N

0 175 350 700 Feet

drake haglan AND ASSOCIATES

Source: ESRI Online Basemap, Street Map, El Dorado County
Coordinate System NAD 83 State Plane California II FIPS
0402 Feet
Notes: This map was created for informational and display purposes only

Project Name:
Clay Street Realignment and
Bridge (25C-0117) Replacement Project
City of Placerville, California

Project Impact Area and Project Details

Figure 1-3

Chapter 2. Study Methods

This section describes the methods used in the preparation of this NES report and includes a list of resources reviewed, field survey dates and personnel, and problems and limitations encountered during the study that may influence the conclusions reached in this report.

2.1. Regulatory Requirements

This section summarizes the federal and state regulations that protect special-status species; waters of the U.S. and state, including wetlands; and sensitive habitats. This section also discusses pertinent City of Placerville General Plan goals, ordinances, and policies relating to the protection and preservation of biological resources.

2.1.1. Special-status Species Protection

The following regulations pertain to special-status species or habitats within and adjacent to the BSA.

2.1.1.1. FEDERAL ENDANGERED SPECIES ACT

Under the federal Endangered Species Act (ESA), the Secretary of the Interior and the Secretary of Commerce jointly have the authority to list a species as threatened or endangered (16 United States Code [USC] Section 1533[c]). Pursuant to the requirements of the ESA, an agency reviewing a proposed project within its jurisdiction must determine whether any federally listed threatened or endangered species may be present in the project site and determine whether the project will result in “take” of any such species. In addition, the agency is required to determine whether the project is likely to jeopardize the continued existence of any species proposed to be listed under the ESA or result in the destruction or adverse modification of critical habitat proposed to be designated for such species (16 USC Section 1536[3], [4]).

Section 7 of the ESA provides a means for authorizing incidental take of federally endangered or threatened species that result from federally conducted, permitted, or funded projects. Similarly, Section 10 authorizes incidental take of federally endangered or threatened species that result from non-federal projects.

2.1.1.2. FEDERAL MIGRATORY BIRD TREATY ACT

The federal Migratory Bird Treaty Act (MBTA) (16 USC, Sec. 703, Supp. I, 1989) prohibits killing, possessing, or trading migratory birds except in accordance with regulations prescribed by the Secretary of the Interior. This act encompasses whole birds, parts of birds, bird nests, and eggs. The MBTA is administered by the U.S. Fish and Wildlife Service (USFWS) and special permits from the agency are generally

required for the take of any migratory birds. This act applies to all persons and agencies in the U.S., including federal agencies.

2.1.1.3. CALIFORNIA ENDANGERED SPECIES ACT

Under the California Endangered Species Act (CESA), CDFW has the responsibility for maintaining a list of threatened and endangered species designated under state law (CFGC Section 2070). Pursuant to the requirements of CESA, an agency reviewing a proposed project within its jurisdiction must determine whether any state-listed endangered or threatened species may be present in the project site and determine whether the proposed project will result in take of any such species. Under CESA, "take" is defined as the action of or attempt to "pursue, hunt, shoot, capture, collect, or kill." The CDFW may authorize the incidental take of a state-listed species under Section 2081 of the CFGC. For species that are listed as threatened or endangered under both the ESA and CESA, and for which an incidental take permit has been issued in accordance with Section 10 of the ESA, CDFW may authorize take after certifying that the incidental take permit is consistent with CESA, pursuant to Section 2080.1 of the CFGC.

2.1.1.4. CALIFORNIA DEPARTMENT OF FISH AND GAME CODE

The CDFW provides protection from take for state-listed and non-listed species. The CFGC defines "take" as "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill." CFGC Section 2080 prohibits take of a species listed as endangered or threatened under the CESA and CFGC Section 2081 allows CDFW to issue an incidental take permit in accordance with Title 14 California Code of Regulations (CCR) Sections 783.4(a) and (b), and CFGC Section 2081(b). Eggs and nests of all birds are protected from take under CFGC Section 3503. Raptors and raptor nests or eggs are protected from take under CFGC Section 3503.5. Migratory birds are expressly prohibited from take under CFGC Section 3513 and species designated by CDFW as fully protected species are protected from take under CFGC Sections 3511, 4700, 5050, and 5515.

2.1.2. Regulation of Activities in Waters of the U.S. and State

The following federal and state regulations pertain to waters of the U.S., including wetlands, found within and adjacent to the BSA.

2.1.2.1. FEDERAL REGULATION

The U.S. Army Corps of Engineers (Corps) has primary federal responsibility for administering regulations that concern waters of the U.S., including wetlands and drainages. The Corps acts under two statutory authorities: the Rivers and Harbors Act (Sections 9 and 10), which governs specified activities in "navigable waters of the U.S.," and the Clean Water Act (CWA) Section 404, which governs specified activities in waters of the U.S. The Corps requires that a permit be obtained if a project proposes

placing structures within, over, or under navigable waters and/or discharging dredged or fill material into waters of the U.S., including wetlands. The Environmental Protection Agency (EPA), USFWS, and several other agencies provide comment on Corps permit applications.

2.1.2.2. EXECUTIVE ORDER 11990 – PROTECTION OF WETLANDS

Executive Order 11990 established a national policy to avoid adverse impacts on wetlands whenever there is a practicable alternative. The U.S. Department of Transportation (DOT) promulgated DOT Order 5660.1A in 1978 to comply with this direction. On federally funded projects, impacts to wetlands must be identified and alternatives that avoid wetlands must be considered. If wetland impacts cannot be avoided, then all practicable measures to minimize impacts must be included. This must be documented in a specific Wetlands Only Practicable Alternative Finding.

Additional requirement is to provide early public involvement in projects affecting wetlands. The Federal Highway Administration (FHWA) provides technical assistance (Technical Advisory 6640.8A) and reviews environmental documents for compliance.

2.1.2.3. STATE REGULATION

The State's authority in regulating activities in waters of the U.S., including wetlands, resides primarily with the State Water Resources Control Board (SWRCB). SWRCB, acting through Regional Water Quality Control Board (RWQCB), must certify that a Corps permit action meets state water quality objectives under Section 401 of the CWA. RWQCB jurisdiction over waters of the state is extended through the Porter-Cologne Act, which defines waters of the state as any surface water or groundwater, including saline waters, within the boundaries of the state (California Water Code Section 13050[e]). In the absence of CWA Section 404 jurisdiction over isolated waters or other waters of the state, California retains authority to regulate discharges of wastes into any waters of the state. The Porter-Cologne Act provides a comprehensive framework to protect water quality in California. It requires any entity that plans to discharge waste where it might adversely affect waters of the state to first notify the RWQCB, which may impose requirements to protect water quality.

Under the CFGC Sections 1600–1607, CDFW may develop mitigation measures and enter into Streambed Alteration Agreements with applicants who propose projects that would obstruct the flow of, or alter the bed, channel, or bank of, a river, stream, or lake in which there is a fish or wildlife resource, including seasonal drainages.

2.1.3. Executive Order 13112 – Invasive Species

Executive Order (E.O.) 13112 requires federal agencies to combat the introduction or spread of invasive species in the United States. The order defines invasive species as "any species, including its seeds, eggs, spores, or other biological material capable of

propagating that species, that is not native to that ecosystem whose introduction does or is likely to cause economic or environmental harm or harm to human health." FHWA guidance issued August 10, 1999 directs the use of the state's invasive species list, maintained by the California Invasive Species Council to define the invasive plants that must be considered as part of the National Environmental Policy Act (NEPA) analysis for a proposed project.

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

2.1.4. Local Plans and Policies

The following local planning documents contain plans and policies applicable to biological resources in the BSA.

2.1.4.1. CITY OF PLACERVILLE GENERAL PLAN POLICY DOCUMENT

The following goals and policies from the 2004 General Plan are relevant to biological resources. These policies guide the location, design, and quality of development to protect biological resources such as wildlife habitat, open space corridors, and ecosystems.

Goal D: To protect Placerville's natural vegetation and diverse wildlife.

Policies:

1. The City shall make every effort to protect riparian vegetation. To this end, buildings and improvements shall be set back from watercourses.
2. The City shall ensure that channel improvements to and tree and brush clearance activities along creeks within the city do not unnecessarily disturb riparian vegetation.
3. New development shall be sited to protect native tree species, riparian vegetation, important concentrations of natural plants, and important wildlife habitat, to minimize visual impacts and to provide for continuity of wildlife corridors.
4. The City shall use parkland and open space areas with subdivisions to preserve natural areas and wildlife habitat.
5. The City should develop an area with a good representation of plant communities and wildlife as a nature study area.
6. To retain the natural landscape character of Placerville, introduced plants in public and private landscaping should be subordinate to and compatible with existing natural landscape.
7. The City shall encourage creative site planning which will minimize the destruction of trees.

8. The City shall condition development approval to minimum grading, disturbance of root systems, and compaction of soil under the drip line of trees during construction.
9. The City shall seek to protect and manage Placerville's tree cover to maximize ecological and aesthetic values consistent with the reasonably economic enjoyment of private property. To this end, the City shall adopt and enforce a Historical Tree Ordinance.
10. The City shall annually promote Arbor Day.
11. The City shall take action to ensure the protection of Hangtown Creek and the creek area.

Goal I: To protect and enhance

Policies:

4. The City shall condition development approvals to protect natural features such as rock outcrops and trees.
5. The City shall preserve creeks in as natural a state as possible.
6. The City shall promote the development of streamside mini parks.

2.1.4.2. CITY OF PLACERVILLE WOODLAND AND FOREST CONSERVATION PLAN

Chapter 13 of Title VIII of the City's Code (Woodland and Forest Conservation Plan) outlines specific requirements for the preservation and protection of trees through the issuance of tree removal permits.

2.2. Studies Required

Prior to conducting the field survey, a list of special-status plants and wildlife known to potentially occur within the vicinity of the project was reviewed. Sources consulted in preparation of the list of special-status species included the California Natural Diversity Database (CNDDB) (CDFW, 2015), a USFWS list of potentially affected federally threatened and endangered species (USFWS, 2015a), and the California Native Plant Society (CNPS) Online Inventory of Rare and Endangered Plants (CNPS, 2015) (**Appendix A**). In addition, the USFWS Critical Habitat Mapper (USFWS, 2015b) and the National Wetland Inventory Wetlands Mapper (USFWS, 2015c) were reviewed. The list was then used to focus the botanical and wildlife field investigations on the targeted species and the habitats known to support these species.

Following a review of the resources listed above, it was determined that field surveys were required to assess the BSA for sensitive biological resources including plants and wildlife.

2.2.1. Biological Study Area

The BSA includes all areas that could potentially be impacted by the project and a buffer to accommodate any changes to project limits and design that may occur during project development. For the purposes of this NES report, the BSA includes the project site where ground disturbance will occur and the surrounding 100-foot buffer.

2.2.2. Survey Methods

Field reconnaissance was conducted by walking the entire PIA and areas outside of the PIA and within the BSA. The primary focus of the survey was to evaluate the potential for regionally occurring sensitive habitats (including potentially jurisdictional waters of the U.S.) and special-status species to occur within the BSA. Plant communities and habitats were recorded onto a rectified aerial photograph, and plant species were identified and recorded. Plant species that may occur within the PIA and surrounding BSA but were not surveyed during the appropriate blooming season are discussed below in Section 2.5 (Limitations that May Influence Results). These habitat features (including potentially jurisdictional waters of the U.S.) were digitized with geographic information system (GIS) software (Arc Map 10.3) to provide digital habitat data for quantitative analysis. Additionally, a delineation of wetlands and waters of the U.S. was performed for the PIA and areas accessible outside of the PIA and within the BSA is included in **Appendix B**.

Potentially jurisdictional wetlands and other waters of the U.S. were delineated in the PIA and surrounding BSA according to methods outlined in the *Corps of Engineers Wetland Delineation Manual* (Corps, 1987) and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0*) (Corps, 2008). Corps regulations were used to determine the presence of jurisdictional waters of the U.S. other than wetlands. The entire study area was assessed in such a manner as to view all areas to the degree necessary to determine the presence or absence of jurisdictional features. Plant nomenclature follows The Jepson Manual: Vascular Plants of California (Second Edition) (Baldwin et al., 2012). The *Arid West 2014 Regional Wetland Plant List* (Lichvar, 2014) was used to determine the wetland indicator status of observed plants.

Within the BSA, boundaries of other “waters of the U.S.” were recorded in the field on color aerial photo base maps at a scale of 1 inch = 400 feet. Field mapping was digitized onto the aerial base maps using ArcGIS 10.1 software. The linear feet and areas of potential jurisdictional features were calculated with ArcGIS, based on the portion of each feature contained within the BSA.

Hangtown Creek was also assessed for its potential to support aquatic species including California red-legged frog (CRLF; *Rana draytonii*), foothill yellow-legged frog (*Rana boylii*), and western pond turtle (*Emys marmorata*). During the stream assessment the biologists

documented stream characteristics including: substrate composition, channel geomorphology, aquatic vegetation, emergent vegetation, riparian canopy and understory vegetation.

2.3. Personnel and Survey Dates

Jeffery Little, of Sycamore Environmental Consultants, Inc., conducted reconnaissance site visits on July 11 and October 12, 2007. Chuck Hughes (M.S., Botanist/ Biologist/ ISA Certified Arborist [WE-6885A]), and Jessica Easley (Biologist/ ISA Certified Arborist [WE-7845A]) conducted a general biological survey on December 8, 2008 and Mr. Hughes conducted a general biological survey on April 15, 2009. Mr. Hughes and Ms. Easley conducted a general biological survey and fieldwork for the jurisdictional delineation and biological survey on August 25, 2009 and Mr. Hughes collected additional GPS data for the jurisdictional delineation on August 31, 2009. A subsequent biological survey was conducted by Drake Haglan and Associates (DHA) biologist, Lindsay Tisch, on December 4, 2015.

Protocol CRLF surveys were conducted at Clay Street at Hangtown Creek in accordance with the USFWS 2005 guidelines in 2006 and 2007 for a project located in the City of Placerville. Daytime field surveys were conducted on March 1 and 13, and September 27, 2006 and May 17, and July 5, 2007; nighttime field surveys were conducted on March 13 and 29, April 5 and 13, and September 27, 2006 and May 17, 24, and 31, June 7, and July 5, 2007. Additional CRLF surveys were conducted in accordance with the USFWS 2005 guidelines along Hangtown Creek and within a 2.5-mile radius of the BSA (**Appendix C**).

2.4. Agency Coordination and Professional Contacts

2.4.1. U.S. Fish and Wildlife Service

An online list of threatened and endangered species that may occur in the proposed project location, and/or may be affected by the proposed project was obtained from the USFWS website and is included in Appendix A. In addition, a site visit was conducted with Jeremiah Karuzas, USFWS biologist, on March 22, 2010 and it was determined at that time that the project is not likely to adversely affect CRLF with the incorporation of avoidance and minimization measures.

2.4.2. California Department of Fish and Wildlife

DHA contacted Mr. Kursten Sheridan by email on November 20, 2015 to discuss the potential for species other than foothill yellow-legged frog (FYLF) and western pond turtle that could potentially utilize Hangtown Creek. On December 10, 2015, Mr. Sheridan replied via phone that the generated CNDDB list (Appendix A) is accurate and he does not believe that there are additional species that may have the potential to occur. He concurs that there is the potential for FYLF and western pond turtle to utilize Hangtown Creek as a movement corridor.

2.5. Limitations that May Influence Results

Field surveys were conducted when some of the special-status plants with the potential to occur in the BSA may not have been evident and identifiable. No problems or limitations were encountered that may have influenced the results.

Chapter 3. Results: Environmental Setting

This section describes the region in which the proposed project is located as well as the specific biological conditions with the BSA. The region's topography, soils, vegetation, watercourses, and level of human or natural disturbance are discussed.

3.1. Description of the Existing Biological and Physical Conditions

3.1.1. Biological Study Area

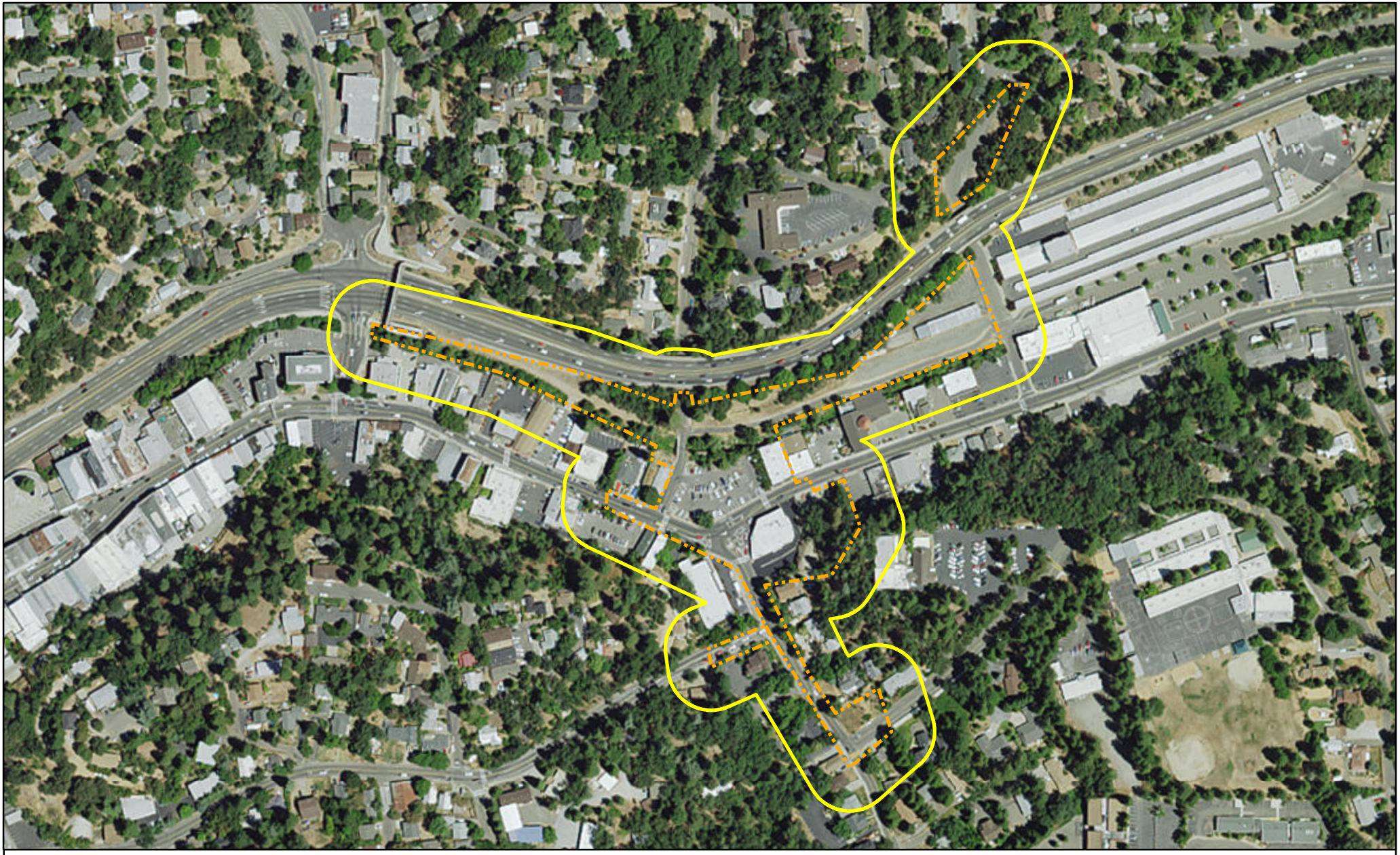
A BSA comprised of a 100-foot radius around the PIA was determined sufficient after considering the environmental setting and special-status species potentially occurring in the vicinity of the BSA (**Figure 3-1**). The BSA is located in an area dominated by urban (developed) habitat with a narrow strip of valley foothill riparian habitat occurring along the northern bank of Hangtown Creek. A series of retaining walls have been constructed along the south bank and rip-rap and other retaining walls occur in various locations on the north bank of the creek in the BSA. Land use within the BSA consists of medium- to high-density residential and commercial development.

3.1.2. Physical Conditions

The BSA is located in the Central Valley, an area characterized by vast agricultural regions, and dotted with numerous population centers, including the City of Placerville. Topography is generally flat, with localized steeper slopes, particularly along the highly incised banks of Hangtown Creek. The BSA is at an elevation of approximately 1,850 to 1,925 feet above sea level. Hangtown Creek is the primary aquatic feature within the BSA. Cedar Ravine Creek, which is a tributary to Hangtown Creek, is confined entirely within an underground culvert.

The BSA is located on the Placerville CA USGS 7.5-minute Quadrangle (T10N, R11E, Section 7) and is in the South Fork American Hydrologic Unit (hydrologic unit code 18020129). The entire BSA drains to Hangtown Creek which flows west through the BSA. Hangtown Creek drains into Weber Creek which drains into the American River. Soils in the BSA consist of Placer diggings, Mariposa very rocky silt loam, 3-50% slopes; Mariposa gravelly silt loam, 3-30% slopes; and Mariposa-Josephine very rocky loams, 15-50% slopes. These soil units are not listed as hydric or as having hydric inclusions (**Figure 3-2**; NRCS 2015). More detailed soil information is in the Preliminary Wetland Delineation Report in Appendix B.

Figure 3-1. Project Impact Area and Biological Study Area



Biological Study Area

Project Impact Area

N

0 200 400 800 Feet

drake haglan AND ASSOCIATES

Source: ESRI Online Basemap, Street Map, El Dorado County
Coordinate System NAD 83 State Plane California II FIPS
0402 Feet
Notes: This map was created for informational and display purposes only

Project Name:
Clay Street Realignment and
Bridge (25C-0117) Replacement Project
City of Placerville, California

Project Impact Area and Biological Study Area

Figure 3-1

Figure 3-2. Soils Map

Legend

Biological Study Area

Soil Type

MaD - Mariposa gravelly silt loam, 3 to 30 percent slopes

MbE - Mariposa very rocky silt loam, 3 to 50 percent slopes

McE - Mariposa - Josephine very rocky loams, 15 to 50 percent slopes

PrD - Placer diggings

N

0 125 250 500 Feet

drake haglan AND ASSOCIATES

Source: ESRI Online Basemap, Street Map, El Dorado County
Coordinate System NAD 83 State Plane California II FIPS
0402 Feet
Notes: This map was created for informational and display purposes only

Project Name:
Clay Street Realignment and
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City of Placerville, California

Soils Map

Figure 3-2

3.1.3. Biological Conditions in the Biological Study Area

Wildlife habitats are generally described in terms of dominant plant species and plant communities along with landform, disturbance regime, and other unique environmental characteristics. The wildlife habitats described in this section are based on the CDFW's A Guide to Wildlife Habitats (Mayer and Laudenslayer, 1988) that is used in CDFW's California Wildlife Habitat Relationships System.

Within CDFW's current vegetation classification system, vegetation alliances are the scientifically derived hierarchical class that corresponds best with plant communities and are designed to be the unit for conservation of rare or threatened plant communities (Sawyer et al., 2009). Vegetation alliances typically represent a much finer scale of vegetation description than wildlife habitats but correspond appropriately with one or several wildlife habitat types. CDFW provides crosswalks to help correlate vegetation alliances with wildlife habitats and the descriptions below make use of the crosswalk. A description of each habitat type is presented below. Related vegetation alliances are listed following the wildlife habitat description and are based on the alliance descriptions presented by Sawyer et al. (2009).

Terrestrial habitat types in the BSA include ruderal grassland, valley foothill riparian, montane hardwood-conifer forest, and urban (developed). Aquatic habitat types in the BSA include riverine (perennial and intermittent drainages). Terrestrial and aquatic habitat types are discussed below. A habitat map of the BSA is included in **Figure 3-3** and a summary of habitat types within the BSA is shown in **Table 3-1**. Photographs of the BSA are provided in **Appendix D** and a list of plant and wildlife species observed during the field surveys conducted in 2007, 2008, and 2009 is included in **Appendix E**. A new list was not included for the 2015 survey as all plants observed are included on the list from the previous surveys.

Table 3-1. Habitat Types within the BSA

Habitat Type	Acres within BSA	Percent Composition of BSA
Upland Communities		
Ruderal Grassland	0.70	3
Valley Foothill Riparian	0.72	3
Montane Hardwood-Conifer Forest	3.16	14
Urban (Developed)	18.23	79
Aquatic Communities		
Riverine (Hangtown Creek) - Intermittent	0.27	1
Riverine (Cedar Ravine Creek) - Intermittent	0.06	0
Riverine (Drainage Ditch) - Ephemeral	0.02	0
Total	**23.16**	**100%**

Figure 3-3. Habitat Types within the Biological Study Area

Legend

- Biological Study Area
- **Habitat Type**
- Riverine (Drainage Ditch)
- Montane Hardwood-Conifer Forest
- Riverine (Cedar Ravine Creek)
- Riverine (Hangtown Creek)
- Ruderal Grassland
- Urban (Developed)
- Valley Foothill Riparian Forest

N

0 125 250 500 Feet

drake haglan AND ASSOCIATES

Source: ESRI Online Basemap, Street Map, El Dorado County
Coordinate System NAD 83 State Plane California II FIPS
0402 Feet
Notes: This map was created for informational and display purposes only

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City of Placerville, California

Habitat Types

Figure 3-3

3.1.3.1. RUDERAL GRASSLAND

Ruderal grassland habitat occurs in areas associated with ground disturbance, including grading, vehicle use, and/or intensive vegetation maintenance. Due to the disturbance regime, these areas remain sparsely vegetated and are dominated by assemblages of introduced weedy species. Ruderal grassland habitat occurs in association with the montane hardwood-conifer forest. Ruderal grasslands contain species similar to annual grassland habitat, but are dominated by nonnative grasses and forb species that are adapted to regular disturbance. Common species represented in this habitat include Italian ryegrass (*Festuca perennis*), ripgut brome (*Bromus diandrus*), soft chess brome (Bromus hordeaceus), and wild oat (*Avena* spp.). Additional plant species observed in this area include black mustard (*Brassica nigra*), spring vetch (*Vicia sativa*), smooth cat's-ear (*Hypochaeris glabra*), geranium (*Geranium dissectum*), and filaree (*Erodium botrys*).

Ruderal grassland may provide habitat for common species that also occur in annual grassland habitat, such as rock pigeon (*Columba livia*), house sparrow (*Passer domesticus*), house finch (*Carpodacus mexicanus*), and mourning dove (*Zenaida macroura*). Species observed in these habitats during the site visit included western scrub jay (*Aphelocoma californica*), house sparrow, American robin, and northern mockingbird. This habitat type is unlikely to support special-status plant species.

3.1.3.2. VALLEY FOOTHILL RIPARIAN

Valley foothill riparian habitat occurs in association with Hangtown Creek as a narrow corridor along the northern bank. Characteristic species that comprise the upper story of riparian habitat within the BSA include white alder (*Alnus rhombifolia*), and arroyo willow (*Salix lasiolepis*), are the dominant tree species in this community. Other trees present in lesser abundance are incense cedar, big-leaf maple (*Acer macrophyllum*), Fremont cottonwood (*Populus fremontii*), the nonnative invasive tree-of-heaven *(Ailanthus altissima*), and Lombardy poplar *(Populus nigra).* The understory consists of shrubs and herbaceous species, including Himalayan blackberry, annual grasses and poison oak.

Depending on habitat complexity and structure, valley foothill riparian may provide cover, nesting, and dispersal habitat for a wide variety of wildlife, including amphibians, reptiles, mammals, and many bird species. Additionally, trees and shrubs growing along the banks of a channel provide shade for the water column adjacent to the stream bank and deposit insects and nutrients into the water. Over-hanging vegetation provides shaded riverine aquatic habitat and food for fish and other aquatic wildlife.

Vegetation Alliances

- *Alnus rhombifolia – Acer macrophyllum* (61.420.03) White Alder Groves Alliance

3.1.3.3. MONTANE HARDWOOD-CONIFER FOREST

Montane hardwood-conifer forest occurs in remnant patches within the urban matrix of the BSA. The tree canopy is sparse but is dominated by California black oak (*Quercus kelloggii*). Valley oak *(Quercus lobata),* interior live oak *(Quercus wislizenii* var. *wislizenii),* ponderosa pine *(Pinus ponderosa),* incense cedar *(Calocedrus decurrens),* California buckeye *(Aesculus californica),* Northern California black walnut *(Juglans californica* var. *hindsii),* and knob-cone pine *(Pinus attenuata)* are also present. White-leaf manzanita *(Arctostaphylos viscida)* is the dominant species in the shrub layer of this community. The herbaceous layer is composed of native and non-native grasses and forbs.

Montane hardwood-conifer provides habitat for a variety of wildlife species. Mature forests are valuable to cavity nesting birds. Moreover, mast crops are an important food source for many birds as well as mammals. Canopy cover and understory vegetation are variable which makes the habitat suitable for numerous species.

Vegetation Alliances

- *Quercus kelloggii – Calocedrus decurrens* (71.010.21) California Black Oak Forest Alliance

3.1.3.4. URBAN (DEVELOPED)

Within the BSA, urban areas are landscaped with ornamental species, paved, or otherwise developed and generally lack natural vegetation. Habitats associated with urban areas include ruderal grassland and annual grassland. Urban areas within the BSA include Clay Street, Main Street, Cedar Ravine Road, Pacific Street, Thompson Way, Locust Avenue, the Ivy House parking lot, and the El Dorado trail, as well as the residential and commercial development areas. Urban environments generally provide limited habitat for common wildlife species such as rock pigeon, house sparrow, American crow (*Corvus brachyrhynchos*), house mouse (*Mus musculus*), and opossum (*Didelphis virginiana*).

3.1.3.5. RIVERINE (HANGTOWN CREEK, CEDAR RAVINE CREEK AND DRAINAGE DITCH)

Riverine habitats are distinguished by intermittent or continually running water, and occur in association with a variety of terrestrial habitats. Within the BSA, Hangtown Creek and Cedar Ravine Creek comprise the riverine habitat. Riverine habitat provides water and a migration corridor for a variety of amphibians, reptiles, and fish species.

Hangtown Creek is a perennial channel that flows west through the BSA. Hangtown Creek is shown as a perennial channel on the Placerville quad map and is mapped as riverine, intermittent, streambed, seasonally flooded (R4SBC) on the National Wetland Inventory (NWI) map (USFWS 2015c). Cedar Ravine Creek empties into Hangtown

Creek at the Clay Street Bridge. Flows in Hangtown Creek are supplemented by urban runoff and landscape irrigation.

A series of retaining walls and rip-rap forms the south bank of Hangtown Creek while graded slopes, retaining walls, and rip-rap form the north bank and a sewer main follows the alignment of Hangtown Creek. The bed of Hangtown Creek is mostly bedrock. Vegetation consists of white alder, willow, Fremont cottonwood, and hydrophytic herbs. The OHWM determination was based primarily on the presence of scour on the north bank and water staining on the south bank and is approximately 8 feet. Hangtown Creek was flowing during all site visits, including in 2015.

Within the BSA, Cedar Ravine Creek, which is a tributary to Hangtown Creek, is confined entirely within an underground culvert. However, in areas south of the BSA, Cedar Ravine Creek flows freely with a defined bed and bank. Cedar Ravine is shown as an intermittent channel on the Placerville quad map but is not classified on the NWI map. Hydrology for Cedar Ravine is provided by flow originating south of the BSA. Flows in Cedar Ravine Creek, within the BSA, are supplemented by urban runoff and landscape irrigation.

Cedar Ravine empties into Hangtown Creek via a culvert in the south abutment of the existing bridge. The OHWM of Cedar Ravine is the sides of the culvert and is approximately 5 feet. Cedar Ravine was flowing during all the site visits, including in 2015.

Runoff from Locust Avenue collects in a paved roadside gutter that empties into an earthen ditch. The ditch drains around the roadside pullout along Locust Avenue and empties into a drain inlet near the Highway 50 overpass. Some of the road runoff has eroded a rill near Locust Avenue that drains to the ditch.

3.1.4. Movement Corridors

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

Hangtown Creek, and Cedar Ravine Creek, provide a very limited movement corridor through the BSA as well as through the City of Placerville. Cedar Ravine Creek is entirely

enclosed within a culvert and Hangtown Creek, with a sparse and highly disturbed riparian corridor, is surrounded by residential and commercial development. Based on this, the creeks provide a low-quality migration or dispersal corridor for special-status species. In addition, these features would likely discourage the movement of many common aquatic and terrestrial wildlife species dispersing back and forth between suitable habitats to the north and south of the BSA, as well as to the east and the west further upstream and downstream. The proposed project would not remove, degrade, or otherwise interfere substantially with the structure or function of these wildlife movement corridors, though some temporary disruption of wildlife movement would occur during the construction period.

3.1.5. Invasive Species

Plant species observed in the BSA were compared to the invasive plant list maintained by the California Invasive Plant Council (Cal-IPC) (Cal-IPC 2015) and the list of noxious weeds maintained by the California Department of Food and Agriculture (CDFA) (CDFA 2010). Several invasive and noxious weed species occur in the BSA. CDFA List “A” species are subject to state enforced action involving eradication, quarantine, regulation, containment, rejection, or other holding action. CDFA List “B” species warrant eradication, containment, control, or other holding action at the discretion of the commissioner. CDFA List “C” species warrant state endorsed holding action and eradication only when found in a nursery; actions to retard spread outside of nurseries at the discretion of the commissioner; and rejection only when found in a crop seed for planting or at the discretion of the commissioner. In addition, the Cal-IPC categorizes plants as “High”, “Moderate”, or “Limited”, reflecting the level of each species' negative ecological impact in California. Each plant on the list received an overall rating based on the following evaluation criteria:

- **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.

English Ivy (*Hedera helix*)

English ivy has a rating of “high” on the Cal-IPC Invasive Plant Inventory (2015) but is not listed on the CDFA (2010) noxious weed list. It is a perennial (family Araliaceae) that grow as evergreen woody vines. English ivy, and other *Hedera spp*., are found throughout California along the coast, as well as in Shasta and Butte Counties. *Hedera spp*. grows vigorously in forests where nothing else seems able to compete and inhibits regeneration of understory plants, including forest wildflowers and new trees and shrubs. A patch of English ivy was observed in the montane hardwood-conifer forest south of Main Street in the BSA.

Fennel (*Foeniculum vulgare*)

Fennel, or sweet fennel, has a rating of “high” on the Cal-IPC Invasive Plant Inventory (2015) but is not listed on the CDFA (2010) noxious weed list. It is an erect perennial herb (family Apiaceae). Although the plant is very common throughout the state, dense local populations have been reported from Santa Cruz Island, in fields around the San Francisco Bay region, Palos Verdes Peninsula (Los Angeles County), and Camp Pendleton (San Diego County). It can drastically alter the composition and structure of many plant communities, including grasslands, coastal scrub, riparian, and wetland communities. It is still unclear whether culinary varieties of fennel are invasive. Fennel occurs in sparse patches along Hangtown Creek.

Yellow star-thistle (*Salsola tragus*)

Yellow star-thistle has a rating of “high” on the Cal-IPC Invasive Plant Inventory (2015) and it is on the CDFA (2010) Category “C” list. It is a bushy winter annual (family Asteraceae) that invades 12 million acres in California. Yellow star-thistle inhabits open hills, grasslands, open woodlands, fields, roadsides, and rangelands, and it is considered one of the most serious rangeland weeds in the state. It propagates rapidly by seed, and a large plant can produce nearly 75,000 seeds. Yellow star-thistle was observed along Hangtown Creek as a component of ruderal vegetation along the El Dorado Trail.

Scotch broom (*Cytisus scoparius*)

Scotch broom has a rating of “high” on the Cal-IPC Invasive Plant Inventory (2015) and it is on the CDFA (2010) Category “C” list. It is a perennial shrub (family Fabaceae), which grows in sunny sites with dry sandy soil, and spreads rapidly through pastures, borders of forests, and roadsides. Scotch broom can be found from the coast to the Sierra foothills. This weed crowds out native species, has a seedbank that can remain dormant for up to 80 years, diminishes habitat for grazing animals, and increases risk for wildland fires. Two young Scotch broom plants were observed along Hangtown Creek.

Ripgut brome (*Bromus diandrus*)

Ripgut brome has a rating of “moderate” on the Cal-IPC Invasive Plant Inventory (2015) but is not listed on the CDFA (2010) noxious weed list. It is an exotic, invasive species found throughout California, interfering with the establishment and survival of native vegetation. Ripgut brome is found throughout the annual grassland and disturbed areas in the BSA.

Italian ryegrass (*Festuca perennis*)

Italian ryegrass has a rating of “moderate” on the Cal-IPC Invasive Plant Inventory (2015) but is not listed on the CDFA (2010) noxious weed list. It is an exotic, invasive species found throughout California where it grows particularly well in wetlands and disturbed areas. Italian ryegrass is found throughout the annual grassland and disturbed areas in the BSA.

Wild oat (*Avena fatua*)

Wild oat has a rating of “moderate” on the Cal-IPC Invasive Plant Inventory (2015) but is not listed on the CDFA (2010) noxious weed list. It is a winter annual grass that is a common agricultural weed. It occurs in most grassland areas in California, particularly in poor soils and along road edges. Wild oat has taken over grassland areas and displaced native grasses throughout much of California. Wild oat is found throughout the annual grassland habitat in the BSA.

Soft chess (*Bromus hordeaceus*)

Soft chess has a rating of “limited” on the Cal-IPC Invasive Plant Inventory (2015) but is not listed on the CDFA (2010) noxious weed list. It is widely distributed throughout lower elevations in California, especially in disturbed areas. Soft chess can crowd out native species due to its rapid growth in the spring. It often becomes established in grassland and oak savannah communities as well as disturbed habitats. Soft chess is found throughout the annual grassland in the BSA.

Himalayan blackberry (*Rubus armeniacus*)

Himalayan blackberry has a rating of “high” on the Cal-IPC Invasive Plant Inventory (2015) but is not listed on the CDFA (2010) noxious weed list. It is an exotic, invasive species found in wetland-riparian areas along the Coast Ranges, Central Valley, and Sierra Nevada where it rapidly outcompetes and displaces native plant species. Himalayan blackberry forms dense thickets that severely limit light availability for other understory plants. This species also commonly occurs in disturbed areas and roadsides up to 1,600 meters (5,249 ft) in elevation (Cal-IPC, 2015). Himalayan blackberry is found in patches within valley foothill riparian habitat, adjacent to Hangtown Creek in the BSA.

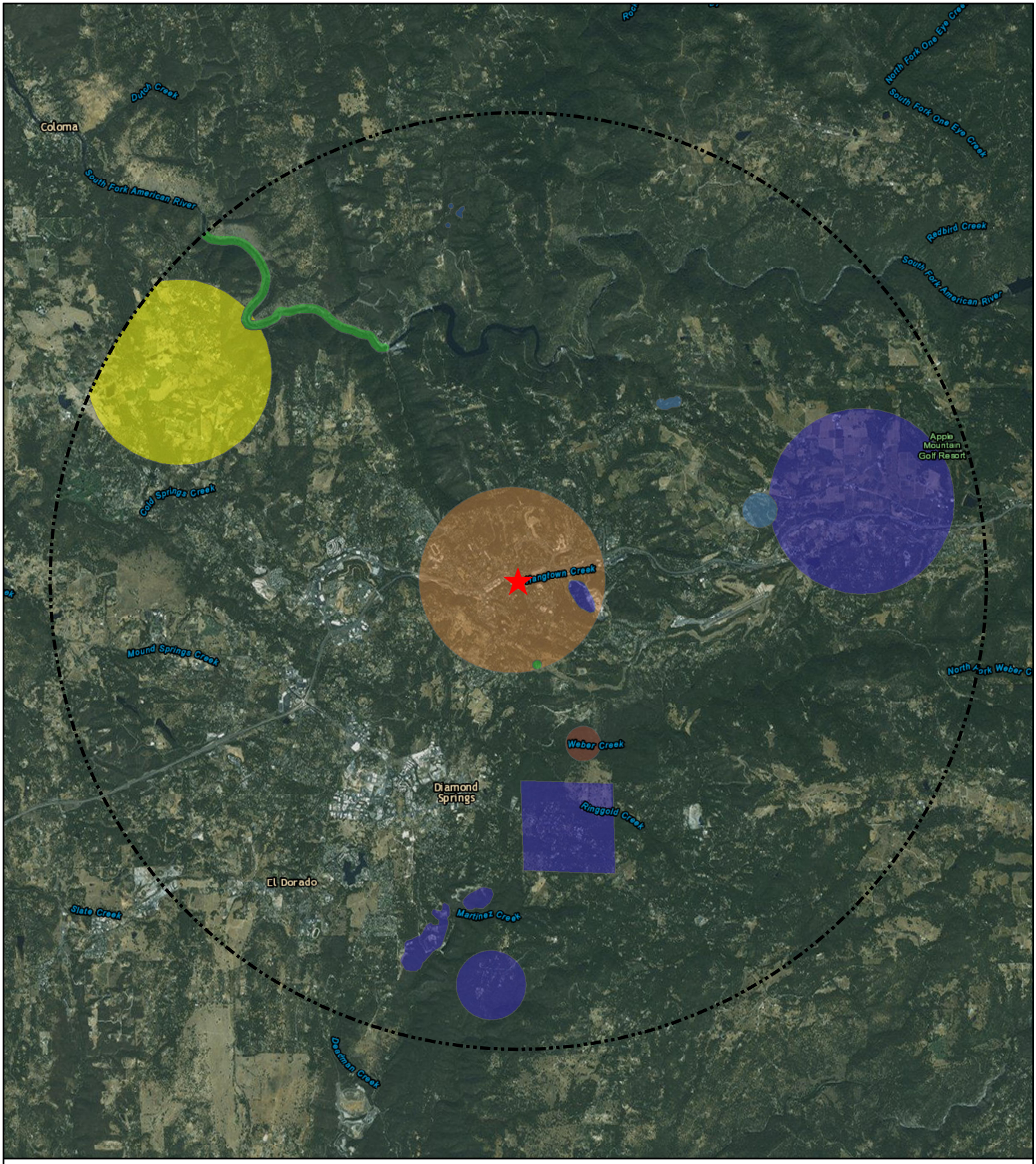
Tree-of-Heaven (*Ailanthus altissima*)

Tree-of-heaven has a rating of “moderate” on the Cal-IPC Invasive Plant Inventory (2015) but is not listed on the CDFA (2010) noxious weed list. Tree-of-heaven is widely but discontinuously distributed in California. It was introduced as a landscape ornamental but escapes gardens and spreads by seeds and creeping roots that produce many suckers. It is most abundant along the coast and in the Sierra foothills, primarily in wastelands and disturbed, semi-natural habitats. Tree-of-heaven is found within the valley foothill riparian habitat in the BSA.

3.2. Regional Species and Habitats of Concern

Data received from USFWS, CNDDB and CNPS records were used to compile a table of regional species and habitats of concern (**Table 3-2** and **Table 3-4**). Table 3-2 provides a general habitat description for each plant species and a rationale as to why regional species and habitats of concern are either potentially present or absent from the BSA. Table 3-3 provides the same information for the wildlife species. A CNDDB five-mile radius map was prepared to illustrate the location of special-status species recorded within five miles of the BSA (see **Figure 3-4**).

Figure 3-4. CNDDB 5-Mile Radius Map



Legend

- Project Location
- 5-Mile Buffer

Special-Status Species

- Brandegee's clarkia
- Layne's ragwort
- Nissenan manzanita
- Parry's horkelia
- Red Hills soaproot
- oval-leaved viburnum
- tricolored blackbird
- western pond turtle

N

0 0.5 1 2 Miles

drake haglan AND ASSOCIATES

Source: ESRI Online Basemap, Street Map, El Dorado County
Coordinate System NAD 83 State Plane California II FIPS 0402 Feet
Notes: This map was created for informational and display purposes only

Project Name:
Clay Street Realignment and Bridge (25C-0117) Replacement Project
City of Placerville, California

CNDDB 5-Mile Radius

Figure 3-4

Table 3-2
Special-status Plant Species with the Potential to Occur in the Biological Study Area

Common and Scientific Name	Legal Status[1] Federal/State/ CNPS	Lifeform	Distribution	Habitat Association	Identification Period	Habitat Present/ Absent[2]	Rationale[3]
Jepson's onion *Allium jepsonii*	--/--/1B.2	Perennial bulbiferous herb	Butte, El Dorado, Placer and Tuolumne counties.	Chaparral, cismontane woodland and lower montane coniferous forest with serpentinite or volcanic soils 990 – 4,356 feet	April - August	P	See Section 4.2.1
Nissenan manzanita *Arctostaphylos nissenana*	--/--/1B.2	Perennial evergreen shrub	El Dorado and Tuolumne counties.	Closed-cone coniferous forest and chaparral with rocky soils 1,485 – 3,630 feet	February - March	P	See Section 4.2.2
Pleasant Valley mariposa-lily *Calochortus clavatus* var. *avius*	--/--/1B.2	Perennial bulbiferous herb	Amador, Calaveras, El Dorado and Mariposa counties	Lower montane coniferous forest with Josephine silt loam and volcanic soils 1,006 – 5,940 feet	May - July	P	See Section 4.2.3
Stebbins' morning glory *Calystegia stebbinsii*	FE/SE/1B.1	Perennial rhizomatous herb	El Dorado and Nevada counties	Chaparral (openings) and cismontane woodland with gabbroic or serpentinite soils 610 – 3,597 feet	April – July	A	No suitable habitat present in the BSA (i.e. no serpentinite or gabbroic soils).
Van Zuuk's morning glory *Calystegia vanzuukiae*	--/--/1B.3	Perennial rhizomatous herb	El Dorado and Placer counties.	Chaparral and cismontane woodland with gabbro or serpentinite soils 1,650 – 3,894 feet	May – August	A	No suitable habitat present in the BSA (i.e. no serpentinite or gabbroic soils).

Table 3-2
Special-status Plant Species with the Potential to Occur in the Biological Study Area

Common and Scientific Name	Legal Status[1] Federal/State/ CNPS	Lifeform	Distribution	Habitat Association	Identification Period	Habitat Present/ Absent[2]	Rationale[3]
Pine Hill ceanothus *Ceanothus roderickii*	FE/SR/1B.1	Perennial evergreen shrub	El Dorado county	Chaparral and cismontane woodland with serpentinite or nutrient deficient gabbroic soils 808 – 3,597 feet	April - June	A	No suitable habitat present in the BSA (i.e. no serpentinite or gabbroic soils).
Red Hills soaproot *Chlorogalum grandiflorum*	--/--/1B.2	Perennial bulbiferous herb	Amador, Butte, Calaveras, El Dorado, Placer, and Tuolumne counties	Chaparral, cismontane woodland, and lower montane coniferous forest with serpentinite, gabbroic and similar soils 808 – 4,092 feet	May – June	P	See Section 4.2.4
Starved daisy *Erigeron miser*	--/--/1B.3	Perennial herb	El Dorado, Lassen, Mono, Nevada, and Placer counties	Upper montane coniferous forest with rocky soils 6,072 – 8,646 feet	June - October	A	No suitable habitat present in the BSA and outside of elevation range for this species.
Pine Hill flannelbush *Fremontodendron decumbens*	FE/SR/1B.2	Perennial evergreen shrub	El Dorado county and possibly Nevada and Yuba counties	Chaparral and cismontane woodland with rocky, gabbroic or serpentinite soils 1,402 – 2,508 feet	April – July	A	No suitable habitat present in the BSA (i.e. no serpentinite or gabbroic soils).
El Dorado bedstraw *Galium californicum* ssp. *sierrae*	FE/SR/1B.2	Perennial herb	El Dorado county	Chaparral, cismontane woodland, and lower montane coniferous forest with gabbroic soils 330 – 1,930 feet	May - June	A	No suitable habitat present in the BSA (i.e. no serpentinite or gabbroic soils).

Table 3-2
Special-status Plant Species with the Potential to Occur in the Biological Study Area

Common and Scientific Name	Legal Status[1] Federal/State/ CNPS	Lifeform	Distribution	Habitat Association	Identification Period	Habitat Present/ Absent[2]	Rationale[3]
Parry's horkelia *Horkelia parryi*	--/--/1B.2	Perennial herb	Amador, Calaveras, El Dorado, and Mariposa counties	Chaparral and cismontane woodland with Ione formation and other soils 264 – 3,531 feet	April – September	P	See Section 4.2.5
Layne's ragwort *Packera layneae*	FT/SR/1B.2	Perennial herb	Butte, El Dorado, Placer, Tuolumne, Yuba counties	Chaparral and cismontane woodland with rocky, serpentinite or gabbroic soils 660 – 3,580 feet	April - August	A	No suitable habitat present in the BSA (i.e. no serpentinite or gabbroic soils).
Oval-leaved viburnum *Viburnum ellipticum*	--/--/2B.3	Perennial deciduous shrub	Alameda, Contra Costa, El Dorado, Fresno, Glenn, Humboldt, Lake, Mendocino, Mariposa, Napa, Placer, Shasta, Solano, Sonoma, and Tehama counties	Chaparral, cismontane woodland, lower montane coniferous forest 709 – 4,620 feet	May - June	P	See Section 4.2.6
El Dorado County mule ears *Wyethia reticulata*	--/--/1B.2	Perennial herb	El Dorado and Yuba counties	Chaparral, cismontane woodland, and lower montane coniferous forest with clay or gabbroic soils 610 – 2,079 feet	April - August	A	No suitable habitat present in the BSA (i.e. no clay or gabbroic soils).

Table 3-2
Special-status Plant Species with the Potential to Occur in the Biological Study Area

Common and Scientific Name	Legal Status[1] Federal/State/ CNPS	Lifeform	Distribution	Habitat Association	Identification Period	Habitat Present/ Absent[2]	Rationale[3]

[1]Status explanations:

-- = no listing.

Federal
FE = listed as endangered under the federal Endangered Species Act.
FT = listed as threatened under the federal Endangered Species Act.

State
SE = listed as endangered under the California Endangered Species Act.
SR = listed as rare under the California Endangered Species Act.
ST = listed as threatened under the California Endangered Species Act.

California Native Plant Society
1B = List 1B species: rare, threatened, or endangered in California and elsewhere.
2B = List 2B species: rare, threatened, or endangered in California but more common elsewhere.
0.1 = Seriously threatened in California (over 80% of occurrences threatened/high degree and immediacy of threat)
0.2 = Moderately threatened in California (20%-80% occurrences threatened/moderate degree and immediacy of threat)
0.3 = Not very threatened in California (less than 20% of occurrences threatened/low degree and immediacy of threat or no current threats known)

[2]A = absent; HP = habitat present

[3]Rationale includes an effects determination under the FESA for all federally listed species.

Table 3-3
Special-status Wildlife with the Potential to Occur in the Biological Study Area

Common and Scientific Name	Legal Status[1]		Distribution	Habitat Association	Identification Period	Habitat Present / Absent[2]	Rationale[3]
	Federal	State					
Fish							
Central Valley Steelhead (Distinct Population Segment) *Oncorhynchus mykiss*	T	–	The Sacramento and San Joaquin Rivers and their tributaries, excluding San Francisco and San Pablo Bays and their tributaries, and coastal marine waters off California.	Central Valley rivers and streams.	Year-round	A	The BSA is inaccessible to anadromous fish because it is upstream of the Folsom Dam. The BSA is not within designated critical habitat for this species (USFWS 2009).
Delta smelt *Hypomesus transpacificus*	T	E	Sacramento River–San Joaquin River Delta.	Euryhaline (fresh and brackish water) estuary channels. Spawning habitats consist of side channels and sloughs in the middle reaches of the Delta.	Year-round	A	The BSA is outside the known range of this species.
Amphibians							
Foothill yellow-legged frog *Rana boylii*	--	SSC	Originally found over most of California below 6,000 feet, west of the deserts and the Sierra-Cascade crest.	Requires partly-shaded, shallow streams and riffles with a rocky substrate woodland and forest areas. Need at least 15 weeks to attain metamorphosis.	Year-round	P	See Section 4.3.1
California red-legged frog *Rana draytonii*	T	SSC	Along the coast and coastal mountain ranges of California from Marin County to San Diego County and in the Sierra Nevada from Tehama County to Fresno County.	Found in permanent and semi-permanent aquatic habitats, such as creeks and ponds, with emergent and submergent vegetation. May aestivate in rodent burrows or cracks during dry periods.	Year-round	A	See Section 4.3.2

Table 3-3
Special-status Wildlife with the Potential to Occur in the Biological Study Area

Common and Scientific Name	Legal Status[1]		Distribution	Habitat Association	Identification Period	Habitat Present / Absent[2]	Rationale[3]
	Federal	State					
Reptiles							
Western pond turtle *Emys marmorata*	--	SSC	Populations extend from southern British Columbia, Canada through Northern California.	Thoroughly aquatic turtle of ponds, marshes, rivers, streams & irrigation ditches with aquatic vegetation.	Year-round	P	See Section 4.3.3
Coast horned lizard *Phrynosoma blainvillii*	--	SSC	Occurs in the Sierra Nevada foothills from Butte to Kern counties and throughout the central and southern California coast. Its elevation range extends up to 4000 ft in the Sierra Nevada foothills and up to 6000 ft in the mountains of southern California.	Found in scrubland, grassland, coniferous forests, and broadleaved woodland, especially in lowland areas along sandy washes with scattered low shrubs. Also requires open areas for basking and patches of fine, loose soil for burying prey.	Year-round	A	The highly urbanized nature of the BSA precludes the presence of this species.
Birds							
Northern goshawk *Accipiter gentilis*	--	SSC	Breeds in North Coast Ranges through Sierra Nevada, Klamath, Cascade, and Warner Mts., in Mt. Pinos and San Jacinto, San Bernardino, and White Mts. Remains yearlong in breeding areas as an uncommon resident.	Prefers middle and higher elevations, and mature, dense conifer forests. Casual in winter along north coast, throughout foothills, and in northern deserts, where it may be found in pinyon-juniper and low-elevation riparian habitats.	Year-round	A	The highly urbanized nature of the BSA precludes the presence of this species.

Table 3-3
Special-status Wildlife with the Potential to Occur in the Biological Study Area

Common and Scientific Name	Legal Status[1]		Distribution	Habitat Association	Identification Period	Habitat Present / Absent[2]	Rationale[3]
	Federal	State					
Tricolored blackbird *Agelaius tricolor*	--	E	Permanent resident in the Central Valley from Butte County to Kern County. Breeds at scattered coastal locations from Marin County south to San Diego County; and at scattered locations in Lake, Sonoma, and Solano counties.	Nests in dense colonies in emergent marsh vegetation, such as tules and cattails, or upland sites with blackberries, nettles, thistles, and grainfields. Habitat must be large enough to support 50 pairs. Probably requires water at or near the nesting colony.	Year-round	A	No suitable nesting habitat is present within the BSA.
Great gray owl *Strix nebulosa*	--	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.	Uses trees in dense forest stands for roosting cover. Small trees and snags in, or on edge of, meadows used for hunting perches. Breeds in old-growth red fir, mixed conifer, or lodgepole pine habitats, always in the vicinity of wet meadows.	Year-round	A	No suitable habitat is present within the BSA.
Bank swallow *Riparia riparia*	--	T	Central coast from Monterey to San Mateo counties, and northeastern California in Shasta, Siskiyou, Lassen, Plumas, and Modoc counties.	Restricted to riparian, lacustrine, and coastal areas with vertical banks, bluffs, and cliffs with fine-textured or sandy soils, into which it digs nesting holes.	Year-round	A	Hangtown Creek does not provide suitable nesting habitat for this species.

Table 3-3
Special-status Wildlife with the Potential to Occur in the Biological Study Area

Common and Scientific Name	Legal Status[1]		Distribution	Habitat Association	Identification Period	Habitat Present / Absent[2]	Rationale[3]
	Federal	State					
Mammals							
Fisher – West Coast DPS *Pekania pennanti*	PT	CT, SSC	Uncommon permanent resident of the Sierra Nevada, Cascades, and Klamath Mts.; also found in a few areas in the North Coast Ranges.	Occurs in intermediate to large-tree stages of coniferous forests and deciduous-riparian habitats with a high percent canopy closure.	Year-round	A	No suitable habitat is present within the BSA.

[1] Status explanations:

-- = no listing.

Federal
PT = proposed threatened for listing under the federal Endangered Species Act.
E = listed as endangered under the federal Endangered Species Act.
T = listed as threatened under the federal Endangered Species Act.

State
E = listed as endangered under the California Endangered Species Act.
T = listed as threatened under the California Endangered Species Act.
CT= candidate for listing as threatened under the California Endangered Species Act.
SSC = state species of special concern

[2] A = absent; HP = habitat present

[3]Rationale includes an effects determination under the FESA for all federally listed species.

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

This chapter provides survey results and analyzes the effects of the project on natural communities, special-status species, and other protected biological resources. Habitat impacts are calculated for the PIA and include permanent and temporary impact areas. The permanent impact area includes the area within the footprint of the new bridge and roadway improvements as well as areas with permanent RSP. The temporary impact area includes the area needed to construct the temporary work and staging areas required for equipment access and work areas.

As described in detail throughout this chapter, the project will be required to implement a variety of avoidance and compensatory measures to avoid or offset potential effects to biological resources.

4.1. Habitats and Natural Communities of Special Concern

Habitats are considered to be of special concern based on (1) federal, State, or local laws regulating their development; (2) limited distributions; and/or (3) the habitat requirements of special-status plants or animals occurring on site. Valley foothill riparian and montane hardwood-conifer forests are sensitive natural communities because they are regulated by the CDFW under Section 1602 of the CFGC for the purpose of protecting fish and wildlife resources. Additionally, Hangtown Creek and Cedar Ravine Creek are considered to be waters of the U.S which are also considered sensitive by both federal and state agencies, and are discussed in more detail within the Preliminary Jurisdictional Delineation Report (Appendix B). **Figure 4-1** and **Table 4-1** summarizes temporary and permanent impacts on these habitats.

Table 4-1
Summary of Temporary and Permanent Effects by Habitat Type

Habitat Community	Permanent (acres)	Temporary (acres)	Totals (acres)
Ruderal Grassland	0.001	0.00	0.001
Valley Foothill Riparian	0.04	0.00	0.04
Montane Hardwood-Conifer Forest	0.01	0.00	0.01
Urban (Developed)	1.30	0.00	1.30
Riverine (Hangtown Creek)	0.001	0.01	0.01
Riverine (Cedar Ravine Creek)	0.00	0.03	0.03
Total	**1.35**	**0.04**	**1.39**

Figure 4-1. Permanent and Temporary Impacts

Legend

Project Impact Area

Impact Type

Permanent Impact

Temporary Impact

Habitat Type

Riverine (Drainage Ditch)

Montane Hardwood-Conifer Forest

Riverine (Cedar Ravine Creek)

Riverine (Hangtown Creek)

Ruderal Grassland

Urban (Developed)

Valley Foothill Riparian Forest

N

0 120 240 480 Feet

drake haglan AND ASSOCIATES

Source: ESRI Online Basemap, Street Map, El Dorado County
Coordinate System NAD 83 State Plane California II FIPS
0402 Feet
Notes: This map was created for informational and display purposes only

Project Name:
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City of Placerville, California

Permanent and Temporary Impacts

Figure 4-1

4.1.1. Discussion of Waters of the U.S (Hangtown Creek and Cedar Ravine Creek)

Hangtown Creek is mapped as a perennial channel on the Placerville CA USGS 7.5-minute Quadrangle and was previously mapped as R4SBC (riverine, intermittent, streambed, seasonally flooded) on the NWI map (USFWS 1984) however the most current data does not classify Hangtown Creek (USFWS 2015c). Hangtown Creek flows in a westerly direction through the City of Placerville, under Clay Street (**Figure 4-2**), and empties into Weber Creek approximately 4.5 river miles (3.8 air miles) west-northwest of the BSA.

Cedar Ravine Creek is completely in an underground culvert in the BSA. The culvert containing Cedar Ravine Creek empties into Hangtown Creek at the Clay Street Bridge. Upstream and south of the BSA, Cedar Ravine Creek has been straightened and the banks have been replaced by vertical retaining walls. Cedar Ravine Creek is mapped as an intermittent channel on the Placerville CA USGS 7.5-minute Quadrangle but is not classified on the NWI map.

4.1.1.1. SURVEY RESULTS

Hangtown Creek was flowing during all the site visits, including 2015. Flows in Hangtown Creek are supplemented by urban runoff and landscape irrigation. A series of retaining walls and rip-rap forms the south bank of Hangtown Creek. Graded slopes, retaining walls, and rip-rap form the north bank of Hangtown Creek. A sewer main follows the alignment of Hangtown Creek. The bed of Hangtown Creek is mostly bedrock while vegetation consists of white alder, willow, Fremont cottonwood, and hydrophytic herbs. The OHWM determination was based primarily on the presence of scour on the north bank and water staining on the south bank and has a width of approximately 8 feet.

Cedar Ravine Creek is entirely confined within a culvert in the BSA. Cedar Ravine was flowing during all the site visits and during the delineation fieldwork. Hydrology for Cedar Ravine is provided by flow originating south of the BSA. Flows in Cedar Ravine are supplemented by urban runoff and landscape irrigation. Cedar Ravine empties into Hangtown Creek via a culvert in the south abutment of the existing bridge. The OHWM of Cedar Ravine is the sides of the culvert and has a width of approximately 5 feet.

Figure 4-2. Delineation of Waters of the U.S

Legend

Biological Study Area

Potentially Jurisdictional Waters of the U.S

Hangtown Creek - Riverine - Lower Perennial (0.27 acres)

Cedar Ravine Creek - Riverine - Intermittent (0.06 acres)

Potentially Non-Jurisdictional Waters of the U.S

Drainage Ditch - Riverine - Ephemeral (0.02 acres)

N

0 120 240 480 Feet

drake haglan AND ASSOCIATES

Source: ESRI Online Basemap, Street Map, El Dorado County
Coordinate System NAD 83 State Plane California II FIPS
0402 Feet
Notes: This map was created for informational and display purposes only

Project Name:
Clay Street Realignment and
Bridge (25C-0117) Replacement Project
City of Placerville, California

Potentially Jurisdictional and Non-Jurisdictional Features

Figure 4-2

4.1.1.2. PROJECT IMPACTS

Based on the preliminary project design, RSP will be installed on the banks of Hangtown Creek and will result in permanent impacts of approximately 0.001 acres. There will be no permanent impacts to Cedar Ravine Creek. The Project will temporarily impact approximately 0.01 acres of Hangtown Creek and approximately 0.03 acres of Cedar Ravine Creek. Temporary impacts to Hangtown Creek will result from stream diversion and removal of the existing bridge. Temporary impacts to Cedar Ravine Creek will result from the realignment of Clay Street if segments of the culvert are damaged or uncovered during construction.

4.1.1.3. AVOIDANCE AND MINIMIZATION EFFORTS

During construction, water quality will be protected by implementation of best management practices (BMPs) of the California Stormwater Quality Association (2003). The BMPs will be described in the Storm Water Pollution Prevention Plan (SWPPP) required under the NPDES permit.

Minimization efforts will include marking the limits of construction with temporary fencing to prevent affecting Hangtown Creek unnecessarily. Impacts will also be minimized by conducting in-stream work between June 1 and October 15, unless the RWQCB, USFWS and CDFW provide approval of work outside that period.

The project will minimize the effects of disturbance to Hangtown Creek and Cedar Ravine Creek and the adjacent riparian corridor. The project proposes to revegetate areas of temporary disturbance within the project footprint with native riparian vegetation.

4.1.1.4. COMPENSATORY MITIGATION

After the project is approved, the County will apply for any necessary permits from the Corps, CDFW, and the RWQCB. Impacts will be mitigated in accordance with agency requirements to ensure no net loss of acreage or value to waters of the U.S which will include restoring temporarily impacted areas to pre-project condition. In addition, to compensate for permanent impacts on jurisdictional waters, the City would purchase credits from a Corps and/or CDFW approved mitigation bank at a minimum 1:1 ratio (one acre of habitat replaced for every one acre filled). Based on the preliminary project design, the project would permanently affect 0.001 acres of intermittent stream.

4.1.1.5. CUMULATIVE IMPACTS

The City has a sewer project that will extend from Clay Street to Locust Avenue which may have small impacts on Hangtown Creek and Cedar Ravine Creek. This project may be constructed concurrently with the bridge replacement project. Separate environmental documents addressing the impacts of the sewer project will be submitted

independently of the bridge replacement project. The bridge replacement project, along with the sewer project, will not result in cumulative impacts to Hangtown Creek due to the small amount of reasonably foreseeable future impacts and the existing baseline conditions of the creek. Implementation of avoidance and minimization efforts and compensatory mitigation described above would ensure that the project does not result in a cumulatively considerable effect on Hangtown Creek or Cedar Ravine Creek.

4.1.2. Discussion of Riparian Habitat

A sparsely vegetated, narrow upland riparian corridor is present along Hangtown Creek in the BSA. As described above, riparian habitat associated with a stream or lake is regulated by CDFW under Section 1602 of the CFGC for the purpose of protecting fish and wildlife resources.

4.1.2.1. SURVEY RESULTS

There are approximately 0.72 acres of riparian forest in a narrow corridor along the northern bank of Hangtown Creek. This community has been disturbed as part of the Highway 50 Operational Improvements Project (Hwy 50 Ops Project). Trees and shrubs have been removed and RSP has been placed along portions of the banks as part of the sewer line relocation component of the Hwy 50 Ops Project.

The trees in the riparian forest occur along the northern bank of Hangtown Creek since retaining walls along the south bank eliminates much of the bank habitat. White alder and arroyo willow are the dominant tree species in this community. Other trees present in lesser abundance are incense cedar, the nonnative invasive tree-of-heaven and Lombardy poplar. The shrub layer, where present, is dominated by nonnative, invasive Himalayan blackberry.

Table 4-2
Trees to be Removed during Construction

Common Name	Scientific Name	Habitat Association (# Removed)	Average Diameter at Breast Height (in)
White alder	*Alnus rhombifolia*	Riparian (4) Urban (3)	14
Incense cedar	*Calocedrus decurrens*	Urban (4)	6.5
Maple	*Acer* sp.	Urban (1)	5.5
Valley oak	*Quercus lobata*	Montane Hardwood-Conifer (8)	10

4.1.2.2. PROJECT IMPACTS

The construction and widening of the new bridge and approaches would result in a permanent direct impact of 0.04 acres of riparian habitat (Table 4-1) and includes the removal of four white alder trees (**Table 4-2**), as well as understory shrubs and herbaceous species. The loss of riparian vegetation can have adverse effects on aquatic habitat in Hangtown Creek. Riparian habitat reduces sedimentation and erosion along

stream banks as well as providing an important movement corridor for wildlife, overhanging canopies provide shade and riparian vegetation offers habitat for invertebrates that are a source of food for aquatic and terrestrial life.

4.1.2.3. AVOIDANCE AND MINIMIZATION EFFORTS

The following avoidance and minimization measures will be implemented prior to and during trail construction to avoid and minimize potential impacts on riparian habitat.

- Prior to removal of any trees, an ISA Certified Arborist shall conduct a tree survey in areas that may be impacted by construction activities. This survey shall document tree resources that may be adversely impacted by implementation of the project. The survey will follow standard professional practices.
- Current riparian vegetation, oaks, and other native tree species will be retained to extent feasible. A Tree Protection Zone (TPZ) shall be established around any tree or group of trees to be retained. The TPZ will be delineated by an ISA Certified Arborist. The TPZ shall be defined by the radius of the dripline of the tree(s) plus one foot. The TPZ of any protected trees shall be demarcated using fencing that will remain in place for the duration of construction activities.
- Construction-related activities shall be limited within the TPZ to those activities that can be done by hand. No heavy equipment or machinery shall be operated within the TPZ. Grading shall be prohibited within the TPZ. No construction materials, equipment, or heavy machinery shall be stored within the TPZ.
- To ensure no net loss of riparian habitat, the City shall create or restore riparian habitat that is of similar function and value to affected habitat. The permanent degradation of riparian habitat will be compensated for at a 3:1 ratio through the purchase of similar habitat value from a Corps)-approved mitigation bank. Preservation and restoration may occur onsite through a conservation agreement or offsite through purchasing mitigation bank credits.
- Mitigation shall also include planting of valley foothill/floodplain/mixed riparian species as appropriate. A planting plan will be implemented as detailed in a Restoration Plan approved by the CDFW. The Restoration Plan will include performance standards for revegetation that will ensure successful restoration of the onsite riparian areas.
- The City shall protect other wetlands, riverine and associated riparian habitats located in the vicinity of the project area by installing protective fencing. Protective fencing shall be installed along the edge of construction areas including temporary and permanent access roads where construction will occur within 200 feet of the edge of wetland and riverine habitat (as determined by a qualified biologist). The location of fencing shall be marked in the field with stakes and flagging and shown on the construction drawings. The construction specifications shall contain clear language that prohibits construction-related activities, vehicle operation, material and equipment

storage, trenching, grading, or other surface-disturbing activities outside of the designated construction area. Signs shall be erected along the protective fencing at a maximum spacing of one sign per 50 feet of fencing. The signs shall state: "This area is environmentally sensitive; no construction or other operations may occur beyond this fencing. Violators may be subject to prosecution, fines, and imprisonment." The signs shall be clearly readable at a distance of 20 feet, and shall be maintained for the duration of construction activities in the area.

- Where riparian vegetation occurs along the edge of the construction easement, the City shall minimize the potential for long-term loss of riparian vegetation by trimming vegetation rather than removing the entire plant. Trimming will be conducted per the direction of a biologist and/or Certified Arborist.

4.1.2.4. COMPENSATORY MITIGATION

To compensate for the permanent removal of riparian vegetation associated with the bridge construction, the City shall compensate for riparian tree and shrub removal by replacing habitat at a minimum 3:1 ratio (e.g., 3 acres planted for every one acre removed) as well as associated native herbaceous species.

4.1.2.5. CUMULATIVE IMPACTS

No current or future projects have been identified by the City in the vicinity of the PIA or Hangtown Creek that would impact riparian habitat. This does not preclude, however, the potential for other projects in the City to result in impacts to riparian habitat. Implementation of avoidance and minimization efforts and compensatory mitigation described above would ensure that the project does not result in a cumulatively considerable effect on riparian habitat.

4.1.3. Discussion of Montane Hardwood-Conifer Forest

The montane hardwood-conifer forest community occurs in the BSA as remnant patches of native vegetation within an urban matrix. As described above, montane hardwood-confer forest is regulated by CDFW under Section 2800-2835 of the CFGC for the purpose of helping declining species by conserving natural communities and by allowing complimentary land uses.

4.1.3.1. SURVEY RESULTS

There are approximately 3.16 acres of montane hardwood-conifer forest in four disjunct areas of the BSA. Tree canopy is patchy, but California black oak is the most common tree overall. Valley oak, interior live oak, ponderosa pine, incense cedar, California buckeye, Northern California black walnut, and knobcone pine are also present. White-leaf manzanita is the dominant species in the shrub layer of this community. The herbaceous layer is composed of native and non-native grasses and forbs.

4.1.3.2. PROJECT IMPACTS

The construction and widening of the new bridge and approaches would result in a permanent direct impact of 0.01 acres of montane hardwood-conifer habitat (Table 4-1) and includes the removal of eight valley oak trees (Table 4-2), as well as understory shrubs and herbaceous species. The loss of montane hardwood-conifer habitat can have adverse effects on common terrestrial species, such as birds and tree-dwelling mammals as well as diminishing a safe movement corridor for wildlife.

4.1.3.3. AVOIDANCE AND MINIMIZATION EFFORTS

The avoidance and minimization measures described under Section 4.1.2.3 would protect any other tree outside of the riparian zone.

4.1.3.4. COMPENSATORY MITIGATION

The compensatory mitigation described under Section 4.1.2.4 would also mitigate for the loss of the eight valley oak trees.

4.1.3.5. CUMULATIVE IMPACTS

No current or future projects have been identified by the City in the vicinity of the PIA. This does not preclude, however, the potential for other projects in the City to result in impacts to montane hardwood-conifer habitat. Implementation of avoidance and minimization efforts and compensatory mitigation described above would ensure that the project does not result in a cumulatively considerable effect on montane hardwood-conifer habitat.

4.2. Special-status Plant Species

4.2.1. Discussion of Jepson's onion (*Allium jepsonii*)

Jepson's onion is listed by the California Native Plant Society as being fairly endangered in California, meaning that 20-80 percent of the known occurrences are threatened. It is a bulbiferous perennial herb found in serpentine or volcanic soils of chaparral, cismontane woodland, and lower montane coniferous forest from 950 to 4,350 feet. It blooms April through August and is known from Butte, El Dorado, Placer, and Tuolumne counties (CNPS 2015).

4.2.1.1. SURVEY RESULTS

There are no known occurrences of Jepson's onion within 5 miles of the BSA (Figure 3-4). The closest known occurrence for Jepson's onion was reported by Sycamore Environmental and is located approximately 6.6 miles west-southwest of the BSA. Habitat consists of rock outcrops in serpentine foothill pine chaparral woodland. Approximately 2,107 plants were observed at the location in 2007. There are two records of Jepson's onion in CNDDB in El Dorado County and both occur on serpentine

soils. Jepson's onion was not observed in the BSA during surveys conducted by Sycamore Environmental in 2007, 2008 or 2009.

Mariposa soils and remnant areas of natural habitat occur in small portions of the BSA. Mariposa soils are frequently associated with Josephine soils and contain inclusions of Josephine soils (NRCS 2015). Josephine soils may be of volcanic origin. Observed soils in the BSA were consistent with the Mariposa series as they were relatively shallow over slate or schist bedrock. Although the potential for the BSA to provide habitat for Jepson's onion cannot be completely ruled out, it is unlikely because the BSA does not contain serpentine soils, and likely does not contain Josephine series soils.

4.2.1.2. PROJECT IMPACTS

With implementation of the proposed avoidance and minimization measures, the proposed project is not expected to result in impacts to Jepson's onion.

4.2.1.3. AVOIDANCE AND MINIMIZATION EFFORTS

This species has not previously been observed in the PIA and two botanical surveys indicate that it is not likely to occur within the PIA and areas directly adjacent to the PIA (BSA). However, because the species is known to occur within 6 miles of the PIA, it could potentially disperse into the PIA prior to construction from populations in the vicinity. Thus, a qualified biologist shall conduct a pre-construction survey for Jepson's onion within 30 days prior to construction. If Jepson's onion is not found, then no further measures are necessary. If Jepson's onion is found in the PIA, CDFW will be notified at least 10 days prior to construction impacts in the vicinity of Jepson's onion in accordance with the California Native Plant Protection Act of 1977 (CDFG Code Section 1900-1913) to allow sufficient time to transplant the individuals to a suitable location or develop other mitigation measures in coordination with CDFW.

4.2.1.4. COMPENSATORY MITIGATION

No compensatory mitigation is necessary for impacts to Jepson's onion.

4.2.1.5. CUMULATIVE EFFECTS

No current or future projects have been identified by the City in the vicinity of the PIA. This does not preclude, however, the potential for other projects in the City to result in impacts to Jepson's onion. While individual projects may have negligible impacts, future projects as a whole could lead to significant impacts to Jepson's onion habitat or populations in the region. Avoidance and minimization measures identified above will minimize potential impacts to Jepson's onion, and the proposed project will not contribute to cumulative effects.

4.2.2. Discussion of Nissenan manzanita (*Arctostaphylos nissenana*)

Jepson's onion is listed by the California Native Plant Society as being fairly endangered in California, meaning that 20-80 percent of the known occurrences are threatened. It is a perennial evergreen shrub found in rocky closed-cone coniferous forest and chaparral habitat from 1,475 to 3,610 feet. It blooms February through March and is known from approximately ten occurrences in El Dorado and Tuolumne counties (CNPS 2015).

4.2.2.1. SURVEY RESULTS

There are six known occurrences of Nissenan manzanita within 5 miles of the BSA (Figure 3-4). The closest CNDDB record for Nissenan manzanita is located in Spanish Ravine approximately 0.5 miles east of the BSA and is presumed extant. Habitat consists of a clearing in chaparral surrounded by whiteleaf manzanita, oaks, and pines on red sedimentary soils. Five plants were observed at this location in 1956; eight plants were observed in 1992; and none were observed in 2004. Nissenan manzanita was not observed in the BSA during surveys conducted by Sycamore Environmental in 2007, 2008 or 2009.

The remnant patches of montane hardwood-conifer forest could provide potentially suitable habitat for this species.

4.2.2.2. PROJECT IMPACTS

With implementation of the proposed avoidance and minimization measures, the proposed project is not expected to result in impacts to Nissenan manzanita.

4.2.2.3. AVOIDANCE AND MINIMIZATION EFFORTS

This species has not previously been observed in the PIA and two botanical surveys indicate that it is not likely to occur within the PIA and areas directly adjacent to the PIA (BSA). However, because the species is known to occur within 0.5 miles of the PIA, it could potentially disperse into the PIA prior to construction from populations in the vicinity. Thus, a qualified biologist shall conduct a pre-construction survey for Nissenan manzanita within 30 days prior to construction. If Nissenan manzanita is not found, then no further measures are necessary. If Nissenan manzanita is found in the PIA, CDFW will be notified at least 10 days prior to construction impacts in the vicinity of Nissenan manzanita in accordance with the California Native Plant Protection Act of 1977 (CDFG Code Section 1900-1913) to allow sufficient time to transplant the individuals to a suitable location or develop other mitigation measures in coordination with CDFW.

4.2.2.4. COMPENSATORY MITIGATION

No compensatory mitigation is necessary for impacts to Nissenan manzanita.

4.2.2.5. CUMULATIVE EFFECTS

No current or future projects have been identified by the City in the vicinity of the PIA. This does not preclude, however, the potential for other projects in the City to result in impacts to Nissenan manzanita. While individual projects may have negligible impacts, future projects as a whole could lead to significant impacts to Nissenan manzanita habitat or populations in the region. Avoidance and minimization measures identified above will minimize potential impacts to Nissenan manzanita, and the proposed project will not contribute to cumulative effects.

4.2.3. Discussion of Pleasant Valley mariposa lily (*Calochortus clavatus* var. *avius*)

Pleasant Valley mariposa lily is listed by the California Native Plant Society as being fairly endangered in California, meaning that 20-80 percent of the known occurrences are threatened. It is a perennial bulbiferous herb found in lower montane coniferous forest habitat with of Josephine silt loam and volcanic soils from 1,000 to 5,900 feet. It blooms May through July and is known from Amador, Calaveras, El Dorado, and Mariposa counties (CNPS 2015).

4.2.3.1. SURVEY RESULTS

There are no known occurrences of Pleasant Valley mariposa lily within 5 miles of the BSA (Figure 3-4). The closest CNDDB record for Pleasant Valley mariposa lily is located approximately 6.7 miles southeast of the BSA. Habitat consists of a chaparral community on a ridgetop with Valley Springs formation soils and rhyolitic tuff rock. Three hundred-fifty plants were observed at this location in 1992. Pleasant Valley mariposa lily was not observed in the BSA during surveys conducted by Sycamore Environmental in 2007, 2008 or 2009.

Mariposa soils and remnant areas of natural habitat occur in small portions of the BSA. Mariposa soils are frequently associated with Josephine soils and contain inclusions of Josephine soils (NRCS 2015). Josephine soils may be of volcanic origin. Observed soils in the BSA were consistent with the Mariposa series as they were relatively shallow over slate or schist bedrock. Although the potential for the BSA to provide habitat for Pleasant Valley mariposa-lily cannot be completely ruled out as the remnant patches of montane hardwood-conifer forest provides potentially suitable habitat for this species, however it is unlikely the BSA contains Josephine series soils.

4.2.3.2. PROJECT IMPACTS

With implementation of the proposed avoidance and minimization measures, the proposed project is not expected to result in impacts to Pleasant Valley mariposa lily.

4.2.3.3. AVOIDANCE AND MINIMIZATION EFFORTS

This species has not previously been observed in the PIA and two botanical surveys indicate that it is not likely to occur within the PIA and areas directly adjacent to the PIA (BSA). However, because the species is known to occur within 7 miles of the PIA, it could potentially disperse into the PIA prior to construction from populations in the vicinity. Thus, a qualified biologist shall conduct a pre-construction survey for Pleasant Valley mariposa lily within 30 days prior to construction. If Pleasant Valley mariposa lily is not found, then no further measures are necessary. If Pleasant Valley mariposa lily is found in the PIA, CDFW will be notified at least 10 days prior to construction impacts in the vicinity of Pleasant Valley mariposa lily in accordance with the California Native Plant Protection Act of 1977 (CDFG Code Section 1900-1913) to allow sufficient time to transplant the individuals to a suitable location or develop other mitigation measures in coordination with CDFW.

4.2.3.4. COMPENSATORY MITIGATION

No compensatory mitigation is necessary for impacts to Pleasant Valley mariposa lily.

4.2.3.5. CUMULATIVE EFFECTS

No current or future projects have been identified by the City in the vicinity of the PIA. This does not preclude, however, the potential for other projects in the City to result in impacts to Pleasant Valley mariposa lily. While individual projects may have negligible impacts, future projects as a whole could lead to significant impacts to Pleasant Valley mariposa lily habitat or populations in the region. Avoidance and minimization measures identified above will minimize potential impacts to Pleasant Valley mariposa lily, and the proposed project will not contribute to cumulative effects.

4.2.4. Discussion of Red Hills soaproot (*Chlorogalum grandiflorum*)

Red Hills soaproot is listed by the California Native Plant Society as being fairly endangered in California, meaning that 20-80 percent of the known occurrences are threatened. It is a perennial bulbiferous herb found in serpentine, gabbroic, and other soils in chaparral, cismontane woodland, and lower montane coniferous forest from 800 to 3,840 feet. It blooms May through June and is known from Amador, Calaveras, El Dorado, Placer, and Tuolumne counties (CNPS 2015).

4.2.4.1. SURVEY RESULTS

There is one recorded occurrence for Red Hills soaproot approximately 4 miles north of the BSA (Figure 3-4). Habitat consists of openings in a chaparral community in upper Texas Canyon. Over 100 plants were observed at this location in 1998. Red Hills soaproot was not observed in the PIA during surveys conducted by Sycamore Environmental in 2007, 2008 or 2009. Due to the high level of disturbance in the BSA, the only place where this plant could occur is on the hillside behind the auto part store.

Biological surveys were conducted at a time when Red Hills soaproot may not have been evident and identifiable.

Most records of Red Hills soaproot in El Dorado County are from gabbro or serpentine derived soils. Although Red Hills soaproot may not be completely restricted to these soils, it is much less likely to be found on other soils such as the Mariposa series soils in the BSA. Although the potential for the BSA to provide habitat for Red Hills soaproot cannot be completely ruled out as the remnant patches of montane hardwood-conifer forest provides potentially suitable habitat for this species, it is unlikely the BSA contains gabbro or serpentine soils.

4.2.4.2. PROJECT IMPACTS

With implementation of the proposed avoidance and minimization measures, the proposed project is not expected to result in impacts to Red Hills soaproot.

4.2.4.3. AVOIDANCE AND MINIMIZATION EFFORTS

This species has not previously been observed in the PIA and two botanical surveys indicate that it is not likely to occur within the PIA and areas directly adjacent to the PIA (BSA). However, because the species is known to occur within 5 miles of the PIA, it could potentially disperse into the PIA prior to construction from populations in the vicinity. Thus, a qualified biologist shall conduct a pre-construction survey for Red Hills soaproot within 30 days prior to construction. If Red Hills soaproot is not found, then no further measures are necessary. If Red Hills soaproot is found in the PIA, CDFW will be notified at least 10 days prior to construction impacts in the vicinity of Red Hills soaproot in accordance with the California Native Plant Protection Act of 1977 (CDFG Code Section 1900-1913) to allow sufficient time to transplant the individuals to a suitable location or develop other mitigation measures in coordination with CDFW.

4.2.4.4. COMPENSATORY MITIGATION

No compensatory mitigation is necessary for impacts to Red Hills soaproot.

4.2.4.5. CUMULATIVE EFFECTS

No current or future projects have been identified by the City in the vicinity of the PIA. This does not preclude, however, the potential for other projects in the City to result in impacts to Red Hills soaproot. While individual projects may have negligible impacts, future projects as a whole could lead to significant impacts to Red Hills soaproot habitat or populations in the region. Avoidance and minimization measures identified above will minimize potential impacts to Red Hills soaproot, and the proposed project will not contribute to cumulative effects.

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

Parry's horkelia is listed by the California Native Plant Society as being fairly endangered in California, meaning that 20-80 percent of the known occurrences are threatened. It is a perennial herb found in chaparral and cismontane woodland, on lone formation and other soils, from 260 to 3,400 feet. It blooms April through September and is known from Amador, Calaveras, El Dorado, and Mariposa counties (CNPS 2015).

4.2.5.1. SURVEY RESULTS

There is one recorded occurrence for Parry's horkelia within the BSA from 1923, mapped as a large circle over the City of Placerville and includes observations of other species within the observation (Figure 3-4). The exact location of the occurrence is unknown and more specific location information is not available. The next closest record for this species is located approximately 7 miles southeast of the BSA. Habitat consists of a grassy site at the edge of a chaparral and oak woodland at the top of a bank and bank slope above a road. Thirty flowering clumps of plants were observed in 1994. Twenty to thirty clumps of plants were observed in 2004. Parry's horkelia was not observed in the BSA during surveys conducted by Sycamore Environmental in 2007, 2008 or 2009.

Mariposa soils and remnant areas of natural habitat occur in small portions of the BSA however there are no Ione formation soils. Although the potential for the BSA to provide habitat for Parry's horkelia cannot be completely ruled out as the remnant patches of montane hardwood-conifer forest provides potentially suitable habitat for this species, it is unlikely to be present since the BSA does not contain Ione formation soils.

4.2.5.2. PROJECT IMPACTS

With implementation of the proposed avoidance and minimization measures, the proposed project is not expected to result in impacts to Parry's horkelia.

4.2.5.3. AVOIDANCE AND MINIMIZATION EFFORTS

This species has not previously been observed in the PIA and two botanical surveys indicate that it is not likely to occur within the PIA and areas directly adjacent to the PIA (BSA). However, because the species is known to occur within 7 miles of the PIA, it could potentially disperse into the PIA prior to construction from populations in the vicinity. Thus, a qualified biologist shall conduct a pre-construction survey for Parry's horkelia within 30 days prior to construction. If Parry's horkelia is not found, then no further measures are necessary. If Parry's horkelia is found in the PIA, CDFW will be notified at least 10 days prior to construction impacts in the vicinity of Parry's horkelia in accordance with the California Native Plant Protection Act of 1977 (CDFG Code Section 1900-1913) to allow sufficient time to transplant the individuals to a suitable location or develop other mitigation measures in coordination with CDFW.

4.2.5.4. COMPENSATORY MITIGATION

No compensatory mitigation is necessary for impacts to Parry's horkelia.

4.2.5.5. CUMULATIVE EFFECTS

No current or future projects have been identified by the City in the vicinity of the PIA. This does not preclude, however, the potential for other projects in the City to result in impacts to Parry's horkelia. While individual projects may have negligible impacts, future projects as a whole could lead to significant impacts to Parry's horkelia habitat or populations in the region. Avoidance and minimization measures identified above will minimize potential impacts to Parry's horkelia, and the proposed project will not contribute to cumulative effects.

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

Parry's horkelia is listed by the California Native Plant Society as being endangered in California but common elsewhere, meaning that less than 20 percent of the known occurrences are threatened. It is a deciduous shrub found in chaparral, cismontane woodland, and lower montane coniferous forest from 700 to 4,600 feet. It blooms May through June and is known from Contra Costa, El Dorado, Fresno, Glenn, Humboldt, Mendocino, Napa, Placer, Shasta, Sonoma, and Tehama counties (CNPS 2015).

4.2.1.1. SURVEY RESULTS

There is one recorded occurrence for oval-leaved viburnum within the BSA from 1901, mapped as a large circle over the City of Placerville and includes observations of other species within the observation (Figure 3-4). The exact location of the occurrence is unknown and more specific location information is not available. There are no other recorded occurrences within 5 or 10 miles of the BSA. Oval-leaved viburnum was not observed in the BSA during surveys conducted by Sycamore Environmental in 2007, 2008 or 2009.

Mariposa soils and remnant areas of natural habitat occur in small portions of the BSA however there are no gabbro soils. Although the potential for the BSA to provide habitat for oval-leaved viburnum cannot be completely ruled out as the remnant patches of montane hardwood-conifer forest provides potentially suitable habitat for this species, it is unlikely to be present since the BSA does not contain gabbro soils.

4.2.1.2. PROJECT IMPACTS

With implementation of the proposed avoidance and minimization measures, the proposed project is not expected to result in impacts to Parry's horkelia.

4.2.1.3. AVOIDANCE AND MINIMIZATION EFFORTS

This species was not identified within the PIA during blooming period surveys conducted in 2007, 2008 or 2009 and has not been identified since 1901. No further surveys are anticipated unless required by USFWS or CDFW during the permitting process.

4.2.1.4. COMPENSATORY MITIGATION

No compensatory mitigation is necessary for impacts to oval-leaved viburnum.

4.2.1.5. CUMULATIVE EFFECTS

No current or future projects have been identified by the City in the vicinity of the PIA. This does not preclude, however, the potential for other projects in the City to result in impacts to oval-leaved viburnum. While individual projects may have negligible impacts, future projects as a whole could lead to significant impacts to oval-leaved viburnum habitat or populations in the region. Avoidance and minimization measures identified above will minimize potential impacts to oval-leaved viburnum, and the proposed project will not contribute to cumulative effects.

4.3. Special-status Wildlife Species

After completion of the field surveys and review of existing information on special-status wildlife in the project region, it was determined that 2 special-status wildlife species have the potential to occur within the BSA. These species include foothill yellow-legged frog, and western pond turtle. In addition, there is the potential for the project to impact nesting migratory birds and raptors. Each of these species is discussed below.

4.3.1. Discussion of Foothill yellow-legged frog (FYLF*; Rana boylii*)

FYLF is a State species of special concern. 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. 1 988). 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).

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).

4.3.1.1. SURVEY RESULTS

The closest recorded occurrence for FYLF is located approximately 9.1 miles northwest of the BSA in Indian Creek, a tributary to the South Fork American River. Habitat consisted of a perennial stream with intermittent pools. Over 100 adults and juveniles were observed on October 27, 2003.

FYLF were not observed in the BSA during the reconnaissance surveys, general biological survey, the delineation fieldwork, or during the protocol CRLF surveys conducted in the BSA and within a 2.5 mile radius of the BSA. Hangtown Creek in the BSA provides only marginal habitat for FYLF due to the high levels of disturbance and the crayfish and sunfish that are abundant throughout the creek. The stretch of Cedar Ravine in the BSA does not provide habitat for FYLF because it is in a culvert.

Based on the best scientific and commercial information available, FYLF does not currently occupy the BSA. Hangtown Creek provides marginal breeding and dispersal habitat for FYLF.

4.3.1.2. PROJECT IMPACTS

The project will not affect potential breeding habitat for FYLF because aquatic resources within the BSA are unlikely to provide adequate ponding depth and duration to support metamorphosis and no FYLF were detected within the BSA. Mortality or injury of FYLF in aquatic and upland habitats could occur by crushing by construction equipment or if frogs are displaced from cover, exposing them to predators and desiccation. Trenches left open during the night could trap frogs moving through the construction area. Moreover, construction activities could temporarily impede the movement of juvenile and adult FYLF dispersing between breeding areas and summer refugia sites.

4.3.1.3. AVOIDANCE AND MINIMIZATION EFFORTS

The following avoidance and minimization efforts shall be implemented in order to reduce potential project effects to FYLF:

- A qualified biologist will conduct a preconstruction survey within 24 hours prior to the start of construction activities within the riparian and aquatic habitat in the BSA.
- A qualified biologist will monitor any vegetation removal in Hangtown Creek. The biologist will monitor the installation of water diversion structures placed in Hangtown Creek.
- The upstream and downstream limits of the project will be flagged and/or signed to prevent the encroachment of construction personnel and equipment into any sensitive areas during project work.

- Prior to construction, environmental awareness training will be conducted for construction personnel to brief them on how to recognize FYLF. Construction personnel should also be informed that if a FYLF is encountered in the work area, construction should stop and CDFW contacted for guidance. A training log sign-in sheet will be maintained.

- If frogs are found at any time during project work, construction will stop and CDFW will be contacted immediately for further guidance.

- The project proponent shall submit the name and credentials of the project's biologist(s) to CDFW for review and approval at least 15 days prior to the onset of construction activities.

- Staging areas as well as fueling and maintenance activities shall be a minimum of 100 feet from riparian or aquatic habitats. The project proponent will prepare a spill prevention and clean-up plan.

- The project will administer Best Management Practices to protect water quality and control erosion.

- If a work site is to be temporarily dewatered by pumping, intakes shall be completely screened with wire mesh not larger than five millimeters.

- Upon completion of construction activities, any barriers to flow shall be removed in a manner that would allow flow to resume with the least disturbance to the substrate.

4.3.1.4. COMPENSATORY MITIGATION

No compensatory mitigation is required. Implementation of avoidance and minimization efforts described under Section 4.3.1.3 would ensure that the project does not adversely affect FYLF.

4.3.1.5. CUMULATIVE IMPACTS

The proposed project has been designed in order to replace an existing bridge and realign a road entirely within a residential and commercial area. Upon completion, the project would not contribute to any future projects within the surrounding area. Overall, the proposed project would not permanently adversely impact jurisdictional waters of the U.S., as it avoids permanent impacts to Hangtown Creek with the proposed bridge span design. Avoidance and minimization measures identified above will minimize potential impacts to FYLF, and the proposed project will not contribute to cumulative effects.

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

CRLF was listed as a federal-threatened species on 23 May 1996 (FR 65: 21853). CRLF is also a State species of special concern. CRLF habitat includes specific aquatic and riparian components (USFWS 1996). Breeding adults typically require dense, shrubby, or emergent riparian vegetation closely associated with deep (>2ft), 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 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).

CRLF are endemic to California and Baja California, Mexico. The 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).

The closest CNDDB record is 10.6 mi east of the BSA at Spivey Pond, on North Fork Weber Creek. This population is one of the five remaining CRLF populations known from the Sierra Nevada (USFWS 2006). Six adults were observed on 2 July 1997 during a spotlight survey; one tadpole was observed on 3 July 1997; and six adults and two of unknown age were observed on 12 September 2002.

4.3.2.1. SURVEY RESULTS

Sycamore Environmental conducted two separate surveys for CRLF in 2006 and 2007 in accordance with the USFWS August 2005 guidelines for a project located approximately 1.5 miles west of the Clay Street Bridge Project (Sycamore Environmental 2006a, 2007). Hangtown Creek at the Clay Street Bridge was included in the surveys during both years. No CRLF were found in Hangtown Creek at Clay Street or at any of the other survey locations.

Additionally, four other CRLF field surveys (three conducted under the 1997 guidelines and one conducted under the 2005 guidelines) were conducted in the vicinity of the BSA between 2001 and 2006 (Sycamore Environmental 2001, 2004, 2005, 2006b). Combined, the six field surveys covered over 30 sites within a 2.5 mile radius of the Clay Street Bridge BSA. No CRLF were found during any of the surveys.

Sycamore Environmental prepared a CRLF Site Assessment for a section of the El Dorado Trail in Smith Flat (Sycamore Environmental 1999). In April 1999, Mr. Jason Davis, a biologist with USFWS, concluded that the proposed trail project would not affect CRLF. Sycamore Environmental biologists also conducted preconstruction surveys and construction monitoring in Hangtown Creek approximately 1.5 mile west of Clay Street.

No CRLF were found during the preconstruction surveys or construction monitoring. The CRLF surveys conducted in the vicinity of the BSA are detailed in a supplemental memorandum in Appendix E.

Hangtown Creek in the BSA does not provide suitable breeding habitat for CRLF due to the lack of emergent vegetation, and the absence of deep, slow moving backwater or pools during the breeding season. In addition, Hangtown Creek is highly disturbed and crayfish and sunfish are abundant throughout the creek. The stretch of Cedar Ravine in the BSA does not provide habitat for CRLF because it is in a culvert.

Based on CRLF survey information conducted in accordance with the 1997 and 2005 USFWS guidelines in the City of Placerville, previous USFWS determinations, the lack of suitable CRLF habitat in Hangtown Creek in the BSA and the City of Placerville, and using the best available scientific and commercial information, the BSA is unoccupied by CRLF. In addition, the BSA is not within critical habitat designated for CRLF nor is it within a core area identified in the Recovery Plan for the California Red-legged Frog (*Rana aurora draytonii*) (USFWS 2002).

4.3.2.2. PROJECT IMPACTS

This species was not identified within the PIA during protocol-level surveys conducted between 2001 and 2006 and the closest recorded occurrence is over 10 miles away, well outside the known dispersal range for this species; therefore the project will have no impact on this species.

4.3.2.3. AVOIDANCE AND MINIMIZATION EFFORTS

Since this species has not been observed within the PIA nor is it expected to occur within the PIA no avoidance and minimization efforts are anticipated unless required by CDFW during the permitting process. In addition, avoidance and minimization measures provided in 4.3.1.3 above will minimize overall impacts to aquatic habitat within the PIA.

4.3.2.4. COMPENSATORY MITIGATION

No compensatory mitigation is required.

4.3.2.5. CUMULATIVE IMPACTS

The proposed project has been designed in order to replace an existing bridge and realign a road entirely within a residential and commercial area. Upon completion, the project would not contribute to any future projects within the surrounding area. Overall, the proposed project would not permanently adversely impact jurisdictional waters of the U.S., as it avoids permanent impacts to Hangtown Creek with the proposed bridge span design. Avoidance and minimization measures identified above will minimize potential impacts to CRLF, and the proposed project will not contribute to cumulative effects.

4.3.3. Discussion of Western Pond Turtle (*Emys marmorata*)

Western pond turtles, including both the northwestern (ssp. *marmorata*) and southwestern (ssp. *pallida*) subspecies, are California species of concern. Western pond turtles range throughout the state of California, from southern coastal California and the Central Valley, east to the Cascade Range and the Sierra Nevada. The two subspecies are believed to integrate over a broad range in the Central Valley (Jennings and Hayes, 1994). Western pond turtles occur in a variety of permanent and intermittent aquatic habitats, such as ponds, marshes, rivers, streams, and ephemeral pools. Pond turtles require suitable basking and haul-out sites, such as emergent rocks or floating logs, which they use to regulate their temperature throughout the day (Holland, 1994). In addition to appropriate aquatic habitat, these turtles require an upland oviposition site in the vicinity of the aquatic habitat, often within 200 meters (656 feet). Nests are typically dug in grassy, open fields with soils that are high in clay or silt fraction. Egg-laying usually takes place between March and August (Zeiner et al., 1988).

This species may spend the winter in an inactive state, on land or in the water, and in other cases may remain active and in the water throughout the year (Jennings and Hayes, 1994). While the turtles may be active all year along the coast, at interior locations such as the Central Valley, pond turtles are more likely to be active between April and October. Western pond turtles have been documented hibernating up to 350 meters (1,007 feet) from a watercourse, immediately adjacent to a watercourse (Jennings and Hayes, 1994), and underwater in mud (Zeiner et al., 1988). Upland hibernaculae may include any type of crack, hole, or object that a turtle seeking cover might squeeze into or burrow under.

4.3.3.1. SURVEY RESULTS

There are two recorded occurrences of western pond turtle within 5 miles of the BSA. Hangtown Creek does not provide suitable habitat for this species most of the year due to its ephemeral nature, lack of suitable basking structure, heavy canopy shading, lack of forage (aquatic vegetation, fish and amphibians), and urban setting. Although Hangtown Creek, within the BSA, is very poor habitat, it does provide a potential movement corridor for western pond turtles. No western pond turtles were observed during surveys conducted in 2007, 2008 or 2009.

4.3.3.2. PROJECT IMPACTS

Potential aquatic and upland habitat for western pond turtle is present within the BSA. If western pond turtles are present within the work area during construction, the movement of equipment within uplands and construction of bridge structures could crush pond turtles or nests containing eggs or young. With implementation of the proposed avoidance and minimization measures, the proposed project is not expected to result in impacts to western pond turtle.

4.3.3.3. AVOIDANCE AND MINIMIZATION EFFORTS

The following avoidance and minimization efforts shall be implemented in order to reduce potential project effects to western pond turtle:

- If dewatering is necessary, the construction area shall be dewatered prior to construction activities. CDFW shall be notified prior to dewatering activities.

- No more than two weeks prior to the commencement of ground-disturbing activities, the City shall retain a qualified biologist to perform surveys for western pond turtle within suitable aquatic and upland habitat within the project site. Surveys will include western pond turtle nests as well as individuals. The biologist (with the appropriate agency permits) will temporarily move any identified western pond turtles upstream of the construction area, and temporary barriers will be placed around the construction area to prevent ingress. Construction will not proceed until the work area is determined to be free of turtles. The results of these surveys will be documented in a technical memorandum that will be submitted to CDFW (if turtles are documented).

- Standard construction BMPs shall be implemented throughout construction, in order to avoid and minimize adverse effects to the water quality within the BSA.

4.3.3.4. COMPENSATORY MITIGATION

No compensatory mitigation is required. Implementation of avoidance and minimization efforts described under Section 4.3.3.3 would ensure that the project does not adversely affect western pond turtle.

4.3.3.5. CUMULATIVE IMPACTS

The proposed project has been designed in order to replace an existing bridge. Upon completion, the project would not contribute to any future projects within the surrounding area. Overall, the proposed project would not permanently adversely impact jurisdictional waters of the U.S., and it avoids permanent impacts to Hangtown Creek with the proposed bridge span design. Avoidance and minimization measures identified above will minimize potential impacts to western pond turtle, and the proposed project will not contribute to cumulative effects.

4.3.4. Discussion of Other Migratory Birds and Raptors

Fish and Game Code 3503.5 protects all birds in the orders Accipitriformes, Falconiformes and Strigiformes (collectively known as raptors or birds of prey) and include hawks, eagles, falcons, and owls. All other migratory bird species, with the exception of non-native and invasive bird species, are protected under the federal MBTA of 1918 (16 U.S.C. 703-711).

Swallows, such as the barn swallow (*Hirundo rustica*) and cliff swallow (*Petrochelidon pyrrhonota*), and black phoebes commonly nest on the undersides of bridges that cross over, or are in close proximity, to aquatic habitats such as rivers, streams, and lakes. Such bridges provide suitable nesting habitat due to their proximity to nest building material as well as optimal foraging habitat. Aquatic habitats and associated corridors provide habitat for large numbers of aquatic and terrestrial insects, which are these species primary prey items.

Common raptors, such as red-shouldered hawk (*Buteo lineatus*), and red-tailed hawk (*Buteo jamaicensis*), and birds, such as tree swallows (*Tachycineta bicolor*) and sparrows, commonly nest in large trees that overhang or are in close proximity (within ¼ mi), to aquatic habitats such as rivers, streams, and lakes, as well as in close proximity to annual grasslands and agricultural fields. Large trees provide suitable nesting habitat due to their proximity to nest building material as well as optimal foraging habitat. Aquatic and terrestrial habitats and associated corridors provide habitat for large numbers of aquatic and terrestrial insects, which are these species primary prey items.

4.3.4.1. SURVEY RESULTS

The valley foothill riparian habitat along Hangtown Creek, as well as the patches of montane hardwood-conifer habitat, provides potential nesting and foraging habitat for birds listed by the MBTA. No nests or nesting activity were observed during surveys conducted in 2007, 2008 or 2009.

4.3.4.2. PROJECT IMPACTS

If demolition of the bridge begins during the breeding season (February 15 to September 1), the proposed project could result in mortality of young through forced fledging or nest abandonment by adult birds. Exclusion of nesting adult birds from the underside of the bridge could potentially result in disruption of nesting activities and the loss of nesting productivity for the season for some birds that do not move to other nesting sites outside of the BSA. However, widening of the bridge could ultimately result in a net increase of potential nesting habitat for swallows, black phoebes, and other bridge nesting birds.

If it is necessary to remove the trees within the riparian corridor or within the montane hardwood-conifer areas prior to construction or construction activities begin during the breeding season (February 15 to September 1), the proposed project could result in mortality of young through forced fledging or nest abandonment by adult birds, as well as destruction of nests.

4.3.4.3. AVOIDANCE AND MINIMIZATION EFFORTS

The following avoidance and minimization measures shall be used when work occurs on or in the vicinity of structures that may be subject to nesting by migratory birds.

- **Avoid Active Nesting Season.** To avoid and minimize impacts to tree and shrub nesting species, the following measures would be implemented;
    - If feasible, conduct all tree and shrub removal and grading activities during the non-breeding season (generally September 1 through January 31).
    - If grading and tree removal activities are scheduled to occur during the breeding and nesting season (February 1 through August 31), pre-construction surveys would be performed prior to the start of project activities.
- **Conduct Pre-construction Nesting Bird Surveys**. If construction, grading or other project-related activities are schedule during the nesting season (February 1 to August 31), preconstruction surveys for other migratory bird species would take place no less than 14 days and no more than 30 days prior to the beginning of construction within 250 feet of suitable nesting habitat.
    - If the pre-construction surveys do not identify any nesting migratory bird species within areas potentially affected by construction activities, no further mitigation would be required. If the pre-construction surveys do identify nesting bird species within areas that may be affected by site construction, the following measures would be implemented.
- **Avoid Active Bird Nest Sites**. Should active nest sites be discovered within areas that may be affected by construction activities, additional measures would be implemented as described below:
    - If active nests are found, project-related construction impacts would be avoided by establishment of appropriate no-work buffers to limit project-related construction activities near the nest site. The size of the no-work buffer zone would be determined in consultation with the DFW although a 500-foot would be used when possible. The no-work buffer zone would be delineated by highly visible temporary construction fencing. In consultation with DFW, monitoring of nest activity by a qualified biologist may be required if the project-related construction activity has potential to adversely affect the nest or nesting behavior of the bird. No project-related construction activity would commence within the no-work buffer area until a qualified biologist and DFW confirms that the nest is no longer active.

The following avoidance and minimization measures shall be incorporated for bridge-nesting birds if bridge demolition or construction of the new bridge occurs during the nesting season (February 15 to September 1). Exclusionary netting shall be installed around the undersides of the existing bridge before February 15 of the construction year

to prevent new nests from being formed, and/or prevent the reoccupation of existing nests. Exclusionary netting may also be required during construction of the new bridge if it is completed during the breeding season. The construction contractor would do the following:

- Adhere to all state and federal laws and regulations pertaining to the protection of migratory birds, their nests, and young birds.
- Remove all existing unoccupied nests on the bridge during the non-nesting season (September 2-February 14).
- Keep the bridge free of nests, using exclusionary netting or other approved methods, until completion of construction activities.
- Inspect all listed structures for nesting activity a minimum of three days per week; no two days of inspection would be consecutive. A weekly log would be submitted to the project biologist. The contractor would continue inspections until bridge removal and completion of construction on new bridge. If an exclusion device were found to be ineffective or defective, the contractor would complete repairs to the device within 24 hours. If birds were found trapped in an exclusion device, the contractor would immediately remove the birds in accordance with U.S. Fish and Wildlife Service guidelines.
- Submit for approval working drawings or written proposals of any exclusion devices, procedures, or methods to the project biologist before installing them.
- The method of installing exclusion devices would not damage permanent features of the new bridge structure. Approval by the project biologist of the working drawings or inspection performed by the authorized project biologist would in no way relieve the contractor of full responsibility for deterring nesting.

4.3.4.4. COMPENSATORY MITIGATION

No compensatory mitigation is required. Implementation of avoidance and minimization efforts described under Section 4.3.4.3 would ensure that the project does not adversely affect migratory birds and raptors.

4.3.4.5. CUMULATIVE EFFECTS

The proposed project has been designed in order to replace an existing bridge. Upon completion, the project would not contribute to any future projects within the surrounding area. Avoidance and minimization measures identified above will minimize potential impacts to migratory birds and raptors, and the proposed project will not contribute to cumulative effects.

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

5.1. Federal Endangered Species Act Consultation Summary

Based on the analysis conducted within this document, a determination has been made that that the project will have no effect on federally-listed species. The PIA, and surrounding BSA, do not support critical habitat for any federally-listed species nor has it been identified as core area within a USFWS species-specific recovery plan.

5.2. California Endangered Species Act Consultation Summary

DHA contacted Mr. Kursten Sheridan by email on November 20, 2015 to discuss the potential for species other than foothill yellow-legged frog and western pond turtle that could potentially utilize Hangtown Creek. On December 10, 2015, Mr. Sheridan replied via phone that the generated CNDDB list (Appendix A) is accurate and he does not believe that there are additional species that may have the potential to occur. He concurs that there is the potential for FYLF and western pond turtle to utilize Hangtown Creek as a movement corridor.

5.3. Wetlands and Other Waters Coordination Summary

5.3.1. U.S. Army Corps of Engineers

Approximately 0.33 acres of potentially jurisdictional waters of the United States occur within the BSA, and includes Hangtown Creek and Cedar Ravine Creek. A drainage ditch (0.02 acres) in the northeast corner of the BSA is a potentially non-jurisdictional feature as it is not hydrologically connected to a TNW or RPW. The determination of jurisdictional acreages of other waters of the United States in the BSA is preliminary pending verification by the Corps.

A total of 0.04 acres of riverine habitat will be impacted, either temporarily or permanently, by the proposed project. Areas that are temporarily impacted during construction will be restored to pre-project conditions.

Impacts to potential waters of the United States will require a permit from the Corps under Section 404 of the CWA (33 USC 1344) and a State Water Quality Certification (CWA Section 401 permit) from the CVRWQCB. The proposed project would also require a Streambed Alteration Agreement (SAA) pursuant to CFGC Subsection 1601-

1603. Impacts will be mitigated in accordance with agency requirements outlined in the permits to ensure no net loss of acreage or value to waters of the United States.

Nationwide Permit (NWP) 14 applies to activities required for the construction, expansion, modification, or improvement of linear transportation crossings (e.g., highways, railways, trails, airport runways, and taxiways) in waters of the United States, including wetlands, if the activity meets the criteria. Based on avoidance and minimization efforts associated with the proposed project, the proposed project would likely qualify under a NWP 14.

5.3.2. State Regulations

The state's authority to regulate activities in waters of the United States resides primarily with the CDFW and the California State Water Resources Control Board (SWRCB). CDFW comments on Corps permit actions under the Fish and Wildlife Coordination Act. CDFW is also authorized under the California Fish and Game Code, Sections 1600–1616 to develop mitigation measures and enter into SAAs with applicants who propose projects that would obstruct the flow of or alter the bed, channel, or bank of a river or stream in which there is a fish or wildlife resource, including intermittent and ephemeral streams. The SWRCB, acting through the appropriate RWQCB, must certify that a Corps permit action meets state water quality objectives (Section 401, Clean Water Act).

5.4. Invasive Species

Bridge construction would occur along the existing road right of way within a disturbed corridor. The BSA is surrounded by urban development and is heavily used by local residents. The BSA currently supports non-native invasive plants. Implementation of the project is not expected to result in the introduction, establishment, and spread of new invasive weeds into El Dorado County. The following measures shall be included in the construction contract special provisions:

- All equipment and vehicles will be thoroughly cleaned to remove dirt and weed seeds prior to being transported or driven to or from the project site.
- Any borrow site or stockpile will be inspected for the presence of noxious weeds or invasive plants.
- If noxious weeds or invasive plants are present, the contractor will remove approximately five inches of the surface of the material from the site before transporting to the project.

- Before removal, this material will be chemically or mechanically treated to kill the existing noxious weeds and invasive plants, and will not be used for the project without approval.

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Appendix A USFWS, CNDDB, and CNPS Lists of Regionally-Occurring Special-Status Species

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Sacramento Fish and Wildlife Office
FEDERAL BUILDING, 2800 COTTAGE WAY, ROOM W-2605
SACRAMENTO, CA 95825
PHONE: (916)414-6600 FAX: (916)414-6713

Consultation Code: 08ESMF00-2016-SLI-0233 November 05, 2015

Event Code: 08ESMF00-2016-E-00469

Project Name: Clay Street at Main Street/Cedar Ravine Realignment and Clay Street Bridge Replacement Project

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

To Whom It May Concern:

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

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

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

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

The purpose of the Act is to provide a means whereby threatened and endangered species and

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

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

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

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

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

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

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

The table below outlines lead FWS field offices by county and land ownership/project type. Please refer to this table when you are ready to coordinate (including requests for section 7 consultation) with the field office corresponding to your project, and send any documentation

regarding your project to that corresponding office. Therefore, the lead FWS field office may not be the office listed above in the letterhead. Please visit our office's website (http://www.fws.gov/sacramento) to view a map of office jurisdictions.

Lead FWS offices by County and Ownership/Program

County	Ownership/Program	Species	Office Lead*
Alameda	Tidal wetlands/marsh adjacent to Bays	Salt marsh species, delta smelt	BDFWO
Alameda	All ownerships but tidal/estuarine	All	SFWO
Alpine	Humboldt Toiyabe National Forest	All	RFWO
Alpine	Lake Tahoe Basin Management Unit	All	RFWO
Alpine	Stanislaus National Forest	All	SFWO
Alpine	El Dorado National Forest	All	SFWO
Colusa	Mendocino National Forest	All	AFWO
Colusa	Other	All	By jurisdiction (see map)
Contra Costa	Legal Delta (Excluding ECCHCP)	All	BDFWO
Contra Costa	Antioch Dunes NWR	All	BDFWO
Contra Costa	Tidal wetlands/marsh adjacent to Bays	Salt marsh species, delta smelt	BDFWO

Contra Costa	All ownerships but tidal/estuarine	All	SFWO
El Dorado	El Dorado National Forest	All	SFWO
El Dorado	LakeTahoe Basin Management Unit		RFWO
Glenn	Mendocino National Forest	All	AFWO
Glenn	Other	All	By jurisdiction (see map)
Lake	Mendocino National Forest	All	AFWO
Lake	Other	All	By jurisdiction (see map)
Lassen	Modoc National Forest	All	KFWO
Lassen	Lassen National Forest	All	SFWO
Lassen	Toiyabe National Forest	All	RFWO
Lassen	BLM Surprise and Eagle Lake Resource Areas	All	RFWO
Lassen	BLM Alturas Resource Area	All	KFWO
Lassen	Lassen Volcanic National Park	All (includes Eagle Lake trout on all ownerships)	SFWO

Lassen	All other ownerships	All	By jurisdiction (see map)
Marin	Tidal wetlands/marsh adjacent to Bays	Salt marsh species, delta smelt	BDFWO
Marin	All ownerships but tidal/estuarine	All	SFWO
Mendocino	Russian River watershed	All	SFWO
Mendocino	All except Russian River watershed	All	AFWO
Napa	All ownerships but tidal/estuarine	All	SFWO
Napa	Tidal wetlands/marsh adjacent to San Pablo Bay	Salt marsh species, delta smelt	BDFWO
Nevada	Humboldt Toiyabe National Forest	All	RFWO
Nevada	All other ownerships	All	By jurisdiction (See map)
Placer	Lake Tahoe Basin Management Unit	All	RFWO
Placer	All other ownerships	All	SFWO
Sacramento	Legal Delta	Delta Smelt	BDFWO
Sacramento	Other	All	By jurisdiction (see map)

San Francisco	Tidal wetlands/marsh adjacent to San Francisco Bay	Salt marsh species, delta smelt	BDFWO
San Francisco	All ownerships but tidal/estuarine	All	SFWO
San Mateo	Tidal wetlands/marsh adjacent to San Francisco Bay	Salt marsh species, delta smelt	BDFWO
San Mateo	All ownerships but tidal/estuarine	All	SFWO
San Joaquin	Legal Delta excluding San Joaquin HCP	All	BDFWO
San Joaquin	Other	All	SFWO
Santa Clara	Tidal wetlands/marsh adjacent to San Francisco Bay	Salt marsh species, delta smelt	BDFWO
Santa Clara	All ownerships but tidal/estuarine	All	SFWO
Shasta	Shasta Trinity National Forest except Hat Creek Ranger District (administered by Lassen National Forest)	All	YFWO
Shasta	Hat Creek Ranger District	All	SFWO
Shasta	Bureau of Reclamation (Central Valley Project)	All	BDFWO
Shasta	Whiskeytown National Recreation Area	All	YFWO

Shasta	BLM Alturas Resource Area	All	KFWO
Shasta	Caltrans	By jurisdiction	SFWO/AFWO
Shasta	Ahjumawi Lava Springs State Park	Shasta crayfish	SFWO
Shasta	All other ownerships	All	By jurisdiction (see map)
Shasta	Natural Resource Damage Assessment, all lands	All	SFWO/BDFWO
Sierra	Humboldt Toiyabe National Forest	All	RFWO
Sierra	All other ownerships	All	SFWO
Solano	Suisun Marsh	All	BDFWO
Solano	Tidal wetlands/marsh adjacent to San Pablo Bay	Salt marsh species, delta smelt	BDFWO
Solano	All ownerships but tidal/estuarine	All	SFWO
Solano	Other	All	By jurisdiction (see map)
Sonoma	Tidal wetlands/marsh adjacent to San Pablo Bay	Salt marsh species, delta smelt	BDFWO
Sonoma	All ownerships but tidal/estuarine	All	SFWO

Tehama	Mendocino National Forest	All	AFWO
Tehama	Shasta Trinity National Forest except Hat Creek Ranger District (administered by Lassen National Forest)	All	YFWO
Tehama	All other ownerships	All	By jurisdiction (see map)
Yolo	Yolo Bypass	All	BDFWO
Yolo	Other	All	By jurisdiction (see map)
All	FERC-ESA	All	By jurisdiction (see map)
All	FERC-ESA	Shasta crayfish	SFWO
All	FERC-Relicensing (non-ESA)	All	BDFWO
***Office Leads:**			
AFWO=Arcata Fish and Wildlife Office			
BDFWO=Bay Delta Fish and Wildlife Office			
KFWO=Klamath Falls Fish and Wildlife Office			
RFWO=Reno Fish and Wildlife Office			
YFWO=Yreka Fish and Wildlife Office			

Attachment

United States Department of Interior
Fish and Wildlife Service

Project name: Clay Street at Main Street/Cedar Ravine Realignment and Clay Street Bridge Replacement Project

Official Species List

Provided by:

Sacramento Fish and Wildlife Office
FEDERAL BUILDING
2800 COTTAGE WAY, ROOM W-2605
SACRAMENTO, CA 95825
(916) 414-6600

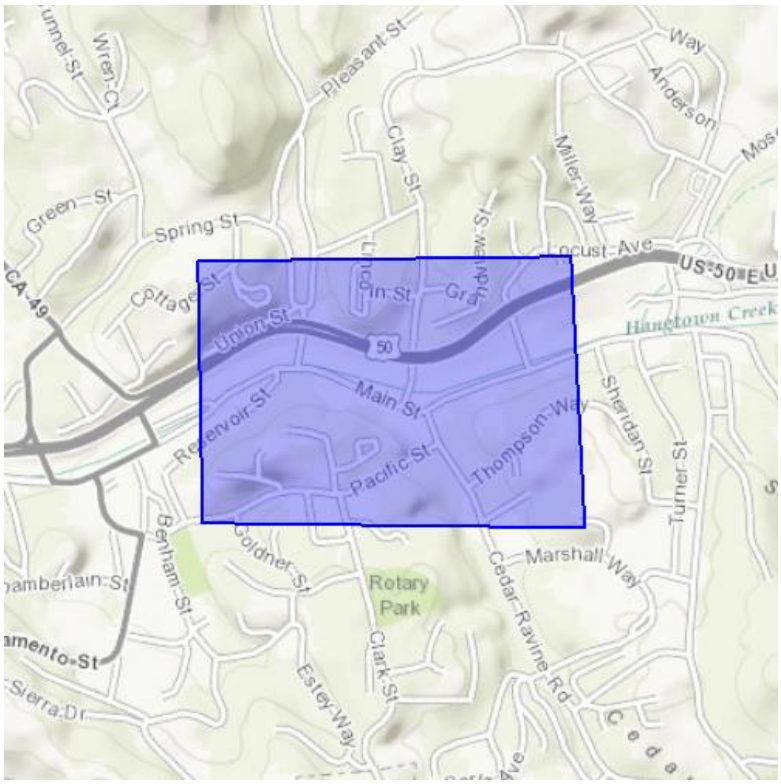
Consultation Code: 08ESMF00-2016-SLI-0233
Event Code: 08ESMF00-2016-E-00469

Project Type: BRIDGE CONSTRUCTION / MAINTENANCE

Project Name: Clay Street at Main Street/Cedar Ravine Realignment and Clay Street Bridge Replacement Project
Project Description: To replace the existing, functionally obsolete bridge with a new, wider bridge. In addition, the project proposes to realign the southern leg of Clay Street to the Main Street/Cedar Ravine Road intersection.

Please Note: The FWS office may have modified the Project Name and/or Project Description, so it may be different from what was submitted in your previous request. If the Consultation Code matches, the FWS considers this to be the same project. Contact the office in the 'Provided by' section of your previous Official Species list if you have any questions or concerns.

Project Location Map:



Project Coordinates: MULTIPOLYGON (((-120.80156564712524 38.73164006046276, -120.79259634017943 38.7317237544561, -120.79227447509764 38.726651721385345, -120.80145835876463 38.726735421222685, -120.80156564712524 38.73164006046276)))

Project Counties: El Dorado, CA

Endangered Species Act Species List

There are a total of 4 threatened or endangered species on your species list. Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species. Critical habitats listed under the **Has Critical Habitat** column may or may not lie within your project area. See the **Critical habitats within your project area** section further below for critical habitat that lies within your project. Please contact the designated FWS office if you have questions.

Amphibians	**Status**	**Has Critical Habitat**	**Condition(s)**
California red-legged frog *(Rana draytonii)* Population: Entire	Threatened	Final designated	
Fishes			
Delta smelt *(Hypomesus transpacificus)* Population: Entire	Threatened	Final designated	
steelhead *(Oncorhynchus (=salmo) mykiss)* Population: Northern California DPS	Threatened	Final designated	
Flowering Plants			
Layne's butterweed *(Senecio layneae)*	Threatened		

Critical habitats that lie within your project area

There are no critical habitats within your project area.

Selected Elements by Element Code

California Department of Fish and Wildlife

California Natural Diversity Database

Query Criteria: Quad is (Aukum (3812056) or Camino (3812066) or Coloma (3812078) or Fiddletown (3812057) or Garden Valley (3812077) or Latrobe (3812058) or Placerville (3812067) or Shingle Springs (3812068) or Slate Mtn. (3812076))

Element Code	Species	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
AAABH01022	***Rana draytonii*** California red-legged frog	Threatened	None	G2G3	S2S3	SSC
AAABH01050	***Rana boylii*** foothill yellow-legged frog	None	None	G3	S3	SSC
ABNGA04010	***Ardea herodias*** great blue heron	None	None	G5	S4	
ABNGA04040	***Ardea alba*** great egret	None	None	G5	S4	
ABNKC12060	***Accipiter gentilis*** northern goshawk	None	None	G5	S3	SSC
ABNSB12040	***Strix nebulosa*** great gray owl	None	Endangered	G5	S1	
ABPAU08010	***Riparia riparia*** bank swallow	None	Threatened	G5	S2	
ABPBXB0020	***Agelaius tricolor*** tricolored blackbird	None	None	G2G3	S1S2	SSC
AMACC01020	***Myotis yumanensis*** Yuma myotis	None	None	G5	S4	
AMACC02010	***Lasionycteris noctivagans*** silver-haired bat	None	None	G5	S3S4	
AMAJF01021	***Pekania pennanti*** fisher - West Coast DPS	Proposed Threatened	Candidate Threatened	G5T2T3Q	S2S3	SSC
ARAAD02030	***Emys marmorata*** western pond turtle	None	None	G3G4	S3	SSC
ARACF12100	***Phrynosoma blainvillii*** coast horned lizard	None	None	G3G4	S3S4	SSC
CARA2130CA	***Sacramento-San Joaquin Foothill/Valley Ephemeral Stream*** Sacramento-San Joaquin Foothill/Valley Ephemeral Stream	None	None	GNR	SNR	
CARA2421CA	***Central Valley Drainage Resident Rainbow Trout Stream*** Central Valley Drainage Resident Rainbow Trout Stream	None	None	GNR	SNR	
CARA2443CA	***Central Valley Drainage Hardhead/Squawfish Stream*** Central Valley Drainage Hardhead/Squawfish Stream	None	None	GNR	SNR	
IIPLE23020	***Cosumnoperla hypocrena*** Cosumnes stripetail	None	None	G2	S2	
PDAST8H1V0	***Packera layneae*** Layne's ragwort	Threatened	Rare	G2	S2	1B.2

Element Code	Species	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
PDAST9X0D0	***Wyethia reticulata*** El Dorado County mule ears	None	None	G2	S2	1B.2
PDCIS020F0	***Crocanthemum suffrutescens*** Bisbee Peak rush-rose	None	None	G2Q	S2	3.2
PDCON040H0	***Calystegia stebbinsii*** Stebbins' morning-glory	Endangered	Endangered	G1	S1	1B.1
PDCON040Q0	***Calystegia vanzuukiae*** Van Zuuk's morning-glory	None	None	G2Q	S2	1B.3
PDCPR07080	***Viburnum ellipticum*** oval-leaved viburnum	None	None	G4G5	S3?	2B.3
PDERI040V0	***Arctostaphylos nissenana*** Nissenan manzanita	None	None	G1	S1	1B.2
PDONA05053	***Clarkia biloba ssp. brandegeeae*** Brandegee's clarkia	None	None	G4G5T4	S4	4.2
PDRHA04190	***Ceanothus roderickii*** Pine Hill ceanothus	Endangered	Rare	G1	S1	1B.2
PDROS0W0C0	***Horkelia parryi*** Parry's horkelia	None	None	G2	S2	1B.2
PDRUB0N0E7	***Galium californicum ssp. sierrae*** El Dorado bedstraw	Endangered	Rare	G5T1	S1	1B.2
PDSTE03030	***Fremontodendron decumbens*** Pine Hill flannelbush	Endangered	Rare	G1	S1	1B.2
PMLIL022V0	***Allium jepsonii*** Jepson's onion	None	None	G1	S1	1B.2
PMLIL0D095	***Calochortus clavatus var. avius*** Pleasant Valley mariposa-lily	None	None	G4T2	S2	1B.2
PMLIL0G020	***Chlorogalum grandiflorum*** Red Hills soaproot	None	None	G2	S2	1B.2

Record Count: 32

CNPS California Native Plant Society Rare and Endangered Plant Inventory

Plant List

14 matches found. *Click on scientific name for details*

Search Criteria

Rare Plant Rank is one of [1A, 1B, 2A, 2B], Found in 9 Quads around 38120F7

Scientific Name	Common Name	Family	Lifeform	Rare Plant Rank	State Rank	Global Rank
Allium jepsonii	Jepson's onion	Alliaceae	perennial bulbiferous herb	1B.2	S1	G1
Arctostaphylos nissenana	Nissenan manzanita	Ericaceae	perennial evergreen shrub	1B.2	S1	G1
Calochortus clavatus var. avius	Pleasant Valley mariposa lily	Liliaceae	perennial bulbiferous herb	1B.2	S2	G4T2
Calystegia stebbinsii	Stebbins' morning-glory	Convolvulaceae	perennial rhizomatous herb	1B.1	S1	G1
Calystegia vanzuukiae	Van Zuuk's morning-glory	Convolvulaceae	perennial rhizomatous herb	1B.3	S2	G2Q
Ceanothus roderickii	Pine Hill ceanothus	Rhamnaceae	perennial evergreen shrub	1B.1	S1	G1
Chlorogalum grandiflorum	Red Hills soaproot	Agavaceae	perennial bulbiferous herb	1B.2	S2	G2
Erigeron miser	starved daisy	Asteraceae	perennial herb	1B.3	S2	G2
Fremontodendron decumbens	Pine Hill flannelbush	Malvaceae	perennial evergreen shrub	1B.2	S1	G1
Galium californicum ssp. sierrae	El Dorado bedstraw	Rubiaceae	perennial herb	1B.2	S1	G5T1
Horkelia parryi	Parry's horkelia	Rosaceae	perennial herb	1B.2	S2	G2
Packera layneae	Layne's ragwort	Asteraceae	perennial herb	1B.2	S2	G2
Viburnum ellipticum	oval-leaved viburnum	Adoxaceae	perennial deciduous shrub	2B.3	S3?	G4G5
Wyethia reticulata	El Dorado County mule ears	Asteraceae	perennial herb	1B.2	S2	G2

Suggested Citation

CNPS, Rare Plant Program. 2015. Inventory of Rare and Endangered Plants (online edition, v8-02). California Native Plant Society, Sacramento, CA. Website http://www.rareplants.cnps.org [accessed 05 November 2015].

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Appendix B Wetland Delineation

Preliminary Jurisdictional Delineation Report

for the

Clay Street at Main Street/Cedar Ravine Realignment and Clay Street Bridge (25C-0117) at Hangtown Creek Replacement Project

City of Placerville, CA

Prepared by:

Sycamore Environmental Consultants, Inc.
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Sacramento, CA 95827
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Fax: 368-1308
Contact: Ms. Carolyn Davis, P.E.

December 2009

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Preliminary Jurisdictional Delineation Report
for the
Clay Street at Main Street/ Cedar Ravine Realignment and Clay Street Bridge (25C-0117) at Hangtown Creek Replacement Project

City of Placerville, CA

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I. INTRODUCTION

A. Purpose

Sycamore Environmental Consultants, Inc., under contract with Quincy Engineering, conducted a jurisdictional delineation of the Clay Street at Main Street/ Cedar Ravine Realignment and Clay Street Bridge (25C-0117) at Hangtown Creek Replacement project study area (PSA) in the City of Placerville, 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 PSA for the Clay Street at Main Street/ Cedar Ravine Realignment and Clay Street Bridge (25C-0117) Replacement Project includes portions of Clay Street, Main Street, Cedar Ravine Road, Thompson Way, Pacific Street, Locust Avenue, and the El Dorado Trail (a pedestrian and bicycle path) in western El Dorado County, CA (Figure 1). The PSA is on the Placerville USGS topographic quad (T10N, R11E, sections 7 and 8) and is in the South Fork American hydrologic unit (hydrologic unit code 18020129). Its centroid is 38.729° north, 120.796° west, UTM coordinate 691,600 meters E, 4,289,000 meters N, Zone 10N (1983 NAD). Figure 2 is an aerial photograph of the PSA.

To access the PSA from Sacramento, travel Highway 50 east to Placerville. Turn right (south) at Bedford Avenue in Placerville. Turn left (east) at Main Street and continue east for approximately 0.15 miles. The center of the PSA is the intersection of Main Street and Clay Street.

C. Project Applicant and Engineer

Applicant:
City of Placerville
3101 Center Street
Placerville, CA 95667
Phone: 530/ 642-5250
Fax: 530/ 642-5568
Contact: Mr. Randy Pesses, Public Works Director

Engineer:
Quincy Engineering, Inc.
3247 Ramos Circle
Sacramento, CA 95827-2501
Phone: 916/ 368-9181
Fax: 916/ 368-1308
Contact: Ms. Carolyn Davis, P.E.

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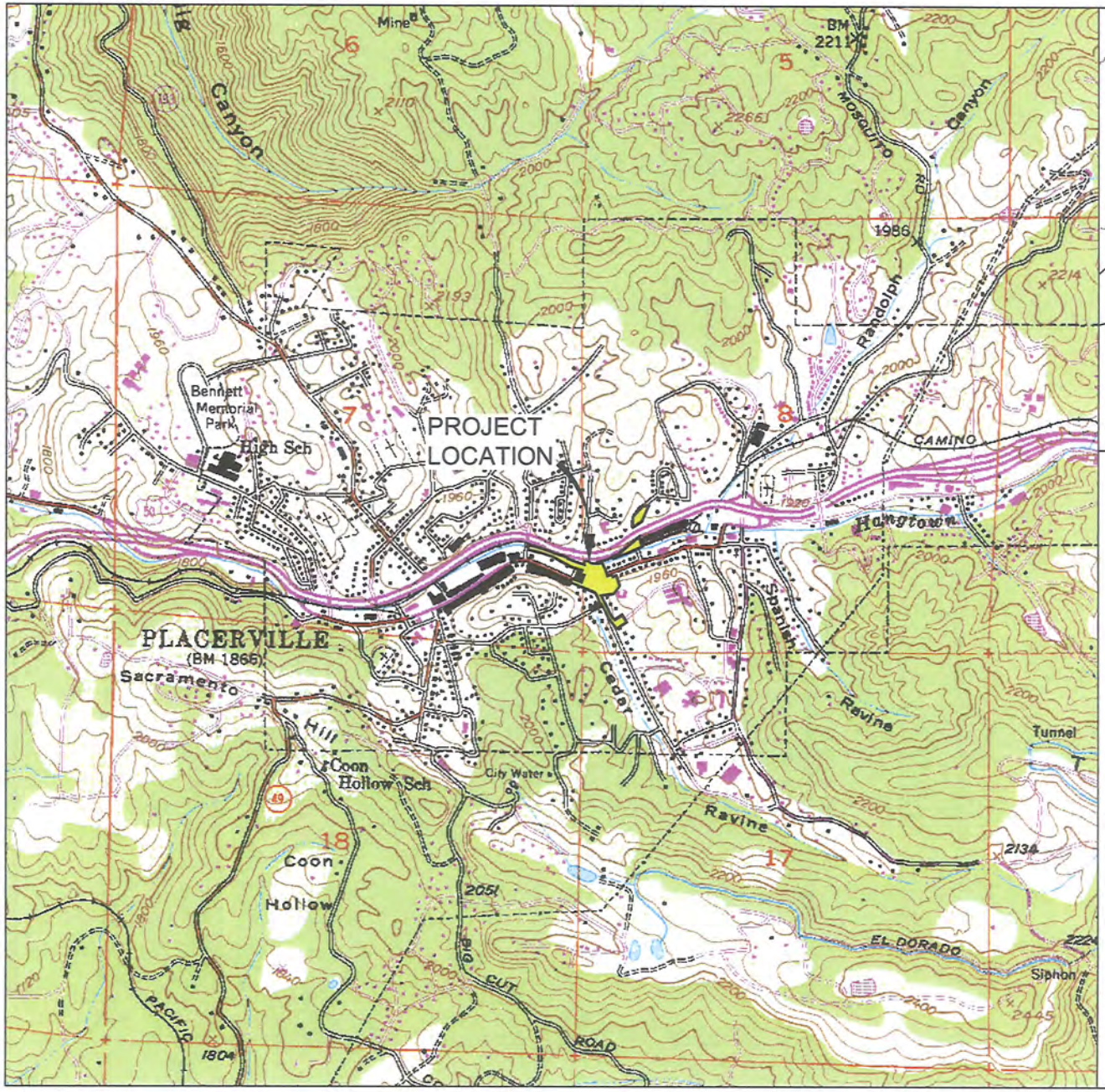

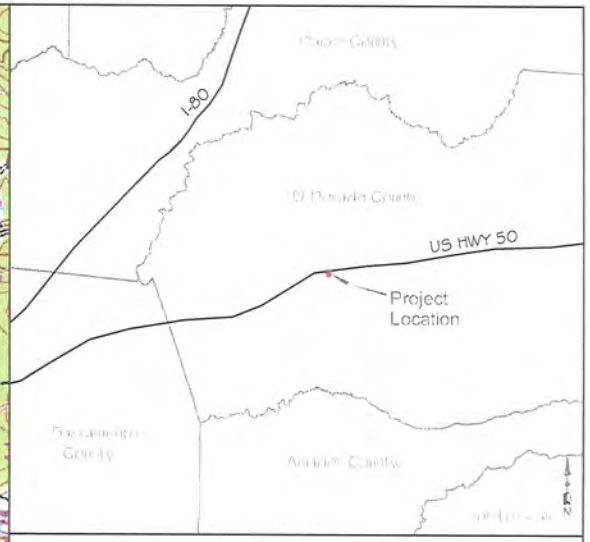

Clay Street Realignment and Bridge (25C-0117) Replacement Project
City of Placerville, CA
15 September 2009

Figure 1. Project Location Map

= Project Location

0 1000 2000 ft
Scale: 1" = 2000'
N

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

07027_Fig1_Location.dwg

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Clay Street Realignment
and Bridge (25C-0117)
Replacement Project
City of Placerville, CA
15 September 2009

Figure 2.

Aerial Photograph

= Project Boundary

0 400 800 ft

Scale: 1" = 800'

N

Basemap:
1 September 2008 Image
GlobeXplorer and Partners.
Copyright 2009.
All Rights Reserved.

07027_Fig 2_Aerial.dwg

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D. Project Description

The City of Placerville's Clay Street at Main Street/ Cedar Ravine Realignment and Clay Street Bridge (25C-0117) at Hangtown Creek Replacement Project involves three primary components: the reconstruction of the Clay Street Bridge over Hangtown Creek, redesigning the current three-way Main Street/Cedar Ravine Road intersection and the current three-way Clay Street/Main Street intersection into a single 4-legged roundabout, and the construction of an extension of the multi-use El Dorado Trail between Clay Street and Bedford Avenue.

The existing functionally obsolete Clay Street Bridge (25C-0117) over Hangtown Creek (Appendix B, photos 3 and 4) would be replaced with a wider, two-lane bridge designed to pass the 100-year flow event. The southern leg of Clay Street would be realigned to the Main Street/Cedar Ravine Road intersection and the new four-way intersection would be designed with a with a 4-legged roundabout.

The realignment of Clay Street and the construction of the roundabout would result in a loss of public parking. Replacement parking areas would be constructed and may include one or more of the following options: a parking area to the northwest of the Clay Street Bridge dedicated to users of the El Dorado Trail, parking areas along Locust Avenue to the north and to the south of the U.S. Highway (Hwy) 50 corridor, a roadside parking area along Pacific Street, a parking area northeast of the Cedar Ravine Road/Thompson Way intersection, and a parking area to the southeast of the Main Street/Cedar Ravine Road intersection. All of the proposed replacement parking areas are included in the PSA.

If parking is located along the El Dorado Trail, then egress would be provided from the parking lot via a one-way drive aisle along the northern bank of Hangtown Creek to the west of the Clay Street Bridge that connects to Bedford Avenue. The drive aisle would be parallel to the proposed extension of the multi-use El Dorado Trail between Clay Street and Bedford Avenue. The trail extension would be constructed in an area that has already been cleared and leveled as part of the U.S. Hwy 50 Operational Improvements (Hwy 50 Ops)Project. An extension of the paved El Dorado Trail would be constructed in this leveled area.

II. STUDY METHODS

A. Data Sources

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

Table 1. Data Sources

Data Requested	Source
Maps, plans, plots or plat submitted by or on behalf of the applicant.	Quincy Engineering, Inc., boundary, topographic, project design map dated 3 February 2009.
Data sheets prepared/submitted by or on behalf of the applicant.	Appendix A
Corps navigable waters' study.	SPK-2008-00099
U.S. Geological Survey Hydrologic Atlas. 1. USGS NHD data 2. USGS 8 and 12 digit HUC maps	1. 18020129000292 (Hangtown Creek) 18020129001626 (Cedar Ravine) 2. 18020129 , South Fork American 180201290703, Indian Creek-Weber Creek
U.S. Geological Survey map(s).	Placerville USGS quad, 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 (1984)
State/Local wetland inventory map(s).	None known
FEMA/FIRM maps.	FIRM map, Panel 756 of 1,125, Map Number 06017C0756E, El Dorado County, CA and incorporated areas, effective 26 September 2008
100-year Floodplain Elevation is: (e.g. North American Vertical Datum of 1988)	Hangtown Creek: 1,862 ft at Bedford Ave to 1,877 ft at Locust Ave Cedar Ravine: 1,875 ft south of Pacific Street
Photographs: 1. Aerial (Name & Date): 2. Other (Name & Date):	ImageConnect Service (GlobeXplorer© 2009) images dated 1 August 2008, 1 September 2008, 1 January 2007, 1 May 2006
Previous determination(s). File no. and date of response letter:	None known in limits of PSA.

B. Survey Dates and Personnel

Jeffery Little conducted field reviews on 11 July 2007 and 12 October 2007. Chuck Hughes, M.S., and Jessica Easley conducted a site visit on 8 December 2008. Mr. Hughes conducted an additional site visit on 15 April 2009. Fieldwork for the jurisdictional delineation was conducted by Mr. Hughes and Ms. Easley on 25 August and by Mr. Hughes on 31 August 2009.

C. 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 Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Corps 2008). 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 supplement in combination with the Corps Manual 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, and the dominant tree canopy is oaks. All wetland and channel features were identified and mapped. 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). Plant nomenclature follows Hickman, ed. (1993).

D. 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 2008). Soil, vegetation, and hydrology data were recorded at the data points. 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.

E. Mapping of Data and Calculation of Acreages

Channels observed in the PSA by Sycamore Environmental were mapped using a Trimble Pro-XRS sub-meter accurate global positioning system (GPS) and laser rangefinder. The GPS data were exported to AutoCAD® and aligned with the topographic base map provided by Quincy Engineering, Inc. Acreages were calculated using AutoCAD® functions. Figure 2 is a 1 September 2008 aerial photo of the PSA and surrounding area (GlobeXplorer© & Partners 2009).

F. 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 approximately 7.332 ac PSA is located in an urban area in the City of Placerville. The PSA is primarily paved surfaces including Clay Street, Main Street, Cedar Ravine Road, Pacific Street, Thompson Way, Locust Avenue, the Ivy House parking lot, and the El Dorado trail. Hangtown Creek flows in a westerly direction through the PSA. Cedar Ravine Creek flows north-northwest through an underground culvert and empties into Hangtown Creek at the Clay Street Bridge.

A. Topography

Elevation in the PSA ranges from approximately 1,850 to 1,925 ft above sea level. Topography in the PSA ranges from nearly level along Main Street to near vertical slopes at grade cuts. The entire PSA drains to Hangtown Creek.

B. Existing Field Conditions

Field work for the jurisdictional delineation was conducted on 25 and 31 August 2009. Precipitation in California is typically reported for the period from 1 July through 30 June of the next calendar year in order to contain a single winter wet season. The average precipitation for the National Weather Service Placerville gauge from 1 July through 31 August is 0.23 inch, the driest two months of the year. The Placerville gauge did not record any precipitation from 1 July through 31 August 2009. Zero precipitation in July and August is a common event at the Placerville gauge. The gauge recorded zero precipitation for the two months 6 times in the 10 years previous to 2009. The PSA had normal summer conditions during the fieldwork for the delineation. The previous rain year, 2008-09, recorded 32.72 inches of precipitation, or 86% of the average 38.12 inches of precipitation (CDWR 2009).

C. Vegetation

Most of the PSA is paved, occupied by structures, or contains highly disturbed ground with ruderal vegetation. Relatively small areas of montane hardwood-conifer forest occur in four locations in the PSA. A narrow band of riparian forest occurs along the northern bank of Hangtown Creek in the PSA. Appendix C is a list of plant species recorded at the soil data points.

D. Existing Level of Disturbance

The majority of the PSA is paved streets, parking lots, structures, and the El Dorado Trail. Cedar Ravine is in a culvert in the PSA (Appendix B, photo 4). Hangtown Creek appears to have been straightened in the past. The southern bank of Hangtown Creek is a series of vertical concrete or stone retaining walls. Part of the northern bank of Hangtown Creek is a retaining wall and the remainder is a graded slope. A sewer main is in Hangtown Creek and is above grade in some locations.

Hangtown Creek has been recently disturbed as part of the Hwy 50 Ops project. Some trees and shrubs have been removed and rock slope protection (RSP) has been placed along a segment of the north bank as part of the sewer line relocation component of the Hwy 50 Ops project. Wood chips have been laid down along much of the area proposed for the extension of the El Dorado Trail between Clay Street and Bedford Avenue.

E. Soils

Soil pits were dug to observe the chroma, texture, degree of saturation, and other characteristics. The primary mapped soil unit in the PSA is Placer diggings. Small areas of Mariposa very rocky silt loam, 3-50% slopes; Mariposa gravelly silt loam, 3-30% slopes; and

Mariposa – Josephine very rocky loams, 15-50% slopes, also occur in the PSA (NRCS 1974; Figure 3). These soil units 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.

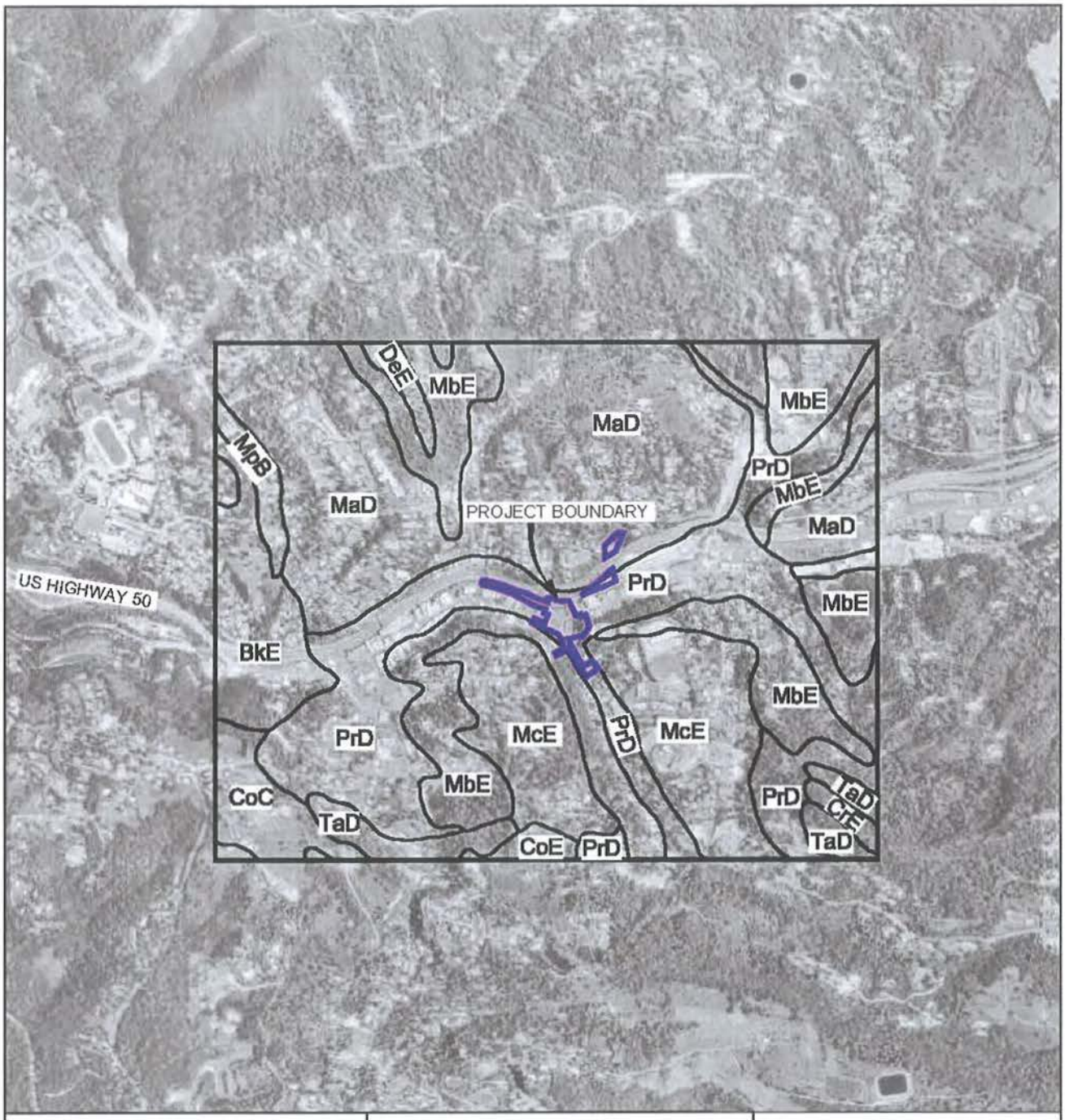
Placer diggings: Placer diggings consist of areas of stony, cobbly, and gravelly material, commonly in beds of creeks and other streams, or of areas that have been placer mined and contain enough fine sand or silt to support some grass for grazing. The material that makes up this land type is derived from a mixture of rocks and commonly is stratified or poorly sorted. In some areas where slopes are steep, the material consists of fines fro stamp mills or tailings from placer mining. The depth of the soil material is variable, ranging from 6 inches to more than 5 ft. Areas in streambeds are frequently flooded during the rainy season. Natural drainage varies from place to place.

Mariposa very rocky silt loam (3 to 50% slopes): The Mariposa series is a well-drained soil underlain by vertically tilted schist and slate and contact metamorphic rock at a depth of 15 to 30 inches. Mariposa very rocky silt loam (3 to 50%) slopes are south- and west-facing along narrow ridgetops. A typical profile has 0 to 1 inch of pine needles, duff, and partially decomposed litter on the surface; reddish brown (5YR 4/4) medium acid gravelly silt loam from 0 to 8 inches; yellowish red (5YR 4/6) medium acid gravelly silt loam from 8 to 15 inches; yellowish red (5YR 4/6) strongly acid heavy silt loam from 15 to 26 inches, and yellowish brown nearly vertically tilted weathered slate or schist. Outcrops of bedrock cover 5 to 25 percent of the surface. The soil is 10 to 30 percent gravel-sized rock fragments, by volume. Included in mapping are small areas of Josephine very rocky loam, Josephine very rocky silt loam, Sites very rocky loam, and Maymen very rocky loam. Permeability is moderate. Surface runoff is medium to rapid. The erosion hazard is slight to high.

Mariposa gravelly silt loam (3 to 30% slopes): This soil is similar to Mariposa very rocky silt loam, 3 to 50% slopes, except that less than 5 percent of the surface has outcrops of bedrock. Included in mapping are small areas of Josephine silt loam, Josephine gravelly loam, and Sites loam. Permeability is moderate. Surface runoff is medium. The erosion hazard is slight to moderate.

F. National Wetlands Inventory Map

In the PSA, Hangtown Creek is mapped as a perennial channel on the USGS Placerville quad map and is mapped as riverine, intermittent, streambed, seasonally flooded (R4SBC) on the NWI map. Cedar Ravine is mapped as an intermittent channel on the USGS Placerville quad map and is not given a classification (Cowardin et al. 1979) on the NWI map. No other wetland or water features are mapped in the PSA.



Clay Street Realignment
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Figure 3. Soils Map

= Project Boundary

= Soils Boundary

PrD: Placer diggings

MbE: Mariposa very rocky silt loam, 3 to 50% slopes

MaD: Mariposa gravelly silt loam, 3 to 30% slopes

0 834 1667 ft

Scale: 1" = 1667'

N

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

07027_Fig3Soils.dwg

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IV. WETLANDS AND WATERS

The following sections describe channel features in the PSA. There are no wetlands in the PSA. Channel features 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

Hangtown Creek: Hangtown Creek is a perennial channel that flows west through the PSA (Appendix B, photos 1, 2, and 4). Hangtown Creek was flowing during all the site visits and during the delineation fieldwork. Hangtown Creek is shown as a perennial channel on the Placerville quad map and is mapped as riverine, intermittent, streambed, seasonally flooded (R4SBC) on the Placerville NWI map. Cedar Ravine empties into Hangtown Creek at the Clay Street Bridge. Flows in Hangtown Creek are supplemented by urban runoff and landscape irrigation.

A series of retaining walls and rip-rap forms the south bank of Hangtown Creek. Some portions of the south bank of Hangtown Creek are not in the BSA. Graded slopes, retaining walls, and rip-rap form the north bank of Hangtown creek. A sewer main follows the alignment of Hangtown Creek. The bed of Hangtown Creek is mostly bedrock. Vegetation consists of white alder, willow, Fremont cottonwood, and hydrophytic herbs. The OHWM determination was based primarily on the presence of scour on the north bank and water staining on the south bank.

Table 2. Waters

Feature	Hydrology	Length (ft)	Avg. Width (ft)	Area (ac) [1]
Hangtown Creek	Perennial	1,000	21	0.347
Cedar Ravine	Intermittent	460	5	0.053
Total Waters:	--	**1,460**	--	**0.400**

[1] Acreages were calculated with AutoCAD® functions.

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Clay Street Realignment and Bridge (25C-0117) Replacement Project
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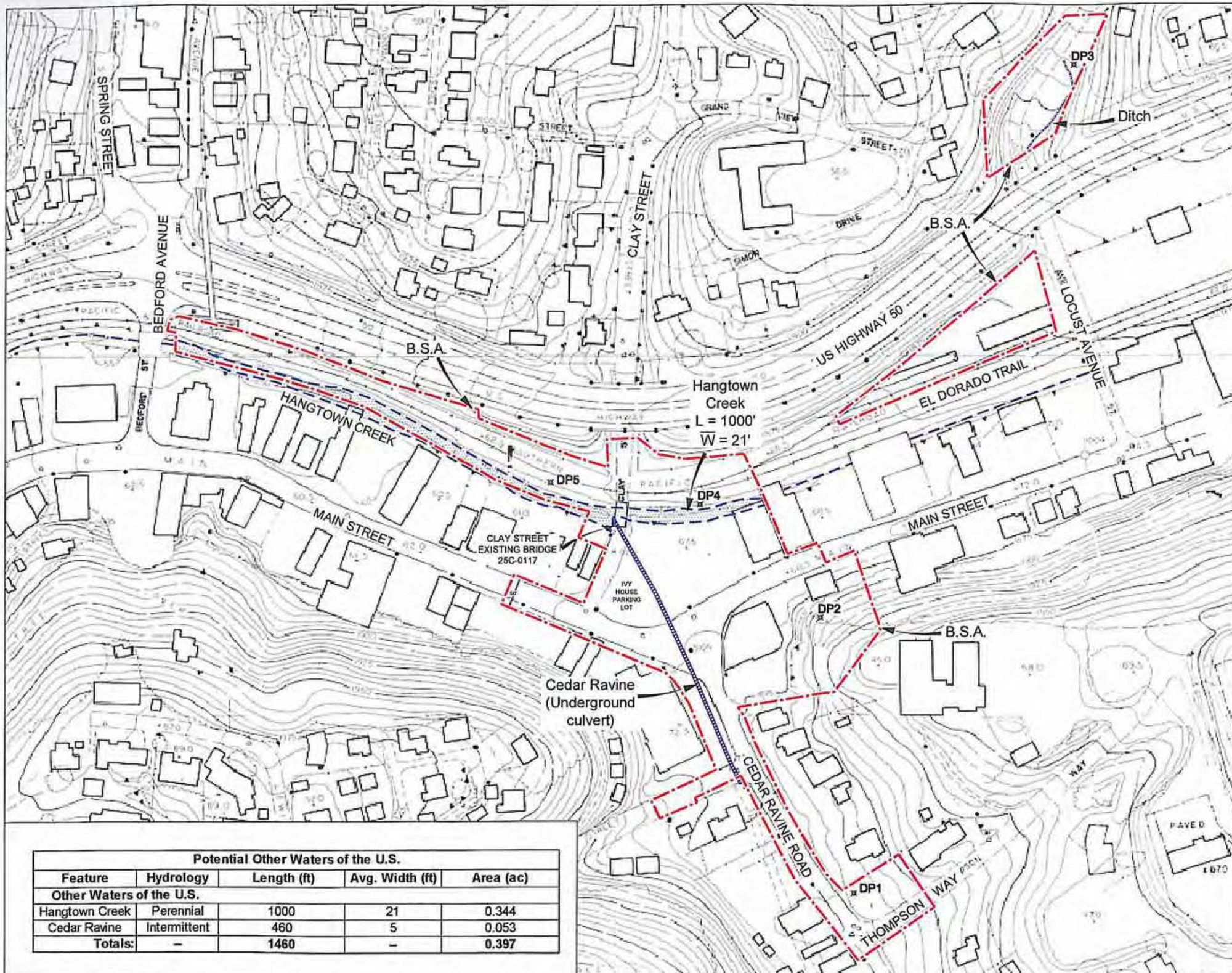
Figure 4. Preliminary Jurisdictional Delineation Map



= Biological Study Area (BSA) (6.558 acres)

= Hangtown Creek OHWM (0.344 acre, Length 1000 ft)

= Ditch (170 ft)

= Cedar Ravine (460 ft culverted)

DP2 = Data point and number

0 75 150 ft
Scale: 1" = 150'
Elevation in Feet
N

Potential Other Waters of the U.S.				
Feature	Hydrology	Length (ft)	Avg. Width (ft)	Area (ac)
Other Waters of the U.S.				
Hangtown Creek	Perennial	1000	21	0.344
Cedar Ravine	Intermittent	460	5	0.053
Totals:	–	1460	–	0.397

DATE	SUBMITTAL	DELINEATORS
9-Sep-09	Original Map	JAE, CCH

Basemap: p212rhv.dgn, p212rnv.dgn, p212rtp.dgn, Topo-25-cct4.tif, Topo-35-cct4.tif, Quincy Engineering, Inc.

07027_Figure3&4-NES-Delv5.dwg

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Cedar Ravine: Cedar Ravine is entirely within a culvert in the PSA. In areas south of the PSA Cedar Ravine is not culverted. Cedar Ravine is shown as an intermittent channel on the Placerville quad map and is not given a classification (Cowardin et al. 1979) on the Placerville NWI map. Cedar Ravine was flowing during all the site visits and during the delineation fieldwork. Hydrology for Cedar Ravine is provided by flow originating south of the PSA. Flows in Cedar Ravine are supplemented by urban runoff and landscape irrigation. Cedar Ravine empties into Hangtown Creek via a culvert in the south abutment of the existing bridge (Appendix B, photo 4). The OHWM of Cedar Ravine is the sides of the culvert.

B. Ditches/Rills

Runoff from Locust Avenue collects in a paved roadside gutter that empties into an earthen ditch (Appendix B, photo 6). The ditch drains around the roadside pullout along Locust Avenue and empties into a drain inlet near the Highway 50 overpass. Some of the road runoff has eroded a rill near Locust Avenue that drains to the ditch (Appendix B, photo 5).

C. Wetlands

There are no wetlands 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 (EPA 2001; referred to as the SWANCC decision) 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 (EPA 2001), are subject to regulation by the RWQCB.

Table 3. Rapanos Guidance Correlation of Wetlands and Waters

Feature	Rapanos Guidance Correlation	Significant Nexus [1]	Jurisdictional Acreage	Non-Jurisdictional Acreage
Hangtown Creek	RPW	Yes	0.347	--
Cedar Ravine	RPW	Yes	0.053	--
		Total:	**0.400**	--

[1] The Corps (2007) has determined 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 2009).

B. RPWs that flow directly or indirectly into TNWs

The portion of Hangtown Creek in the PSA is an RPW. Hangtown Creek is an RPW because it flows for more than three continuous months during normal precipitation years. Hangtown Creek was flowing on the day of the delineation (25 and 31 August 2009). Hangtown Creek is mapped on the Placerville quad as a perennial drainage and is classified on the NWI map for the Placerville quad as riverine, intermittent, streambed, seasonally flooded (R4SBC).

The portion of Cedar Ravine in the PSA is an RPW. Cedar Ravine is an RPW because it flows for more than three continuous months during normal precipitation years. Cedar Ravine was flowing on the day of the delineation. Cedar Ravine is mapped on the Placerville quad as an intermittent drainage and is not classified on the NWI map for the Placerville quad.

Cedar Ravine empties into Hangtown Creek via a culvert in the south abutment of the existing Clay Street Bridge. Hangtown Creek is tributary to Weber Creek 4.5 river miles (3.8 air miles) downstream of the PSA. Weber Creek is tributary to the American River. The Corps has determined that the American River is a navigable-in-fact TNW as far upstream as Folsom Lake (SPK-2008-00099).

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

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

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 to, but not directly abutting RPWs that flow directly or indirectly into TNWs, 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

No impoundments of waters occur 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, including wetlands

Ditches dug in uplands are not jurisdictional. The ditch along the road pullout on Locust Avenue was dug in uplands. Rill erosion is not jurisdictional.

J. Summary of Jurisdictional Acreages

A total of 0.400 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. Sixteen 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). He received his B.S. degree in environmental horticulture and urban forestry, with an emphasis in plant biodiversity, from UC Davis.
Responsibilities: Wetland delineation and report preparation.

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). Attended California red-legged frog (*Rana draytonii*) training presented by Norman J. Scott and Galen B. Rathbun (26 Mar 2009 workshop, Elkhorn Slough National Estuarine Research Reserve, Monterey County, CA).
Responsibilities: Wetland delineation 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.

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Appendix A.

Wetland & Channel Data Sheets

Clay Street at Main Street/ Cedar Ravine Realignment and
Clay Street Bridge (25C-0117) at Hangtown Creek Replacement Project

City of Placerville, CA

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WETLAND DETERMINATION DATA FORM – Arid West Region
Routine Wetland Determination
(September 2008 V2.0 COE Arid West Wetlands Delineation Manual)

Project/Site: Clay Street Realignment City/County: Placerville Sampling Date: 25 Aug 2009
Applicant/Owner: City of Placerville State: CA Sampling Point: 1
Investigator(s): Chuck Hughes Section, Township, Range: See Report
Landform (hillslope, terrace, etc.): Graded slope Local relief (concave, convex, none): Linear-concave Slope (%): 7
Subregion (LRR): C Lat: See Report Long: Datum:
Soil Map Unit Name: Placer diggings NWI classification: --
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: ((Plot size: 2 m)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:	0		

Sapling/Shrub Stratum: (Plot size: 2 m)			
1.			
2.			
3.			
4.			
5.			
Total Cover:	0		

Herb Stratum: (Plot size: 2 m)			
1. *Daucus carota*	3		--
2. *Avena* sp.	40	D	--
3. *Verbascum thapsus*	1		--
4. *Trifolium glomeratum*	40	D	--
5. *Plantago lanceolata*	2		FAC
6. *Centaurea solstitialis*	1		--
7. *Torilis arvensis*	1		--
8. *Bromus diandrus*	10		--
Total Cover:	98		

Woody Vine Stratum: (Plot size: 2 m)			
1.			
2.			
Total Cover:	0		

% Bare Ground in Herb Stratum 5 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW or FAC: 0 (A)
Total Number of Dominant Species Across All Strata: 2 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (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: Lot has been mown. Cut herbs mostly identifiable. Percent cover reflects cut herbs on soil surface. Mowing has not afftected species present during spring growing season.

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
0-5	7.5YR 4/4	100	--				Silt loam	
5-12	5YR 4/4	100	--				Silt loam	

[1]Type : C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]Location: PL=Pore Lining, 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, unless disturbed or problematic.

Restrictive Layer (if present):
Type: _____
Depth (inches): _____

Hydric Soil Present? Yes ☐ No ☒

Remarks: Asphalt chucks mixed with soil. Lot with data point has been excavated and/or graded but apparently not recently. Soil, though disturbed, reflective of current hydrology.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ 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 Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ 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)
- ☐ 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
(September 2008 V2.0 COE Arid West Wetlands Delineation Manual)

Project/Site: Clay Street Realignment City/County: Placerville Sampling Date: 25 Aug 2009
Applicant/Owner: City of Placerville State: CA Sampling Point: 2
Investigator(s): Chuck Hughes Section, Township, Range: See Report
Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Linear-convex Slope (%): 15
Subregion (LRR): C Lat: See Report Long: Datum:
Soil Map Unit Name: Placer diggings NWI classification: --
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: ((Plot size: 5 m)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Quercus lobata*	10	D	FAC
2. *Quercus kelloggii*	30	D	--
3. *Pinus ponderosa*	2		FACU
4.			
Total Cover:	42		

Sapling/Shrub Stratum: (Plot size: 5 m)			
1. *Rubus discolor*	5	D	FACW
2. *Quercus wislizenii* var. *wislizenii*	1		--
3. *Arctostaphylos viscida*	3	D	--
4. *Heteromeles arbutifolia*	1		--
5. *Calocedrus decurrens*	2		--
Total Cover:	12		

Herb Stratum: (Plot size: 2 m)			
1. *Potentilla glandulosa*	1		FAC
2. *Chlorogalum pomeridianum*	2	D	--
3. *Sidalcea malviflora*	2	D	--
4. *Elymus glaucus*	2	D	FACU
5. *Luzula comosa*	1		--
6. *Vicia sativa*	2	D	FACU
7. *Calochortus albus*	1		--
8. *Torilis arvensis*	2	D	--
Total Cover:	13		

Woody Vine Stratum: (Plot size: 5 m)			
1. *Toxicodendron diversilobum*	5	D	--
2.			
Total Cover:	5		

% Bare Ground in Herb Stratum 90 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW or FAC: 2 (A)
Total Number of Dominant Species Across All Strata: 10 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 20% (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
0-05							Duff	
0.5-6	7.5YR 3/3	100	--				Gravelly silt loam	
>6								Weathering bedrock

[1]Type : C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]Location: PL=Pore Lining, 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, unless disturbed or problematic.

Restrictive Layer (if present):
Type: _____
Depth (inches): _____

Hydric Soil Present? Yes ☐ No ☒

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ 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 Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ 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)
- ☐ 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
(September 2008 V2.0 COE Arid West Wetlands Delineation Manual)

Project/Site: Clay Street Realignment City/County: Placerville Sampling Date: 25 Aug 2009
Applicant/Owner: City of Placerville State: CA Sampling Point: 3
Investigator(s): Chuck Hughes Section, Township, Range: See Report
Landform (hillslope, terrace, etc.): Road turnout Local relief (concave, convex, none): Linear-linear Slope (%): 7
Subregion (LRR): C Lat: See Report Long: Datum:
Soil Map Unit Name: Mariposa gravelly silt loam NWI classification: --
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: ((Plot size: 5 m)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Pinus ponderosa*	7	D	FACU
2.			
3.			
4.			
Total Cover:	7		

Sapling/Shrub Stratum: (Plot size: 5 m)			
1. *Pyracantha angustifolia*	1	D	--
2. *Quercus wislizenii* var. *wislizenii*	2	D	--
3.			
4.			
5.			
Total Cover:	3		

Herb Stratum: (Plot size: 2 m)			
1. *Cynosurus echinatus*	5		--
2. *Centaurea solstitialis*	3		--
3. *Torilis arvensis*	10	D	--
4. *Trifolium glomeratum*	15	D	--
5. *Galium murale*	10	D	--
6. *Leontodon taraxacoides*	5		FACU
7. *Medicago polymorpha*	15	D	--
8. *Cichorium intybus*	1		--
Total Cover:	64		

Woody Vine Stratum: (Plot size: 5m)			
1.			
2.			
Total Cover:	0		

% Bare Ground in Herb Stratum 50 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW or FAC: 0 (A)
Total Number of Dominant Species Across All Strata: 7 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (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: 3

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
0-6	10YR 4/3	100	--				Gravelly silty clay loam	
>6							Rock	

[1]Type : C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]Location: PL=Pore Lining, 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, unless disturbed or problematic.

Restrictive Layer (if present):
Type: _____
Depth (inches): _____

Hydric Soil Present? Yes ☐ No ☒

Remarks: Soil may be partial fill. Natural grade appears to have been substantially lowered for road and turnout, apparently many years ago. Soil reflective of current hydrology.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ 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 Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ 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)
- ☐ 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? Yes ☐ No ☒ Depth (inches): --
(includes capillary fringe)

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
(September 2008 V2.0 COE Arid West Wetlands Delineation Manual)

Project/Site: Clay Street Realignment City/County: Placerville Sampling Date: 25 Aug 2009
Applicant/Owner: City of Placerville State: CA Sampling Point: 4
Investigator(s): Chuck Hughes Section, Township, Range: See Report
Landform (hillslope, terrace, etc.): Graded slope Local relief (concave, convex, none): Linear-linear Slope (%): 30
Subregion (LRR): C Lat: See Report Long: Datum:
Soil Map Unit Name: Placer diggings NWI classification: --
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: ((Plot size: 2 x 5 m)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Calocedrus decurrens*	20	D	--
2. *Quercus wislizenii* var. *wislizenii*	10	D	--
3.			
4.			
Total Cover:	30		

Sapling/Shrub Stratum: (Plot size: 2 x 5 m)			
1. *Rubus discolor*	2	D	FACW
2.			
3.			
4.			
5.			
Total Cover:	2		

Herb Stratum: (Plot size: 2 x 5 m)			
1. *Daucus carota*	5		--
2. *Bromus diandrus*	25	D	--
3. *Lolium multiflorum*	10	D	FAC
4. *Torilis arvensis*	10	D	--
5. *Lactuca serriola*	3		FAC
6. *Rumex crispus*	2		FACW
7. *Trifolium hirtum*	10	D	--
8. *Vicia sativa*	10	D	FACU
Total Cover:	75		

Woody Vine Stratum: (Plot size: 2 x 5 m)			
1.			
2.			
Total Cover:	0		

% Bare Ground in Herb Stratum 25 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW or FAC: 2 (A)
Total Number of Dominant Species Across All Strata: 8 (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: 4

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
0-7	7.5YR 3/2	100	--				Gravelly silt loam	
>7							Gravel & Rock	

[1]Type : C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]Location: PL=Pore Lining, 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, unless disturbed or problematic.

Restrictive Layer (if present):
Type: _____
Depth (inches): _____

Hydric Soil Present? Yes ☐ No ☒

Remarks: Soil likely graded long ago in association with straightening of creek. Soil reflective of current hydrology.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ 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 Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ 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)
- ☐ 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? Yes ☐ No ☒ Depth (inches): --
(includes capillary fringe)

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
(September 2008 V2.0 COE Arid West Wetlands Delineation Manual)

Project/Site: Clay Street Realignment City/County: Placerville Sampling Date: 25 Aug 2009
Applicant/Owner: City of Placerville State: CA Sampling Point: 5
Investigator(s): Chuck Hughes Section, Township, Range: See Report
Landform (hillslope, terrace, etc.): Graded slope Local relief (concave, convex, none): Linear-linear Slope (%): 3
Subregion (LRR): C Lat: See Report Long: Datum:
Soil Map Unit Name: Placer diggings NWI classification: --
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: ((Plot size: 5 x 2)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Calocedrus decurrens*	25	D	--
2.			
3.			
4.			
Total Cover:	25		

Sapling/Shrub Stratum: (Plot size: 5 x 2)			
1. *Rubus discolor*	3	D	FACW
2.			
3.			
4.			
5.			
Total Cover:	3		

Herb Stratum: (Plot size: 5 x 2)			
1. *Bromus diandrus*	20	D	--
2. *Rumex crispus*	2		FACW
3. *Epilobium brachycarpum*	2		UPL
4. *Torilis arvensis*	10	D	--
5. *Lactuca serriola*	5		FAC
6.			
7.			
8.			
Total Cover:	39		

Woody Vine Stratum: (Plot size: 5 x 2)			
1.			
2.			
Total Cover:	0		

% Bare Ground in Herb Stratum 60 % 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: 5

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
0-6	10YR 2/2	100	--				Clay loam	
>6							Rock	

[1]Type : C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]Location: PL=Pore Lining, 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, unless disturbed or problematic.

Restrictive Layer (if present):
Type: _____
Depth (inches): _____

Hydric Soil Present? Yes ☐ No ☒

Remarks: Soil likely graded long ago in association with straightening of creek. Soil reflective of current hydrology.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ 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 Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ 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)
- ☐ 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? Yes ☐ No ☒ Depth (inches): --
(includes capillary fringe)

Wetland Hydrology Present? Yes ☐ No ☒

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

Remarks:

DATA FORM FOR CHANNELS

Field Personnel:	Chuck Hughes and Jessica Easley	Channel #:	Hangtown Creek
Project/ Site:	Clay Street	Date:	25 August 2009
Applicant/ Owner:	City of Placerville	County, State:	El Dorado, CA

CONDITION OF CHANNEL

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

Width: (ft)	Average width is 21 feet.
Condition of Channel bed:	Mostly scoured bedrock.
Condition of Channel banks	Graded slopes, retaining walls, rip-rap
Vegetation Present-Bed:	Hydrophytic trees and herbs
Vegetation Present-Banks:	Primarily upland trees and herbs above OHWM on banks
Water Present:	Flowing
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:
Creek has been straightened and banks altered over many years. Vegetation periodically removed.

DATA FORM FOR CHANNELS

Field Personnel:	Chuck Hughes and Jessica Easley	Channel #:	Cedar Ravine
Project/ Site:	Clay Street	Date:	25 August 2009
Applicant/ Owner:	City of Placerville	County, State:	El Dorado, CA

CONDITION OF CHANNEL

Natural Feature: ☐ Yes ☒ No

If no, describe:

Creek naturally occurs but has been completely culverted and placed underground. Outfalls into Hangtown Creek at Clay Street Bridge.

Width: (ft)	Culvert approximately 5 ft wide
Condition of Channel bed:	Culvert
Condition of Channel banks	Culvert
Vegetation Present-Bed:	None
Vegetation Present-Banks:	None
Water Present:	Flowing (very low volume)
Does water flow appear:	☐ Permanent ☒ Intermittent ☐ Ephemeral ☐ Unknown

Evidence of Ordinary High Water Mark: Check All That Apply

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

Other comments/ observations:

Late summer water likely from irrigation runoff from urbanized watershed.

Appendix B.

Photographs

Clay Street at Main Street/ Cedar Ravine Realignment and
Clay Street Bridge (25C-0117) at Hangtown Creek Replacement Project

City of Placerville, CA

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Photo 1. View looking upstream along Hangtown Creek from the Clay Street Bridge (15 April 2009).

Photo 2. View looking upstream of a segment of Hangtown Creek downstream of the Clay Street Bridge (8 December 2008).

Photo 3. View looking south across the Clay Street Bridge over Hangtown Creek (25 August 2009).

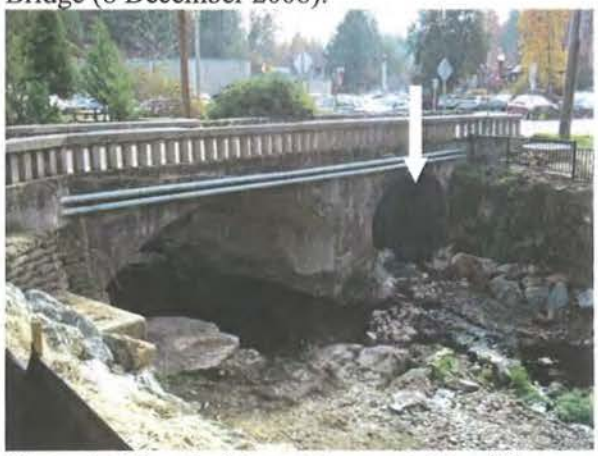

Photo 4. View looking at the west side of the Clay Street Bridge. Cedar Ravine joins Hangtown Creek via the culvert in the south abutment (arrow; 8 December 2008).

Photo 5. Rill erosion near Locust Avenue (arrow; 25 August 2009).

Photo 6. View of the roadside ditch along Locust Avenue (8 December 2008).

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Appendix C.

Plant Species Recorded at Data Points

Clay Street at Main Street/ Cedar Ravine Realignment and
Clay Street Bridge (25C-0117) at Hangtown Creek Replacement Project

City of Placerville, CA

Species	Common Name	Stratum[1]	Indicator
Arctostaphylos viscida	Manzanita	S	--
Avena sp.	Wild oat	H	--
Bromus diandrus	Ripgut grass	H	--
Calocedrus decurrens	Incense cedar	S	--
Calochortus albus	White globe lily	H	--
Centaurea solstitialis	Yellow star-thistle	H	--
Chlorogalum pomeridianum var. *p.*	Soap plant	H	--
Cichorium intybus	Chicory	H	--
Cynosurus echinatus	Hedgehog dogtail	H	--
Daucus carota	Carrot	H	--
Elymus glaucus	Blue wildrye	H	FACU
Epilobium brachycarpum	Fireweed	H	UPL
Galium murale	Tiny bedstraw	H	--
Heteromeles arbutifolia	Toyon	S	--
Lactuca serriola	Prickly lettuce	H	FAC
Leontodon taraxacoides	Hawkbit	H	FACU
Lolium multiflorum	Italian ryegrass	H	--
Luzula comosa	Hairy wood rush	H	--
Medicago polymorpha	Burclover	H	--
Pinus ponderosa	Ponderosa pine	T	FACU
Plantago lanceolata	English plantain	H	FAC
Potentilla glandulosa	Cinquefoil	H	FAC
Pyracantha angustifolia	Firethorn	S	--
Quercus lobata	Valley oak	T	FAC
Quercus kelloggii	California black oak	T	--
Quercus wislizenii var. *wislizenii*	Interior live oak	S	--
Rubus discolor	Himalayan blackberry	S	FACW
Rumex crispus	Curly dock	H	FACW
Sidalcea malviflora	Checkerbloom	H	--
Torilis arvensis		H	--
Toxicodendron diversilobum	Western poison oak	WV	--
Trifolium glomeratum	Clover	H	--
Trifolium hirtum	Rose clover	H	--
Verbascum thapsus	Wooly mullein	H	--
Vicia sativa	Vetch	H	FACU

[1] H = herb, S = shrub, T = tree, WV = woody vine

Appendix C Supplemental Information for California Red-Legged Frog

Purpose

This supplemental memorandum documents the results of CRLF field surveys, site assessments, a preconstruction survey, and construction monitoring conducted along Hangtown Creek in the City of Placerville within three miles of the Clay Street Realignment and Clay Street Bridge (25C-0117) at Hangtown Creek Replacement Project. This supplemental memorandum documents that Hangtown Creek in the City of Placerville is not currently occupied by CRLF.

History

Sycamore Environmental Consultants, Inc., has conducted six U.S. Fish and Wildlife Service (USFWS) guideline California red-legged frog (Rana draytonii; CRLF) field surveys and site assessments in the City of Placerville for five projects since 1999. Hangtown Creek at the Clay Street Bridge was included in two sets of CRLF surveys conducted in 2006 and 2007. Numerous other sites along Hangtown Creek were also included in the USFWS guideline surveys. Sycamore Environmental also conducted preconstruction surveys and construction monitoring within Hangtown Creek. CRLF were not detected at any of the survey locations during the field surveys, site assessments, preconstruction surveys, and construction monitoring.

Projects in the City of Placerville along Hangtown Creek with CRLF surveys include a bridge replacement project at Blairs Lane over Hangtown Creek, a 7-acre project at the corner of Broadway and Airport Road, a 9-acre project between Point View Drive and Smith Flat Road, a 17-acre project on the south side of Placerville Drive opposite the intersection of Placerville Drive and Cold Springs Road, and a 0.80-acre project on the El Dorado Trail in Smith Flat. CRLF were not detected during any of these surveys.

CRLF surveys conducted on Hangtown Creek in the City of Placerville

Bridge replacement project at Blairs Lane over Hangtown Creek

The Blairs Lane bridge replacement project is located approximately 0.7 mi east of the Clay Street project. In 2004, Sycamore Environmental conducted CRLF surveys for this bridge project in accordance with the 18 February 1997 USFWS guidelines (Sycamore Environmental 2005). Sites surveyed include Hangtown Creek up and downstream of the Blairs Lane Bridge in the project study area (PSA), Hangtown Creek at Wiltse Lane, and Hangtown Creek at Locust Avenue. CRLF were not detected during any of the surveys.

In August 2005, USFWS implemented new CRLF guidelines (USFWS 2005) and construction of the bridge had not commenced. A technical memorandum documenting CRLF surveys in the vicinity of the bridge project was prepared and it was determined that based on the results of the 2004 surveys

and the other surveys conducted in the vicinity, the Blairs Lane Bridge Replacement Project would have no effect on CRLF.

7-acre project at the corner of Broadway and Airport Road

This project is located approximately 1.9 miles east of the Clay Street project. In 2006, Sycamore Environmental conducted CRLF surveys for this project in accordance with the August 2005 USFWS guidelines (Sycamore Environmental 2006b). Sites surveyed include an unnamed channel in the southern portion of the PSA, an unnamed channel along Airport Road by the southern boundary of the PSA, an irrigation ditch at Lion's Park at Country Club Drive and Cedar Ravine Road, and Hangtown Creek along the southern portion of Smith Flat Road. CRLF were not detected during any of the surveys.

9-acre project between Point View Drive and Smith Flat Road

This project is located approximately 2 miles east of the Clay Street project. In 2004, Sycamore Environmental conducted CRLF surveys for this project in accordance with the 18 February 1997 USFWS guidelines (Sycamore Environmental 2004). Within the PSA, sites surveyed include an intermittent channel, a willow riparian wetland, and a seasonal wetland. Within a 1 mile radius of the PSA, sites surveyed include Hangtown Creek along the northern portion of Smith Flat Road, an unnamed channel along Broadway Road, a pond on Carson Road, a pond at Abel's Apple Acres, a pond on Jacquier Road, a pond on Partridge Place, a pond in Smith Flat, and the reservoir in Lumsden Park. CRLF were not detected during any of the surveys. The USFWS reviewed the results as part of an informal Section 7 consultation initiated by the Corps. The USFWS concurred that no CRLF were present and the project was not likely to adversely affect the species.

17-acre project on the south side of Placerville Drive opposite the intersection of Placerville Drive and Cold Springs Road (2001)

This project is located approximately 1.5 miles west of the Clay Street project. In 2001, Sycamore Environmental conducted CRLF surveys for this project in accordance with the 18 February 1997 USFWS guidelines (Sycamore Environmental 2001). These surveys focused on Hangtown Creek within the PSA. CRLF were not detected during any of the surveys.

17-acre project on the south side of Placerville Drive opposite the intersection of Placerville Drive and Cold Springs Road (2006 and 2007)

In addition to the CRLF surveys conducted in 2001, two separate sets surveys were also conducted in 2006 and 2007 in accordance with the August 2005 USFWS guidelines (Sycamore Environmental 2006a, 2007). These surveys covered Hangtown Creek both upstream and downstream of the Clay Street project. Sites surveyed along Hangtown Creek include the PSA, Hwy 50, the 1st Placerville exit, Canal Street, Spring Street, Sacramento Street, Bedford Street, Clay Street, Locust Street, Main Street, Albertson's Grocery Store in Placerville, Wiltse Lane, Placerville Drive, Pierroz Road, and at Regal Cinemas in Placerville. CRLF were not detected during any of the surveys.

Sycamore Environmental also conducted a preconstruction survey and construction monitoring for this 17-acre project in 2004. For the construction monitoring, Sycamore Environmental biologists were present during in-water work in Hangtown Creek eight hours a day for over two weeks. In addition, a biological salvage of all vertebrate species in the approximately 1,000 ft length of Hangtown Creek in the project area was conducted. No CRLF were observed during any of these surveys. Hundreds of native and nonnative fish and crayfish were salvaged in the stretch of Hangtown Creek in the project area. No amphibians were observed during the fish salvage.

0.80-acre project on the El Dorado Trail in Smith Flat

This project is located approximately 2.3 miles east of the Clay Street Project. In 1999, Sycamore Environmental prepared a CRLF Site Assessment for a section of the El Dorado Trail in Smith Flat (Sycamore Environmental 1999). 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. No CRLF were observed. 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.

Summary

Hangtown Creek at the Clay Street Bridge was included in USFWS guideline CRLF surveys conducted by Sycamore Environmental biologists in 2006 and 2007. Sycamore Environmental has completed CRLF surveys and site assessments for five other projects in the City of Placerville along Hangtown Creek. These surveys covered over 30 sites within an approximate 2.5 mile radius of the Clay Street Bridge Replacement Project since 1999. Sycamore Environmental biologists also conducted preconstruction surveys and construction monitoring in Hangtown Creek approximately 1.5 miles west of Clay Street. No CRLF were detected at any of the sites.

Appendix D Photographs

Clay Street Realignment and Bridge Replacement Project

Source: L.Tisch

Figure D-1

Hangtown Creek and Cedar Ravine Creek at Clay Street Bridge, facing east (Top) and Hangtown Creek downstream of Clay Street Bridge, facing west (Bottom). Photo date: December 4, 2015

Clay Street Realignment and Bridge Replacement Project

Source: L.Tisch

Figure D-2

Hangtown Creek upstream of the Clay Street Bridge, facing east (Top) and representative photo of drainage swale along Locust Avenue, facing southwest (Bottom). Photo date: December 4, 2015

Clay Street Realignment and Bridge Replacement Project

Source: L.Tisch

Figure D-3

Representative photo of the narrow, underdeveloped riparian corridor along Hangtown Creek, downstream of Clay Street Bridge, facing west (Top) and upstream, facing east (Bottom). Photo date: December 4, 2015

Clay Street Realignment and Bridge Replacement Project

Source: L.Tisch

Figure D-4

Representative photo of the narrow corridor of montane hardwood-conifer habitat, facing west (Top) and of Clay Street Bridge and surrounding urban habitat, facing south (Bottom). Photo date: December 4, 2015

Appendix E Plant and Wildlife Species Observed

Plant Species Observed

FAMILY	SCIENTIFIC NAME	COMMON NAME	NATIVE/ INTRODUCED	CAL-IPC RATING [1]
CONIFERS				
Cupressaceae	*Calocedrus decurrens*	Incense cedar	N	
Pinaceae	*Pinus attenuata*	Knobcone pine	N	
	Pinus ponderosa	Pacific ponderosa pine	N	
Taxodiaceae	*Sequoia sempervirens* [2]	Coast redwood	I [5]	
DICOTS				
Anacardiaceae	*Toxicodendron diversilobum*	Poison oak	N	
Apiaceae	*Daucus carota*	Carrot	I	
	Foeniculum vulgare	Fennel	I	H
	Torilis arvensis	Hedge parsley	I	M
Apocynaceae	*Vinca major*	Greater periwinkle	I	M
Araliaceae	*Hedera helix*	English ivy	I	H
Asteraceae	*Achillea millefolium*	Yarrow	N	
	Anaphalis margaritacea	Pearly everlasting	N	
	Artemisia douglasiana	Mugwort	N	
	Baccharis pilularis	Coyote brush	N	
	Bidens frondosa	Sticktight	N	
	Carduus pycnocephalus	Italian thistle	I	M
	Centaurea solstitialis	Yellow star-thistle	I	H
	Cichorium intybus	Chicory	I	
	Cirsium vulgare	Bull thistle	I	M
	Conyza floribunda	Horseweed	I	
	Helianthus sp.	Sunflower	--	
	Lactuca serriola	Prickly lettuce	I	
	Leontodon taraxacoides	Hawkbit	I	
	Madia sp.	Tarweed	N	
	Sonchus oleraceus	Common sow thistle	I	
	Taraxacum officinale	Dandelion	I	
Betulaceae	*Alnus rhombifolia*	White alder	N	
Brassicaceae	*Brassica nigra*	Black mustard	I	M
	Lunaria annua	Moonwort	I	
	Rorippa nasturtium-aquaticum	Water cress	N	
Buddlejaceae	*Buddleja davidii*	Butterfly bush	I	
Convolvulaceae	*Calystegia* sp. [3]	Morning-glory	N	
	Convolvulus arvensis	Field bindweed	I	
Dipsacaceae	*Scabiosa atropurpurea*	Pincushion flower	I	
Ericaceae	*Arctostaphylos viscida*	Manzanita	--	
Euphorbiaceae	*Chamaesyce maculata*	Spotted spurge	I	
	Eremocarpus setigerus	Turkey mullein	N	
	Euphorbia sp.	Spurge	--	
Fabaceae	*Cercis occidentalis*	Redbud	N	
	Cytisus scoparius	Scotch broom	I	H
	Lathyrus latifolius	Perennial sweet pea	I	
	Lotus corniculatus	Birdfoot trefoil	I	
	Lotus purshianus var. *purshianus*	Lotus	N	

	Lupinus sp. (annual)	Lupine	N	
	Medicago polymorpha	Burclover	I	L
	Melilotus indica	Sourclover	I	
	Trifolium ciliolatum	Clover	N	
	Trifolium glomeratum	Clover	I	
	Trifolium hirtum	Rose clover	I	M
	Trifolium microcephalum	Clover	N	
	Vicia sativa	Vetch	I	
Fagaceae	*Quercus kelloggii*	California black oak	N	
	Quercus lobata	Valley oak	N	
	Quercus wislizenii var. *wislizenii*	Interior live oak	N	
Geraniaceae	*Geranium dissectum*	Cranesbill	I	M
Hamamelidaceae	*Liquidambar styraciflua*	Sweetgum	I	
Hippocastanaceae	*Aesculus californica*	California buckeye	N	
Hydrophyllaceae	*Phacelia* sp.	Phacelia	N	
Hypericaceae	*Hypericum calycinum* [2]	St. John's wort	I	
	Hypericum perforatum	Klamathweed	I	M
Juglandaceae	*Juglans californica* var. *hindsii*	N. California black walnut	I [5]	
Lamiaceae	*Marrubium vulgare*	Horehound	I	L
	Stachys ajugoides var. *ajugoides*	Hedge nettle	N	
	Stachys stricta	Hedge nettle	N	
Malvaceae	*Sidalcea malviflora*	Checkerbloom	N	
Onagraceae	*Epilobium brachycarpum*	Fireweed	N	
	Epilobium ciliatum	Fireweed	N	
	Epilobium sp. [4]	Fireweed	N	
Papaveraceae	*Eschscholzia californica*	California poppy	N	
Phytolaccaceae	*Phytolacca americana*	Pokeweed	I	L
Plantaginaceae	*Plantago lanceolata*	English plantain	I	L
	Plantago major	Common plantain	I	
Platanaceae	*Platanus* x *acerifolia*	London plane tree	I	
Polygonaceae	*Eriogonum luteolum* var. *luteolum*	Wild buckwheat	N	
	Polygonum arenastrum	Common knotweed	I	
	Polygonum sp.	Knotweed	--	
	Rumex crispus	Curly dock	I	L
Portulacaceae	*Portulaca oleracea*	Common purslane	I	
Rhamnaceae	*Ceanothus cuneatus* var. *cuneatus*	Buck brush	N	
	Rhamnus tomentella ssp. *tomentella*	Hoary coffeeberry	N	
Rosaceae	*Cotoneaster* sp.	Cotoneaster	I	M
	Heteromeles arbutifolia	Toyon	N	
	Potentilla glandulosa	Cinquefoil	N	
	Pyracantha angustifolia	Firethorn	I	L
	Rubus discolor	Himalayan blackberry	I	H
Rubiaceae	*Galium aparine*	Goose grass	N	
	Galium murale	Tiny bedstraw	I	
	Galium porrigens var. *tenue*	Climbing bedstraw	N	
Salicaceae	*Populus nigra*	Lombardy poplar	I	
	Salix lasiolepis	Arroyo willow	N	
Scrophulariaceae	*Mimulus cardinalis*	Scarlet monkeyflower	N	
	Mimulus guttatus	Yellow monkeyflower	N	

	Verbascum thapsus	Wooly mullein	I	L
Simaroubaceae	*Ailanthus altissima*	Tree of heaven	I	M
Solanaceae	*Solanum americanum*	Nightshade	N	
Verbenaceae	*Verbena* sp.	Verbena	--	
Zygophyllaceae	*Tribulus terrestris*	Puncturevine	I	
MONOCOTS				
Cyperaceae	*Cyperus eragrostis*	Nutsedge	N	
Iridaceae	*Iris* sp. [2]	Iris	I	
Juncaceae	*Juncus balticus*	Baltic rush	N	
	Juncus effusus var. *exiguous*	Rush	N	
	Luzula comosa	Hairy wood rush	N	
Lemnaceae	*Lemna* sp.	Duckweed	N	
Liliaceae	*Calochortus albus*	White globe lily	N	
	Chlorogalum pomeridianum var. *pomeridianum*	Soap plant	N	
Poaceae	*Agrostis stolonifera*	Creeping bent	I	L
	Aira caryophyllea	Silver European hairgrass	I	
	Avena fatua	Wild oat	I	M
	Bromus diandrus	Ripgut grass	I	M
	Bromus hordeaceus	Soft brome	I	L
	Cynodon dactylon	Bermuda grass	I	M
	Cynosurus echinatus	Hedgehog dogtail	I	M
	Dactylis glomerata	Orchard grass	I	L
	Elymus glaucus	Blue wildrye	N	
	Holcus lanatus	Common velvet grass	I	M
	Hordeum murinum ssp. *leporinum*	Foxtail	I	M
	Leersia oryzoides	Rice cutgrass	N	
	Lolium multiflorum	Italian ryegrass	I	M
	Paspalum dilatatum	Dallis grass	I	
	Phalaris aquatica	Harding grass	I	M
	Poa bulbosa	Bulbous bluegrass	I	
	Poa sp.	Bluegrass	--	
	Polypogon maritimus	Mediterranean beard grass	I	
	Sorghum halepense	Johnsongrass	I	
	Vulpia myuros	Vulpia	I	M
Typhaceae	*Typha angustifolia*	Narrow-leaved cattail	N	

[1] California Invasive Plant Council (Cal-IPC) Rating: L = Limited; M = Moderate; H = High
[2] Horticultural waif.
[3] Specimen was not *C. stebbinsii* based on leaf morphology.
[4] Specimen was *E. densiflorum, E. pallidum, or E. torreyi.*
[5] Species is native to other regions of California.

Wildlife Species Observed

Common Name	Scientific Name
Birds	
Barn swallow	*Hirundo rustica*
House sparrow	*Passer domesticus*
Scrub jay	*Aphelocoma californica*