INITIAL STUDY/
MITIGATED NEGATIVE DECLARATION
FOR THE
BASSI ROAD AT GRANITE CREEK—BRIDGE REPLACEMENT
(BRIDGE NO. 25C0071)(CIP #77128)

El Dorado County
Community Development Agency, Transportation Division
2850 Fairlane Court
Placerville, CA 95667
Contact: Dustin Harrington, PE
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Project Information

1. **Project Title:** Bassi Road at Granite Creek—Bridge Replacement (Bridge No. 25C0071)(CIP #77128)

2. **Lead Agency Name and Address:** El Dorado County Community Development Agency
Transportation Division
2850 Fairlane Court
Placerville, CA 95667

3. **Contact Person and Phone Number:** Dustin Harrington, PE (530) 621-5950

4. **Project Location:** The Project is located on Bassi Road approximately 0.16 mile west of Lotus Road in the community of Lotus, in unincorporated El Dorado County. The Bassi Road Bridge spans Granite Creek. The Project occurs on the Coloma USGS topographic quad (Lot 4 Section 18, T11N, R10E).

5. **Description of Project:**

El Dorado County Community Development Agency, Transportation Division proposes to replace the Bassi Road Bridge (25C0071) over Granite Creek (Project), located 0.16 mile west of Lotus Road in the community of Lotus, in unincorporated El Dorado County. The Bassi Road bridge was built in 1949. It is 15 feet-wide with one lane. The project is needed since the existing bridge is structurally deficient with a sufficiency rating of 32.2 and has exhibited evidence of scour degradation at the piers and abutments within recent years. The County has evaluated both rehabilitation and replacement options for the existing bridge and has determined that replacement of the bridge is the most cost-effective approach for correcting the structural deficiency of the bridge.

The Project involves replacing the existing 52-foot-long, 15-foot-wide, one-lane reinforced concrete slab bridge with a new concrete bridge that meets current design standards. The proposed bridge would have a longer span that is approximately 96 feet long and 28 feet wide providing two traffic lanes and 3-foot shoulders on each side. The proposed bridge would be located just upstream of the existing bridge.

A detailed project description follows in Section 3. The proposed Project is shown on Figure 3.

6. **General Plan Designation:** El Dorado County right-of-way; Rural Residential (RR) (one dwelling unit per 10 to 160 acres); Important Biological Corridor (IBC)

7. **Zoning:** El Dorado County right-of-way; Estate Residential 10-acre

8. **Surrounding Land Uses and Setting:**

The Project is located in a rural residential area in the community of Lotus, in unincorporated El Dorado County. Bassi Road is an approximately east-west, local two-lane roadway extending from El Camino Road east to Lotus Road. Bassi Road is a primary access road for the Lotus community. Land uses surrounding the bridge include residential properties on the west and east; the South Fork of the American River, approximately 125 feet to the north; and the Uniontown Cemetery to the east. The bridge spans Granite Creek, a perennial stream that flows into the South Fork of the American River.

9. Other Public Agencies Whose Approval May Be Required (e.g., permits, financing approval, or participation agreement):

The Project may require permits or approvals from the following:

- California Department of Transportation — National Environmental Policy Act Categorical Exclusion
- U.S. Army Corps of Engineers — Clean Water Act Section 404 Nationwide Permit
- California Department of Fish and Wildlife — Streambed Alteration Agreement
- Central Valley Regional Water Quality Control Board — Clean Water Act Section 401 Water Quality Certification
- State Water Resources Control Board — Statewide General Permit for Discharges of Storm Water Associated with Construction Activity
- El Dorado County Air Quality Management District — Fugitive Dust Plan Approval

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Section 1
Introduction

El Dorado County Community Development Agency, Transportation Division (County) proposes to replace the Bassi Road Bridge over Granite Creek (Project), located 0.16 mile west of Lotus Road in the community of Lotus, in unincorporated El Dorado County (Figures 1 and 2). The Bassi Road bridge was built in 1949. It is 15 feet-wide with one lane. The project is needed since the existing bridge is structurally deficient with a rating of 32.2 and has exhibited evidence of scour degradation at the piers and abutments within recent years. The County has evaluated both rehabilitation and replacement options for the existing bridge and has determined that replacement of the bridge is the most cost-effective approach for correcting the structural deficiency of the bridge.

The County is the local lead agency and prepared this Initial Study to consider the significance of potential project impacts pursuant to the California Environmental Quality Act (CEQA) of 1970, as amended (Public Resources Code, Section 21000, et seq.). This Initial Study was prepared in accordance with the State CEQA Guidelines (14 California Administrative Code, Section 14000 et seq.). Based on the results of this Initial Study, the County has determined that the Project would have less than significant impacts on the environment with the incorporation of mitigation measures. The County may approve the Project with the certification of a Mitigated Negative Declaration (MND). The remainder of this document is organized into the following sections:

- **Section 2, Project Description**—Provides a detailed description of the proposed Project;
- **Section 3, Initial Study Checklist and Supporting Documentation**—Provides CEQA Initial Study Resource impact checklists and supporting documentation. Identifies the thresholds of significance, evaluates potential impacts, and describes mitigation necessary to reduce impact significance;
- **Section 4, Initial Study Findings**—Provides a determination of the County's CEQA findings;
- **Section 5, Supporting Information Sources**—Identifies the personnel responsible for the preparation of this document and provides a list of the references cited throughout the document.

Section 2
Project Description

2.1 Location

The Project is located approximately 0.16 mile west of Lotus Road in the community of Lotus, in unincorporated El Dorado County. The Bassi Road Bridge spans Granite Creek. The Project occurs on the Coloma USGS topographic quad (Lot 4 Section 18, T11N, R10E). Figure 1 shows the project vicinity and Figure 2 shows the project location.

2.2 Purpose and Objectives

The purpose of the Project is to replace the Bassi Road Bridge over Granite Creek with a functional bridge that meets current design standards. The Project is needed since the existing bridge, built in 1949, is structurally deficient, with a sufficiency rating of 32.2, and has exhibited evidence of scour degradation at the piers and abutments within recent years. Since Bassi Road is a primary access for the Lotus community, it is very important that the bridge remain in service.

The County has evaluated both rehabilitation and replacement options for the existing bridge and has determined that replacement of the bridge is the most cost-effective approach for correcting the structural deficiency of the bridge. County staff presented both options and the recommendation for replacement at a public community meeting held on August 1, 2012 at the Gold Trail Grange Hall in Coloma.

2.3 Project Description

The Project involves replacing the existing 52-foot-long, 15-foot-wide, one-lane reinforced concrete slab bridge with a new concrete bridge that meets current design standards. The proposed bridge would have a longer span that is approximately 96-feet long and 28-feet wide providing two traffic lanes and 3-foot shoulders on each side. The proposed bridge would be located just upstream of the existing bridge. See Figure 3.

Construction of the proposed bridge and falsework may require diversion and/or dewatering of Granite Creek. Excavations at the abutments may also require dewatering. Flows would pass through the existing creek under the bridge. Diversion methods may include the use of water pillows, rock, sandbags, sheet piling, pipes, or coffer dams. It is anticipated the contractor would use a combination of sandbags and pipes to convey creek flows through the project site.

The existing bridge would be removed after the completion of the proposed bridge. Demolition of the existing bridge would be in accordance with the Caltrans Standard Specifications, modified to meet environmental permit requirements. All concrete and debris resulting from the bridge demolition would be removed from the project site and disposed of by the contractor at an approved site.

Rock slope protection would be used to stabilize the creek banks and protect the bridge abutments from scour. The rock slope protection would extend from the bed of the creek, below the ordinary high water mark, to the top of bank above the ordinary high water mark.

Excavation up to depths of approximately 15 feet are proposed at the bridge abutments on each side of the creek. It is anticipated that shallow spread footings would provide an adequate foundation for the abutments; thus no pile excavation would be necessary.

Existing aerial utilities do not appear to conflict with the project improvements. It is anticipated that no utility relocations will be required for the Project.

General bridge construction equipment expected to be used includes haul trucks, dump trucks, backhoes, bulldozers, scrapers, excavators, water trucks, concrete delivery trucks, and service vehicles.

2.4 Right-of-Way and Temporary Easements

The Project is likely to require right-of-way acquisition from Assessor Parcel Numbers (APNs) 105-09-011, 006-370-16, and 006-370-13. Temporary easements would also likely be needed for staging. Construction access would be from the south side of the bridge.

2.5 Construction Contract

The County would retain a construction contractor to construct the proposed improvements. The contractor would be responsible for compliance with all applicable rules, regulations, and ordinances associated with proposed Project activities and for implementing construction-related mitigation measures. The County would provide construction contractor oversight and management and would be responsible for verifying implementation of the mitigation measures. The contractor would construct the proposed Project in accordance with the Public Contracts Code of the State of California, the State of California Department of Transportation Standard Plans and Standard Specifications, and the Contract, Project Plans, and Project Special Provisions under development by the County. The following are a combination of standard and project-specific procedures/requirements applicable to Project construction:

- Construction contract special provisions will require that a Traffic Management Plan be prepared. The Traffic Management Plan will include construction staging and traffic control measures to be implemented during construction to maintain and minimize impacts to traffic during construction. The Traffic Management Plan will address the coordination issues for residential access during short-term road closures during the construction window;
- Contract special provisions will require compliance with El Dorado County Air Quality Management District (EDCAQMD) Rules 223, 223-1, and 223-2 to minimize fugitive dust emissions as well as utilize all applicable best management practices;
- Contract provisions will require notification of County and compliance with California Health and Safety Code Section 7050.5 and California Public Resources Code Sections 5097.5, 5097.9 et seq., regarding the discovery and disturbance of cultural materials or human remains should any be discovered during project construction;

- Contract provisions will require that in the event that unanticipated historical, archeological (including structural features, unusual amounts of bone or shell, artifacts, human remains, or architectural remains) or paleontological resources are encountered during construction, all earthmoving activity shall cease within 60 feet of the find until the County retains the services of a qualified archaeologist and/or paleontologist. Any and all potential archaeological or paleontological resources discovered during construction shall be examined by a qualified archaeologist or paleontologist, respectively, who shall examine the findings, assess their significance, and offer recommendations for procedures deemed appropriate to either further investigate or mitigate adverse impacts to those archaeological or paleontological resources that have been encountered (e.g., excavate the significant resource).
- The County or its construction contractors will conduct early coordination with utility service providers, law enforcement and emergency service providers to ensure minimal disruption to service during construction;
- The County and its construction contractors will comply with the State of California Standard Specifications, written by the State of California Department of Transportation; and
- The Project would comply with General Plan Policy 6.5.1.11 pertaining to construction noise.

2.6 Construction Schedule

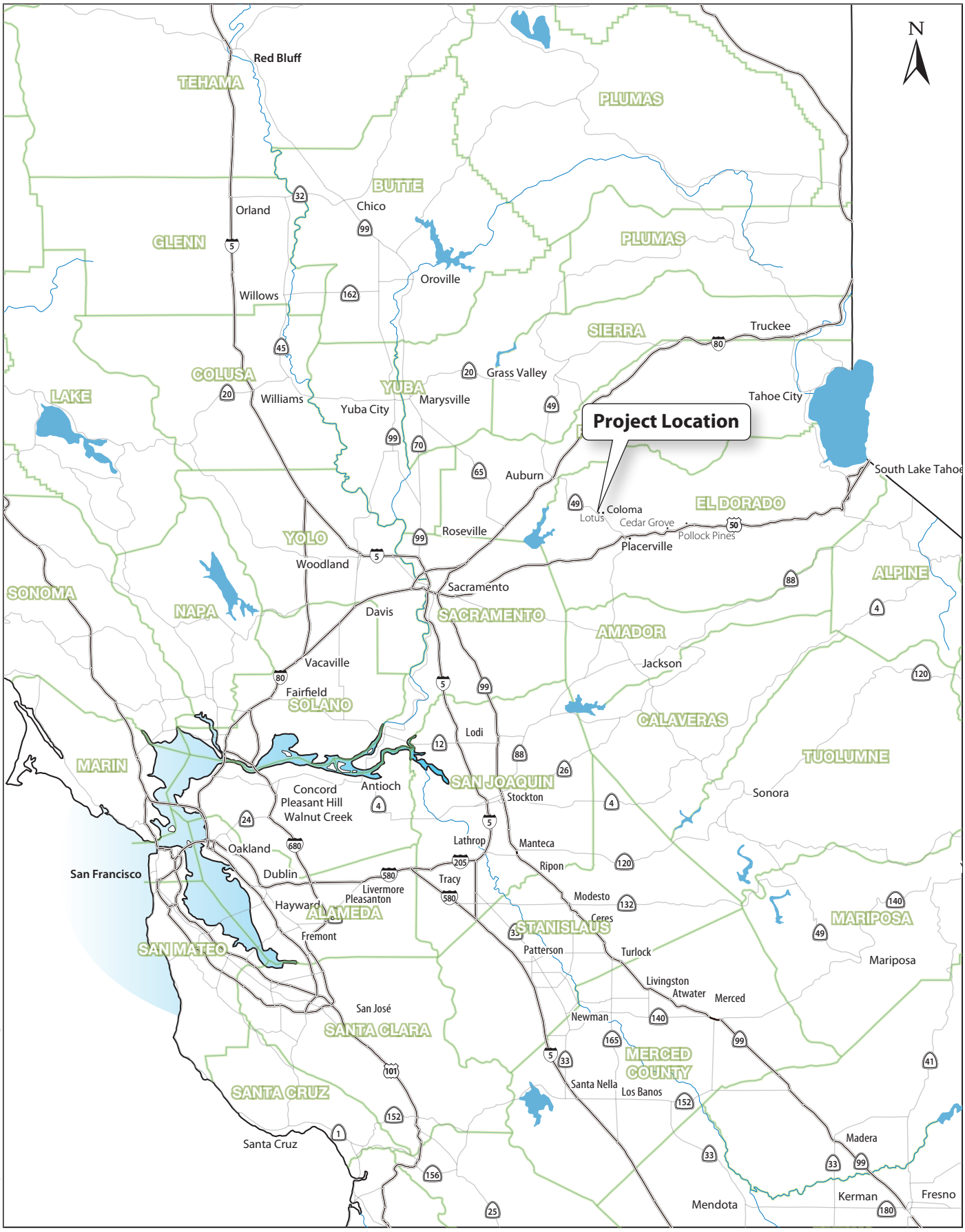
The bridge is anticipated to be constructed within a single construction season approximately in spring/fall 2017. In-water work within the ordinary high water mark of Granite Creek would be restricted to April 15 through October 15. With the exception of occasional short-term closures, the existing bridge would remain open during construction. During closures, one-way reversing traffic would be controlled by flaggers. Access for emergency vehicles through the project area would be maintained at all times.

2.7 Required Permits Approvals

Based on the environmental conditions of the project area and the analysis of potential impacts provided in Section 3, project implementation will require National Environmental Policy Act (NEPA) compliance and issuance of other approvals, as listed in the table below.

Table 2.7-1. Required Permit Approvals

Approving Agency	Required Permit/Approval	Required for
Federal Agencies		
California Department of Transportation through NEPA assignment granted by the Federal Highway Administration	NEPA Categorical Exclusion	Funding through the Federal Highway Bridge Program
U.S. Army Corps of Engineers	Nationwide Section 404 Discharge Permit. (Clean Water Act, 33 USC 1341)	Discharge of dredge/fill material into "Waters of the United States,"
State Agencies		
California Department of Fish and Wildlife	Streambed Alteration Agreement (Fish and Game Code 1602)	Change in natural state of river, stream, lake (includes road or land construction across a natural streambed) which affects fish or wildlife resources.
California Department of Transportation	Project Approval/NEPA Compliance	Funding through the Federal Highway Bridge Program
State Water Resources Control Board, Regional Water Quality Control Board	General Construction Activity Storm Water Permit. Notice of Intent. (Clean Water Action Section 402; 40 CFR Part 122)	Storm water discharges associated with construction activity for greater than 1 acre of land disturbance
State Water Resources Control Board, Regional Water Quality Control Board	Water Quality Certification (Clean Water Act Section 410), if project requires Army Corps of Engineers 404 permit.	Discharge into "Waters of the U.S.," (see U.S. Army Corps of Engineers Section 404 Permit above).
Local Agencies		
El Dorado County Community Development Agency, Transportation Division	Project Approval/CEQA Compliance	Project implementation and funding
El Dorado County Air Quality Management District	Fugitive Dust Plan	District Rule 223-1 (Fugitive Dust, Construction Activities)



Graphics/Projects/00507-12 El Dorado Hills Three Bridges

Figure 1
Project Vicinity

Graphics/Projects/00507.12 El Dorado Hills Three Bridges (10-12) SS

Figure 2
Project Location

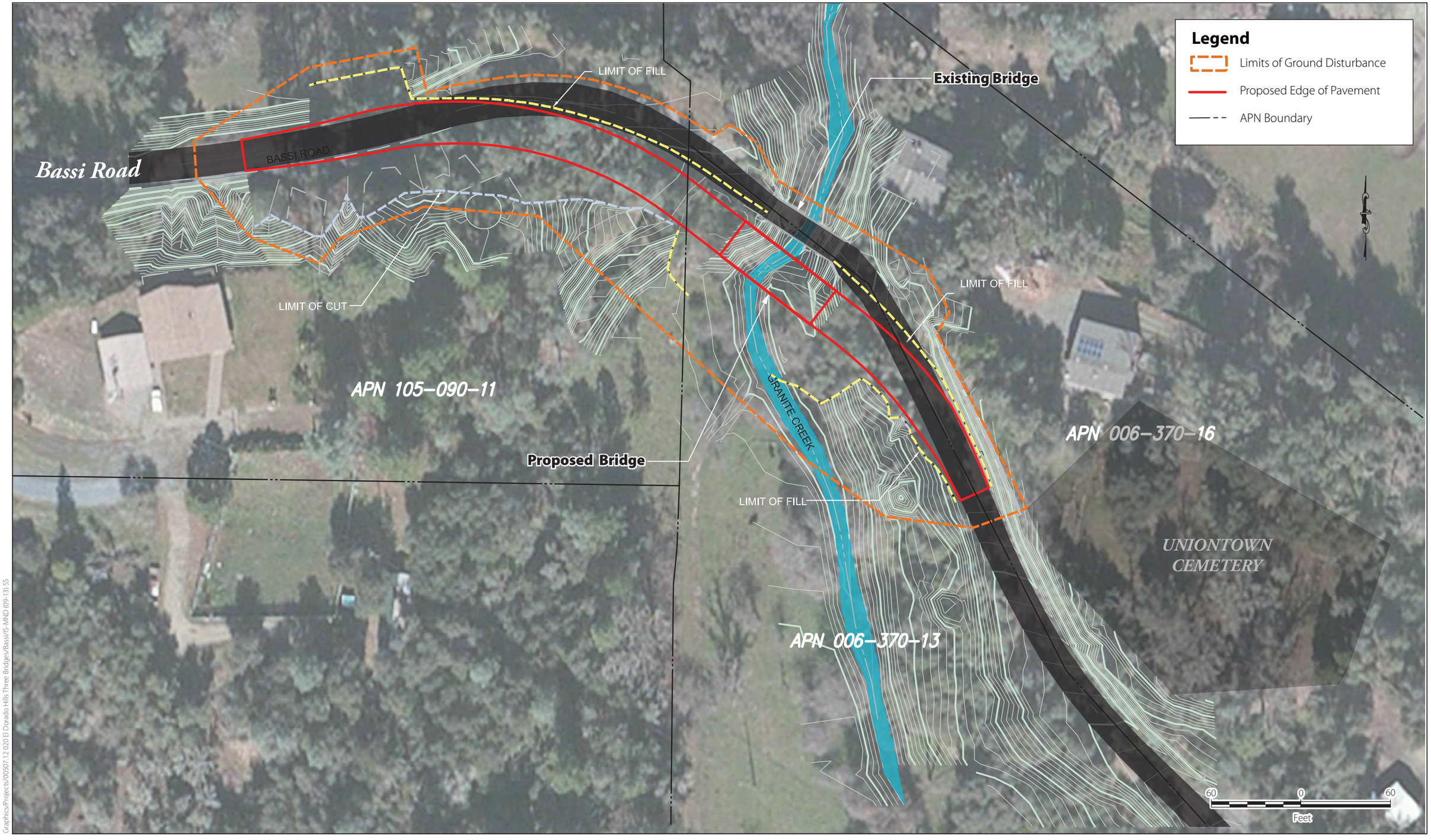


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Figure 3
Bassi Road Bridge Replacement Project

Section 3

Initial Study Checklist and Supporting Documentation

3.1 Initial Study Checklist

This section of the Initial Study incorporates the Environmental Checklist contained in Appendix G of the CEQA Guidelines. Each resource topic section provides a determination of potential impact and an explanation for the checklist impact questions. The following 16 environmental categories are addressed in this section:

- Aesthetics
- Agricultural Resources
- Air Quality
- Biological Resources
- Cultural Resources
- Geology and Soils
- Hazards and Hazardous Materials
- Hydrology and Water Quality
- Land Use and Planning
- Mineral Resources
- Noise
- Population and Housing
- Public Services
- Recreation
- Transportation/Traffic
- Utilities

Each of the above listed environmental categories was fully evaluated and one of the following four determinations was made for each checklist question:

- "**No Impact**" means that no impact to the environment would occur as a result of implementing the Project.
- "**Less than Significant Impact**" means that implementation of the Project would not result in a substantial and/or adverse change to the environment and no mitigation is required.
- "**Potentially Significant Unless Mitigation is Incorporated**" means that the incorporation of one or more mitigation measures would reduce the impact from potentially significant to less than significant.
- "**Potentially Significant Impact**" means that there is either substantial evidence that a project-related effect would be significant or, due to a lack of existing information, could have the potential to be significant.

3.2 Setting, Impacts, and Mitigation Measures

3.2.1 Aesthetics

I. AESTHETICS—Would the project:	*Potentially Significant Impact*	*Potentially Significant Unless Mitigation is Incorporated*	*Less than Significant Impact*	*No Impact*
a. Have a substantial adverse effect on a scenic vista?	☐	☐	☐	☒
b. Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings along a scenic highway?	☐	☐	☐	☒
c. Substantially degrade the existing visual character or quality of the site and its surroundings?	☐	☒	☐	☐
d. Create a new source of substantial light or glare that would adversely affect daytime or nighttime views in the area?	☐	☐	☒	☐

Environmental Setting

The proposed Project is located west of SR 49, intersecting Lotus Road, just west of the community of Lotus in unincorporated El Dorado County. The project area is characterized by mixed oak woodland and rolling terrain in the foothills of the Sierra Nevada Mountains, at an elevation of approximately 700 feet. The project vicinity includes rural residential development, roadways and related infrastructure, mixed oak woodlands, and the South Fork of the American River. Primary viewers include motorists accessing the project site and nearby residences.

Potential Environmental Effects

a. No Impact

The El Dorado County General Plan refers to Table 5.3-1 of the General Plan EIR for local scenic viewpoints. The South Fork of the American River is designated as having scenic views and as being a scenic resource (El Dorado County 2003: pp. 5.3-5). Scenic views and vistas offered from the river would not be affected by the proposed Project because the river is at a lower elevation than the project site and the river banks obscure views of the project site. In addition, riparian vegetation along the river and vegetation growing on the upper river banks further obscures views of the project site from the river. Therefore, there would be no impact to scenic vistas available from the river.

b. No Impact

There are no officially designated state scenic highways within close proximity to the project site (Caltrans 2013). The El Dorado County General Plan refers to Table 5.3-1 of the General Plan EIR for local scenic corridors, and there are no locally designated scenic routes in the project area (El Dorado County 2003: pp. 5.3-3–5.3-5). Therefore, there would be no impact to scenic highways as a result of the proposed Project.

c. Potentially Significant Unless Mitigation is Incorporated

The proposed Project would remove the existing bridge, realign and widen the roadway to the south of the existing bridge, and install a new bridge. The proposed bridge would be 13 feet wider than the existing bridge, but the structure would appear visually similar to the existing bridge structure. Section 3.2.4, *Biological Resources*, includes measures that would minimize impacts to native vegetation and compensatory mitigation that requires replacement of native riparian trees at a 2:1 ratio and replacement of oak trees at a ratio to be determined in consultation with California Department of Fish and Wildlife (CDFW). These measures would reduce impacts to aesthetic resources in the project area. In addition, vegetation would naturally re-colonize disturbed areas within a short period of time to limit impacts to the visual character of the project area associated with vegetation removal.

In addition to the removal of rock outcroppings in proximity to the creek corridor, construction of the proposed bridge and roadway realignment would also require cut slopes to the hillside that is south of the roadway. Rock slope protection on the creek banks would be partially visible as motorists drive through the curve. The realigned and wider roadway combined with cut slopes and vegetation and rock outcropping removal have the potential to have significant visual impacts unless additional mitigation is incorporated. The following mitigation measure would improve aesthetics associated with the proposed Project and reduce visual impacts to less-than-significant levels.

Mitigation Measure AES-1: Retain Natural Character of the Project Area

The County will develop design plans that reduce the extent of negative visual alteration of the existing visual quality or character of the project area from construction through remediation of terrain, revegetation, and other practices in the following measures.

- All plantings will be native and indigenous to the area, and no invasive plant species will be used under any conditions.
- The County will require construction contractors to incorporate native grass and wildflower seed to standard seed mixes (which may be non-native), for erosion control measures that will be applied to all exposed slopes. Wildflowers will provide seasonal interest to areas where trees and shrubs are removed. Only wildflower and grass species that are native will be incorporated into the seed mix, and under no circumstances will any invasive grass or invasive wildflower plant species be used as any component in any erosion control measures. Species will be chosen that are indigenous to the area and for their appropriateness to the surrounding habitat
- Where feasible, grading plans will mimic existing site conditions to the greatest degree possible, given geotechnical constraints, and the terrain will be designed and graded to be undulating, avoiding large, flat-sloped areas.

- Special attention should be paid to transitions between undisturbed and disturbed terrains to ensure that the transition appears as natural as possible and to blend the lines between the two for a natural, organic appearance.

d. Less than Significant Impact

The proposed Project would not introduce any new sources of light. Roadway widening would slightly increase the amount of available reflective surface area and tree removal would allow for more sunlight to reach the roadway surface. However, the amount of added surface area and additional amount of sunlight is not enough to substantially increase glare at this location, given the density of the remaining vegetation that shades the project area.

3.2.2 Agricultural Resources

II. AGRICULTURAL RESOURCES—Would the project:	*Potentially Significant Impact*	*Potentially Significant Unless Mitigation is Incorporated*	*Less than Significant Impact*	*No Impact*
a. Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☐	☒
b. Conflict with existing zoning for agricultural use or conflict with a Williamson Act contract?	☐	☐	☐	☒
c. Involve other changes in the existing environment which, due to their location or nature, could result in conversion?	☐	☐	☒	☐

Environmental Setting

The Bassi Road Bridge is located in a rural residential area southwest of the community of Lotus, approximately 0.16 mile west of Lotus Road. Cattle and horses graze along Granite Creek in the southeast portion of the project area. Review of the El Dorado County Important Farmland Map 2010 found that the land around the bridge is classified as "Urban and Built-up Land." The bridge is not located within lands classified as Prime Farmland, Unique Farmland or Farmland of Statewide Importance (California Department of Conservation 2013a). Additionally, the bridge is not located on land under a Williamson Act contract (California Department of Conservation 2013b). The bridge is not located in an area zoned for agricultural uses (El Dorado County 2009).

Potential Environmental Effects

a. No Impact

Replacing the Bassi Road Bridge would not affect any lands classified as Prime Farmland, Unique Farmland or Farmland of Statewide Importance.

b. No Impact

There are no lands under a Williamson Act contract or zoned for agricultural uses adjacent to the proposed Project.

c. Less than Significant Impact

Realigning the roadway would require right-of-way acquisition from the parcel on which cattle and horses graze (APN 006-370-13). However, the land is not designated as important farmland or zoned for agricultural uses and acquisition of right-of-way from the parcel would not change the suitability or use of the land available for grazing. No other agricultural uses occur in the vicinity of the bridge and there are no designated important farmlands. Replacing the existing bridge would not result in the conversion of areas designated as important farmlands to non-agricultural uses.

3.2.3 Air Quality

III. AIR QUALITY—When available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:		*Potentially Significant Impact*	*Potentially Significant Unless Mitigation is Incorporated*	*Less than Significant Impact*	*No Impact*
a.	Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☐	☒
b.	Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	☐	☐	☒	☐
c.	Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is a nonattainment area for an applicable federal or state ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors)?	☐	☐	☐	☒
d.	Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☒	☐
e.	Create objectionable odors affecting a substantial number of people?	☐	☐	☒	☐
f.	Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☐	☒	☐
g.	Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	☐	☒

Environmental Setting

The project area is located in the Mountain Counties Air Basin (MCAB). The San Francisco Bay Area Air Basin (SFBAAB) and the Sacramento Valley Air Basin (SVAB) are located to the west, and the San

Joaquin Valley Air Basin (SJVAB) is located to the south. Climate in the MCAB relate to elevation and proximity to the Sierra Ridge. Precipitation is greater and temperatures are lower at higher elevations. Summer temperatures in the project area are in the mid- to upper nineties. Winter temperatures are in the upper thirties to lower forties. Average precipitation in the project area is 3.2 inches per month with the majority of rainfall in the months of January through March.

The air quality of a region is determined by the air pollutant emissions (quantities and type of pollutants measured by weight) and by ambient air quality (the concentration of pollutants within a specified volume of air). Air pollutants are characterized as primary and secondary pollutants. Primary pollutants are those emitted directly into the air, for example carbon monoxide (CO), and can be traced to a single pollutant source. Secondary pollutants are those pollutants that form through chemical reactions in the atmosphere, for example reactive organic gasses (ROG) and nitrogen oxides (NO_X) combine to form ground level ozone, or smog.

The federal Clean Air Act (CAA), enacted in 1963 and amended several times thereafter, establishes the framework for modern air pollution control. The EPA has established national ambient air quality standards (NAAQS) for six criteria pollutants. Criteria pollutants include CO, nitrogen dioxide (NO_2), sulfur dioxide (SO_2) ozone, lead, and particulate matter (PM), which includes two subsets: PM less than 10 microns in diameter (PM10) and PM less than 2.5 microns in diameter (PM2.5). These standards are divided into primary and secondary standards. Primary standards are designed to protect public health and secondary standards are designed to protect other values. Because of the health-based criteria identified in setting the NAAQS, the air pollutants are termed “criteria” pollutants. California has adopted its own, more stringent, ambient air quality standards (CAAQS). The NAAQS and CAAQS are summarized in Table 3.2.3-1.

Table 3.2.3-1. Federal and State Ambient Air Quality Standards

Criteria Pollutant	Average Time	California Standards	National Standards	
			Primary	Secondary
Ozone	1-hour	0.09 ppm	None	None
	8–hour	0.070 ppm	0.075 ppm	0.075 ppm
Particulate Matter (PM10)	24-hour	50 μg/m^3	150 μg/m^3	150 μg/m^3
	Annual mean	20 μg/m^3	None	None
Fine Particulate Matter (PM2.5)	24-hour	None	35 μg/m^3	35 μg/m^3
	Annual mean	12 μg/m^3	15.0 μg/m^3	15.0 μg/m^3
Carbon Monoxide	8-hour	9.0 ppm	9 ppm	None
	1-hour	20 ppm	35 ppm	None
Nitrogen Dioxide	Annual mean	0.030 ppm	0.053 ppm	0.053 ppm
	1-hour	0.18 ppm	0.100 ppm	None
Sulfur Dioxide	Annual mean	None	0.030 ppm	None
	24-hour	0.04 ppm	0.014 ppm	None
	3-hour	None	None	0.5 ppm
	1-hour	0.25 ppm	0.075 ppm	None
Lead	30-day Average	1.5 μg/m^3	None	None
	Calendar quarter	None	1.5 μg/m^3	1.5 μg/m^3
	3-month average	None	0.15 μg/m^3	0.15 μg/m^3
Sulfates	24-hour	25 μg/m^3	None	None
Hydrogen Sulfide	1-hour	0.03 ppm	None	None
Vinyl Chloride	24-hour	0.01 ppm	None	None

Source: California Air Resources Board 2012a.
ppm = parts per million.
μg/m^3 = micrograms per cubic meter.

Local monitoring data are used to designate areas as nonattainment, maintenance, attainment, or unclassified for the NAAQS and CAAQS. The four designations are further defined below. Table 3.2.3-2 summarizes the attainment status of the project area with regard to the NAAQS and CAAQS.

- **Nonattainment:** Assigned to areas where monitored pollutant concentrations consistently violate the standard in question.
- **Maintenance:** Assigned to areas where monitored pollutant concentrations exceeded the standard in question in the past but are no longer in violation of that standard.
- **Attainment:** Assigned to areas where pollutant concentrations meet the standard in question over a designated period of time.
- **Unclassified:** Assigned to areas were data are insufficient to determine whether a pollutant is violating the standard in question.

Table 3.2.3-2. Federal and State Attainment Status of the Project Area (El Dorado County)

Pollutant	NAAQS	CAAQS
1-hour ozone	–	Nonattainment
8-hour ozone	Severe nonattainment	Nonattainment
CO	Attainment	Unclassified
PM2.5	Nonattainment	Unclassified
PM10	Attainment	Nonattainment

Sources: California Air Resources Board 2012b; U.S. Environmental Protection Agency 2012.
– = no applicable standard.

The El Dorado County Air Quality Management District (ECAQMD) administers the CAA in accordance with state and federal guidelines. The ECAQMD regulates air quality through its district rules and permit authority. It also participates in planning review of discretionary project applications and provides recommendations. The proposed Project may be subject to the following El Dorado County Air Pollution Control District (EDCAPCD) rules.

- **Rule 205 (Nuisance)**: Prohibits the discharge of air containments which cause injury, detriment, nuisance, or annoyance.
- **Rule 207 (Particulate Matter)**: Limits the quantity of PM through concentration limits.
- **Rule 223 (Fugitive Dust)**: Limits the amount of PM and asbestos PM entrained in the atmosphere.
- **Rule 224 (Cutback and Emulsified Asphalt Paving Materials)**: Limits emissions of ROGs from the use of cutback and emulsified asphalt paving materials, paving, and maintenance operations.
- **Rule 233 (Stationary Internal Combustion Engines)**: Limits emissions of NO_x and CO from stationary internal combustion engines. (If construction requires engines rated at more than 50 brake horsepower.)

EDCAQMD's *Guide to Air Quality Assessment* (2002) specifies specific daily emissions thresholds that can be used to determine the significance of project emissions. Thresholds of significance for ROG and NO_X are 82 pounds per day. The EDCAQMD considers a significant cumulative impact to occur if the project requires a change in the existing land use designation (i.e., general plan) and would individually exceed the project-level thresholds of significance.

The EDCAQMD has not developed specific thresholds of significance for the analysis of greenhouse gas (GHG) emissions in CEQA documents. In absence of a significance threshold published by the EDCAQMD, the Bay Area Air Quality Management District's (BAAQMD) land-use development threshold of 1,100 metric tons carbon dioxide equivalent (CO_2e) per year is used to evaluate the significance of GHG emissions. This threshold is currently the most stringent threshold adopted by any air district in the state. It is important to note that the BAAQMD's threshold was developed to evaluate operational GHG emissions and does not specifically apply to construction emissions. Because construction emissions are temporary, as opposed to annual, utilizing the BAAQMD's operational threshold represents a conservative assessment of potential construction impacts.

Potential Environmental Effects

The proposed Project entails replacing the Bassi Road Bridge. Though the bridge itself will be widened to two lanes to match the roadway, the project is not considered capacity increasing and will not affect vehicle miles travel (VMT) or traffic speeds in the project area. There would therefore be no operational emissions, relative to existing conditions. The following assessment focuses exclusively on construction-related emissions, as there would be no impact related to Project operations.

a. No Impact

The proposed Project is identified in the Sacramento Council of Governments' Metropolitan Transportation Plan/Sustainable Communities Strategy 2035 (Sacramento Council of Governments 2012). Projects included in the Metropolitan Transportation Plan have been determined to be consistent with the planning goals of the State Implementation Plan.

b. Less than Significant

Construction activities associated with the proposed Project would generate short-term emissions of ROG, NO_X, CO, PM10, and PM2.5 (refer to item "f" for a discussion of GHG impacts). Emissions would originate from construction equipment exhaust, employee vehicle exhaust, haul truck vehicle exhaust, and site grading. Construction-related emissions would vary substantially depending on the level of activity, the specific construction operations, and wind and precipitation conditions.

Construction emissions were estimated using Sacramento Metropolitan Air Quality Management District's (SMAQMD's) Road Construction Emissions Model (Version 7.1.2). Based on information provided by the County, it was assumed that construction would involve five phases in April 2017 and September 2017. Table 3.2.3-3 summarizes the construction phases and associated equipment assumptions. It was assumed that construction would require 15 employees, and that all individuals would make two trips to the construction site per day. Approximately 100 cubic yards of soil would be imported, requiring 10 haul truck trips. Twenty haul truck trips would also be required during demolition of the existing bridge. Round trip distance was assumed to be 30 miles (Harrington pers. comm.).

Table 3.2.3-3. Equipment Inventory for Project Construction

Phase	Start Date*	Days	Equipment
Grubbing/Land Clearing	April 2017	20	Backhoe (2 hours/day) Bulldozer (4 hours/day) Excavator (4 hours/day)
Grading/Excavation	May 2017	20	Backhoe (2 hours/day) Bulldozer (4 hours/day) Excavator (4 hours/day)
Drainage/Utilities	August 2017	10	Backhoe (2 hours/day) Roller (4 hours/day) Water Truck (4 hours/day)
Paving	September 2017	5	Roller (4 hours/day) Water Truck (4 hours/day)
Demolition	September 2007	3	Excavator (6 hours/day)

*Assumed dates for air quality study
Source: Harrington pers. comm.

Table 3.2.3-4 summarizes estimated emissions associated with construction of the proposed Project. All construction activities are expected to occur sequentially. As shown in Table 3.2.3-4, criteria pollutant emissions associated with construction of the proposed Project would be well below the applicable emissions thresholds. Moreover, as described in Chapter 2, *Project Description*, the Project will implement all required EDCAQMD best management practices. Consequently, air quality impacts as a result of Project construction would be less than significant.

Table 3.2.3-4. Construction-Related Criteria Pollutant Emissions (pounds per day)

				PM10			PM2.5		
Phase	ROG	CO	NO_X	Total	Exhaust	Dust	Total	Exhaust	Dust
Grubbing/Land Clearing	1.1	6.4	9.1	4.3	0.5	3.8	1.2	0.4	0.8
Grading/Excavation	1.2	6.9	14.1	4.4	0.6	3.8	1.3	0.5	0.8
Drainage/Utilities	0.5	4.4	3.5	2.1	0.2	1.9	0.6	0.2	0.4
Paving	1.1	6.2	6.1	0.3	0.3	0.0	0.3	0.3	0.0
Demolition	0.4	2.6	6.7	4.0	0.2	3.8	1.0	0.2	0.8
EDCAPCD Threshold	82	–[a]	82	–[a]	–	–	–[a]	–	–

Source: Sacramento Metropolitan Air Quality Management District Road Construction Emissions Model (Version 7.1.2).
[a] Violation of the CAAQS.

c. No Impact

A proposed project is considered cumulatively significant if it requires a change in the existing land use designation (i.e., general plan) and would individually exceed the project-level thresholds of significance. The Project would not require any land use designation changes. Moreover, as shown in Table 3.2.3-4, construction emissions are well below applicable EDCAQMD thresholds. Therefore, the proposed Project would not result in a cumulatively considerable net increase in emissions.

d. Less than Significant

Diesel Particulate Matter

In 1998, the California Air Resources Board (ARB) classified diesel particulate matter (DPM) as a carcinogenic toxic air containment (TAC). TACs are pollutants that may result in an increase in mortality or serious illnesses or pose a present or potential hazard to human health. Health effects related to TACs include cancer, birth defects, neurological damage, damage to the body's natural defense system, and diseases that lead to death. Heavy-duty construction equipment and haul trucks represent sources of DPM from project construction.

Sensitive receptors that could be adversely affected by DPM include facilities that are often used by children, the elderly, people with illnesses, or other groups sensitive to the effects of air pollution. Examples of sensitive receptors include residences, hospitals, schools, parks, and places of worship. The project area is predominantly rural with a few scattered residential uses immediately adjacent to the construction site. Heavy-duty construction equipment, which generates DPM, would operate within the vicinity of these receptors. Cancer health risks associated with exposures to diesel exhaust typically are associated with chronic exposure, in which a 70-year exposure period is assumed. Because heavy construction equipment would be operated short-term and last less than 3 months, construction of the proposed Project is not anticipated to result in an elevated cancer risk to exposed sensitive receptors. In addition, DPM emitted during construction would dissipate as a function of distance and would be lower at the nearest sensitive receptor. Consequently, emissions of PDM are not expected to expose sensitive populations to substantial pollutant concentrations. This impact is considered less than significant.

Naturally Occurring Asbestos

According to the current El Dorado County Naturally Occurring Asbestos Review Map, the proposed Project is not located in an area known to contain naturally occurring asbestos (NOA) (El Dorado County 2005). Accordingly, the Project is not required to submit an NOA mitigation plan, but must comply with District Rule 223, *Fugitive Dust* (as outlined in Chapter 2, *Project Description*). This impact is less than significant.

e. Less than Significant

While offensive odors rarely cause any physical harm, they can be unpleasant, leading to considerable distress among the public and often generating citizen complaints to local governments and air districts. Project-related odor emissions would be limited to the construction period, when emissions from equipment may be evident in the immediately surrounding area. These activities would be short term and are not likely to result in nuisance odors that would violate EDCAPCD standards. This impact is therefore considered less than significant.

f. Less than Significant

Construction activities would generate short-term emissions of carbon dioxide (CO_2), methane (CH_4), and nitrous oxide (N_2O) from the use of equipment (e.g., excavators) and on-road vehicles (e.g., employee commuter cars and haul trucks). SMAQMD's Road Construction Model and the assumptions summarized in Table 3.2.3-3 were used to estimate CO_2 emissions associated with construction. The Road Construction Model does not quantify CH_4 and N_2O emissions from off-road equipment or onroad vehicles. Emissions of CH_4 and N_2O from diesel equipment were determined

by scaling the construction CO_2 emissions predicted by Road Construction Emissions Model by the ratio of CH_4/CO_2 and N_2O/CO_2 emissions expected per gallon of diesel fuel according to the Climate Registry (Climate Registry 2012). GHG emissions from gasoline-powered worker commutes were determined by dividing the annual CO_2 emissions from construction worker and vendor commutes by 0.95. This is based on the EPA's recommendation that CH_4 and N_2O account for 5% of on-road GHG emissions, accounting for global warming potential (GWP) (U.S. Environmental Protection Agency 2011).

Table 3.2.3-5 summarizes the annual GHG emissions from off-road diesel equipment and on-road vehicles associated with construction of the proposed Project.

Table 3.2.3-5. Summary of Construction GHG Emissions (metric tons)

Off-Road Emissions[a]			On-Road Emissions[b]		
CO_2	CH_4	N_2O	CO_2	Other GHGs	Total (CO_2e)[c]
29	0.017	0.008	16	0.788	48

Source: Sacramento Metropolitan Air Quality Management District Road Construction Emissions Model (Version 7.1.2); Climate Registry 2012; U.S. Environmental Protection Agency 2011.

[a] From construction equipment and haul trucks (diesel).

[b] From construction worker commutes (mix of fuels). Other GHGs include CH_4, N_2O, and hydrofluorocarbons, which represent 5% of total GHG emissions from on-road sources (calculated by diving CO_2 emissions by 0.95 and multiplying the resulting number by 0.05).

[c] Refers to carbon dioxide equivalent, which includes the relative warming capacity (global warming potential) of each GHG.

As indicated in Table 3.2.3-5, construction of the proposed Project would generate 48 metric tons of GHG emissions over the 2.5-month construction period. This is well-below the analysis threshold of 1,100 metric tons CO_2e. Accordingly, GHG impacts caused by emissions from Project construction are considered to be less than significant.

g. No Impact

EDCAPCD has not yet adopted a qualified plan, policy, or regulation to reduce GHG emissions. Therefore, the most applicable plan, policy, or regulation adopted for the purpose of reducing GHG emissions is Assembly Bill (AB) 32, which codified the State's GHG emissions reduction targets for the future.

ARB adopted the AB 32 Scoping Plan as a framework for achieving AB 32. The Scoping Plan outlines a series of technologically feasible and cost-effective measures to reduce statewide GHG emissions. These strategies are geared towards sectors and activities that generate significant amounts of GHGs. For example, the majority of measures address building, energy, waste and wastewater generation, goods movement, on-road transportation, water usage, and high global warming potential gases. Activities associated with the Project are not considered by the AB 32 Scoping Plan as having a high potential to emit GHGs. This statement is substantiated by the project-level emissions analysis, which demonstrates that the GHG emission rate is considerably low (48 metric tons CO_2e; for comparative purposes, statewide GHG emissions in 2009 were 456,770,000 metric tons CO_2e). Consequently, none of the AB 32 reduction strategies are applicable to construction of the Project. Implementation of the Project would therefore not conflict with implementation of AB 32.

3.2.4 Biological Resources

IV. BIOLOGICAL RESOURCES—Would the project:	*Potentially Significant Impact*	*Potentially Significant Unless Mitigation is Incorporated*	*Less than Significant Impact*	*No Impact*
a. Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☒	☐	☐
b. Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☒	☐	☐
c. Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marshes, vernal pools, coastal wetlands, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☒	☐	☐
d. Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☐	☒	☐
e. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☒	☐
f. Conflict with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☒	☐

Environmental Setting

The environmental setting was documented in a Natural Environment Study (NES) for the Project (ICF International 2013a). The NES is a standard Caltrans report for documenting the biological setting and impacts on biological resources from the Project. The 1.56-acre biological study area (study area) for the NES encompasses Bassi Road at the bridge over Granite Creek. The study area includes the proposed Project area where project-related ground-disturbing construction, staging, or access activities would occur. Figure 4 depicts the biological study area and the land cover types within it.

Physical Conditions

The study area is located in the Sierra Nevada Foothills subregion within the Sierra Nevada Region of the California Floristic Province. Granite Creek bisects the study area. Elevations in the study area range from approximately 700 to 725 feet above mean sea level.

The study area is located within the South Fork American Watershed (HUC #18020129). Granite Creek, a relatively permanent water, flows to the South Fork American River (a tributary of navigable waters), approximately 125 feet downstream of the study area. Additionally, a portion of an unnamed seasonal tributary of Granite Creek is located in the study area. Two other erosional drainages flow to a roadside ditch on the south side of Bassi Road on the west end of the study area.

The climate is generally Mediterranean, with cool, wet winters and warm, dry summers. Precipitation occurs primarily between October and May, with a distinct dry period from June to September. The average total annual precipitation is approximately 38.41 inches (ICF International 2013a).

Biological Conditions in the Study Area

Natural communities in the study area were identified and mapped as two distinct vegetation community types (live oak woodland and white alder riparian forest) and two unvegetated community types (perennial stream and seasonal stream). The study area also contains the developed land cover type, which includes roads, paved or graveled areas, and landscaped areas.

Live Oak Woodland

Live oak woodland is the dominant community type in the study area. Approximately 0.81 acre of live oak woodland is in the study area (Figure 4). Interior live oak (*Quercus wislizeni*) and grey pine (*Pinus sabiniana*) are the predominant overstory trees, although ponderosa pine (*Pinus ponderosa*), blue oak (*Q. douglasii*), black oak (*Q. kelloggii*), valley oak (*Q. lobata*), and California bay (*Umbellularia californica*) are also present. A total of 98 oak trees were mapped in the study area. Small tree and shrub species include California buckeye (*Aesculus californica*), manzanita (*Arctostaphylos viscida* ssp. *viscida*), buckbrush (*Ceanothus cuneatus* var. *cuneatus*), dogwood (*Cornus* sp.), and toyon (*Heteromeles arbutifolia*). Annual grasses and native and nonnative forbs also grow in the understory.

Local and state agencies recognize native oak woodlands as sensitive natural communities, and the El Dorado County General Plan includes policies for the protection of oak woodlands.

Oak woodlands are important habitats because of their high value to wildlife in the form of nesting sites, cover, and food (Mayer and Laudenslayer 1988:80). Birds associated with oak woodlands include acorn woodpecker (*Melanerpes formicivorus*), western scrub jay (*Aphelocoma californica)*, yellow-billed magpie (*Pica nuttalli*), and many warblers and flycatchers (Zeiner et al. 1990a: 376, 452, 460). Cavities in oak trees are important nesting sites for acorn woodpecker, oak titmouse (*Baeolophus inornatus*), Bewick's wren (*Thryomanes bewickii*), and western bluebird (California Partners in Flight 2002:24). Oak woodlands provide nesting sites and/or foraging habitat for raptors, such as red-tailed hawks (*Buteo jamaicesis*), red-shouldered hawks (*Buteo lineatus*), and great-horned owls (*Bubo virginianus*) (Zeiner et al. 1990a: 132, 136, 326; California Partners in Flight 2002:24). Mammals associated with oak woodlands include western gray squirrel (*Sciurus griseus*), pallid bat (*Antrozous pallidus*), bobcat (*Lynx rufus*), mule deer (*Odocoileus hemionus*), and gray fox (*Urocyon cinereoargenteus*) (Zeiner et al. 1990b: 70, 146, 324, 352). Acorns are an

Figure 4
Biological Resources in the Bassi Road Bridge Replacement Project Biological Study Area

important food source for species such as California quail (*Callipepla californica*), wild turkey (*Meleagris gallopavo*), western gray squirrel, and mule deer (Mayer and Laudenslayer 1988:79).

White Alder Riparian Forest

White alder riparian forest borders Granite Creek in the study area. Approximately 0.24 acre of white alder riparian forest is in the study area (Figure 4). The width of the habitat varies from approximately 10 to 60 feet. Near the Bassi Road Bridge, the riparian community is predominantly white alder (*Alnus rhombifolia*) and red willow (*Salix laevigata*) in the overstory, with dense Himalayan blackberry (*Rubus armeniacus*) on the creek banks near the bridge. A total of 29 native riparian trees were mapped in the study area. Fig (*Ficus carica*) and tree-of-heaven (*Ailanthus altissima*) saplings also occur in this community. Greater periwinkle (*Vinca major*) occurs south of the bridge on the creek banks. The Himalayan blackberry does not occur upstream where the area around the creek is grazed.

Local, state, and federal agencies recognize riparian habitats as sensitive natural communities.

When the vegetation is diverse and well developed, riparian forest provides high value habitat for wildlife, including several special-status species. Riparian forest habitat provides food, water, and migration and dispersal corridors, as well as escape, nesting and thermal cover for many wildlife species (Mayer and Laudenslayer 1988:86). Invertebrates, amphibians, and aquatic reptiles live in aquatic and adjacent upland habitats. Raptors, herons, egrets, and other birds nest in the upper canopy. A variety of songbirds use the shrub canopy, and cavity-nesting birds, such as Nuttall's woodpecker (*Picoides nuttallii*), and oak titmouse, occupy dying trees and snags (Zeiner et al. 1990a:388, 472). Several mammals, including raccoon (*Procyon lotor*), Virginia opossum (*Didelphis virginiana*), and striped skunk (*Mephitis mephitis*), are common in riparian habitats (Zeiner et al. 1990b: 2, 298, 316).

Perennial Stream (Granite Creek)

Granite Creek crosses near the middle of the study area and has an average width of 27 feet at the ordinary high water mark (OHWM). Approximately 0.12 acre of Granite Creek is in the study area (Figure 4). The creek bed is unvegetated, with sand, gravel, cobble, and boulder substrate. The banks of the creek are low to steeply sloped with grasses, forbs, rocks, and patches of Himalayan blackberry. The water depth under the bridge was approximately 1 foot at the time of the December 2012 field survey. Flow in the creek was fast at the time of the survey and there was evidence that water in the creek had flowed over the top of the bank at the bend of the creek before it crosses under the bridge.

Granite Creek is considered a relatively permanent water body under U.S. Army Corps of Engineers (USACE) jurisdiction and is subject to regulation under the Clean Water Act (CWA) Section 404. The creek is considered a sensitive natural community.

Perennial streams with well-vegetated areas provide food, water, and migration and dispersal corridors, as well as escape, nesting, and thermal cover for many wildlife species (Mayer and Laudenslayer 1988). Wildlife species associated with foothill stream and riparian habitats include foothill yellow-legged frog (*Rana boylii*), California newt (*Taricha torosa*), Anna's hummingbird (*Calypte anna*), black phoebe (*Sayornis nigricans*), raccoon, and striped skunk. (Zeiner et al. 1988, 1990a, 1990b.).

Although focused fish studies were not conducted for this Project, species occurrence in Granite Creek can be inferred from the generalized distribution of fish species based on the Project's geographic location, and anecdotal reports of species occurrence and previous investigations conducted in the nearby South Fork American River, to which Granite Creek has a direct hydrologic connection.

Aquatic habitats in the study area fall within the Sacramento-San Joaquin Province (Central Valley Subprovince), one of six aquatic zoogeographic provinces in California, as defined by Moyle (2002). The Sacramento-San Joaquin Province is drained by the Sacramento and San Joaquin Rivers. Generally, four native fish assemblages can be recognized in Central Valley streams: rainbow trout assemblage, California roach assemblage, pikeminnow-hardhead-sucker assemblage, and deep-bodied fish assemblage (Moyle 2002). Based on its geographic location, the study area lies in the zone characterized by the pikeminnow-hardhead-sucker assemblage.

The South Fork American River in the vicinity of the study area provides habitat for a variety of native and introduced fish species. Native fish species include California roach (*Lavinia symmetricus*), hardhead (*Mylopharodon conocephalus*), sculpin (*Cottus* spp.), rainbow trout (*Oncorhynchus mykiss*), Sacramento pikeminnow (*Ptychocheilus grandis*), Sacramento sucker (*Catostomus occidentalis*), and Chinook salmon (*O. tshawytscha*). Chinook salmon were once stocked in Folsom Reservoir by CDFW and now appear to be using the South Fork American River for spawning. Introduced fish species include smallmouth bass (*Micropterus dolomieu*), brown trout (*Salmo trutta*), and Kokanee salmon (*O. nerka*), which are landlocked sockeye salmon (Environmental Stewardship & Planning 2001). Granite Creek may contain juveniles and/or adults of one or more of these species, either seasonally or year-round, depending on habitat conditions (principally flow and temperature) in the creek.

Seasonal Stream

A portion of an unnamed seasonal stream that is a tributary of Granite Creek is located in the southern portion of the study area. The average width of the stream is 4 feet. There is approximately 0.003 acre of the unnamed seasonal stream in the study area (Figure 4). The stream had a small amount of emergent grassy vegetation at the time of the survey, and likely fills in with annual grassland species when it is dry in the late spring and summer. The substrate is sand, gravel, and cobble. The water depth was 3 to 4 inches at the time of the December 2012 field survey, which followed 3 days of rainfall.

The unnamed tributary of Granite Creek is considered a non-relatively permanent water body under USACE jurisdiction and is subject to regulation under the CWA Section 404. The seasonal stream is considered a sensitive natural community.

The study area also includes two erosional drainages that drain from the hill slope on the south side of Bassi Road into a roadside ditch, which drains to Granite Creek. These erosional drainages and the ditch are 1 to 2 feet wide. They were sparsely vegetated with herbaceous understory species found in the interior live oak woodland. No water was observed in these drainages at the time of the December 2012 field survey (after 3 days of rain), and therefore appear to only carry water during storm events. The erosional drainages and roadside ditch would not be considered other waters of the U.S. They are included as part of the oak woodland community.

Seasonal streams have a more limited use by wildlife species because of their restricted flows. When flowing, these streams may provide sources of drinking water for birds and mammals and may provide movement corridors for some species of amphibians.

Developed Areas

The developed cover type occurs in the study area in the form of roads and paved or graveled areas adjacent to Bassi Road. The landscaped areas around the houses are also included in this community type. A total of approximately 0.37 acre of developed area is in the study area (Figure 4).

Paved and graveled areas generally do not provide habitat for wildlife. Because the landscaped areas in the study area are adjacent to oak woodland, some of the wildlife that use the oak woodland may also be found in the landscaped areas in the study area. Animals that are associated with landscaping and other areas with human disturbance include Brewer's blackbird (*Euphagus cyanocephalus*), house finch (*Carpodacus mexicanus*), house sparrow (*Passer domesticus*), yellow-billed magpie, mourning dove (*Zenaida macroura*), Virginia opossum, and striped skunk (Zeiner et al. 1990a: 310, 460, 646, 668, 682; Zeiner et al.1990b: 2, 316).

Special-Status Species

Potential impacts to biological resources were evaluated in the NES. Suitable or potentially suitable habitat for five special-status plant species was identified in the biological study area within interior live oak woodland habitat. None of these five species was observed in the study area during the June and July 2012 botanical surveys. One potential special-status species, two lobed clarkia (*Clarkia biloba*), was observed during the July 2012 botanical survey. After collecting and comparing specimens, it was concluded that the population was from the common subspecies C. *biloba* ssp. *biloba*. Therefore, no special-status plant species are present in the study area. The proposed Project would, therefore, have no effect on plant species under the state or federal Endangered Species Acts.

After a review of existing information, reconnaissance-level field surveys, and a site assessment for California red-legged (*Rana draytonii*) frog were conducted, it was determined that the following 12 special-status wildlife species have the potential to occur in or adjacent to the study area.

- California red-legged frog
- Foothill yellow-legged frog
- Western pond turtle (*Emys marmorata*)
- Blainville's (Coast) horned lizard (*Phrynosoma blainvillii*)
- Bald eagle (*Haliaeetus leucocephalus*)
- White-tailed kite (*Elanus leucurus*)
- Yellow warbler (*Dendroica petechia brewsteri*)
- Migratory Birds
- Pallid bat
- Silver-haired bat (*Lasionycteris noctivagans*)
- Western red bat (*Lasiurus blossevillii*)
- Hoary bat (*Lasiurus cinereus*)

After review of existing information, it was determined that two sensitive fish species (Sacramento-San Joaquin roach[*Lavinia symmetricus symmetricus*] and hardhead [*Mylopharodon conocephalus*]), have the potential to occur in the study area based on the species' known range. Sport fish species occurring in the South Fork American River include rainbow trout, brown trout, and smallmouth bass. All of these species support recreational fisheries to varying degrees in the South Fork American River and have the potential to occur in the study area and be affected by project construction

Potential Environmental Effects

Potential impacts on special-status wildlife and fish species, sport fish, and natural communities from the Project, and the mitigation measures to reduce potential impacts are discussed below.

a. Potentially Significant Unless Mitigation is Incorporated

California Red-Legged Frog

There are no California Natural Diversity Database (CNDDB) records for occurrences of California red-legged frog within 5-miles of the study area. A site assessment for California red-legged frog was conducted concurrent with the field survey of the study area on December 3, 2012. Assessments of habitat within a 1-mile radius of the study area were conducted on January 10 and 14, 2013. As discussed in the site assessment report, Granite Creek provides suitable nonbreeding and dispersal habitat during lower flow periods in later spring and summer. The tributary of Granite Creek provides suitable nonbreeding and dispersal habitat during the period that it carries water. There are numerous ponds within a 1-mile radius of the study area that provide suitable breeding habitat for California red-legged frog. Caltrans submitted the site assessment report to USFWS on February 20, 2013. Surveys in accordance with U.S. Fish and Wildlife Service (USFWS) guidelines (U.S. Fish and Wildlife Service 2005) were not conducted because Caltrans determined that access to suitable breeding habitat is limited and that the Project is not likely to adversely affect California red-legged frog with implementation of avoidance and minimization measures listed below.

Work within Granite Creek and construction activities in riparian areas adjacent to the creek could result in the injury or mortality of California red-legged frog. Because the study area does not provide suitable breeding habitat for California red-legged frog, no breeding habitat would be removed or disturbed, and no eggs or larvae would be disturbed. Adult or juvenile California red-legged frogs could occur within the creek or adjacent riparian habitat during dispersal from/to other habitats, and could be harmed during construction activities, if present when these activities are occurring.

The Project would not result in the permanent net loss of suitable nonbreeding and dispersal habitat for California red-legged frog. The Project would result in the temporary loss of 0.001 acre of, and temporary water quality impacts on, suitable nonbreeding and dispersal habitat for California red-legged frog. Injury or mortality of California red-legged frog would be a significant impact because it could reduce the local population size of a federally listed species. With the implementation of Mitigation Measures BIO-1 through BIO-5, impacts on California red-legged frog would be less than significant.

Mitigation Measure BIO-1: Install Construction Barrier Fencing around the Construction Area to Protect Sensitive Biological Resources to Be Avoided

The County's contractor will install orange construction barrier fencing to identify environmentally sensitive areas as one of the first orders of work. The area that would generally be required for construction, including staging and access, is shown in Figures 3 and 4. Portions of this area that are to be avoided during construction will be fenced off to avoid disturbance. The protected areas will be designated as environmentally sensitive areas and clearly identified on the construction plans. The fencing will be installed before construction activities are initiated, maintained throughout the construction period, and removed when construction is completed. Sensitive biological resources that occur adjacent to the construction area include sensitive natural communities and special-status wildlife habitats, as discussed below.

Mitigation Measure BIO-2: Conduct Environmental Awareness Training for Construction Employees

The County will retain a qualified biologist to develop and conduct environmental awareness training for construction employees on the importance of onsite biological resources, including sensitive natural communities; mature trees to be retained; and special-status wildlife habitats. In addition, construction employees will be educated about invasive plant identification and the importance of controlling and preventing the spread of invasive plant infestations.

The environmental awareness program will be provided to all construction personnel to brief them on the life history of special-status species in or adjacent to the project area, the need to avoid impacts on sensitive biological resources, any terms and conditions required by state and federal agencies, and the penalties for not complying with biological mitigation requirements. If new construction personnel are added to the Project, the contractor's superintendent will ensure that the personnel receive the mandatory training before starting work. An environmental awareness handout that describes and illustrates sensitive resources to be avoided during Project construction and identifies all relevant permit conditions will be provided to each person.

Mitigation Measure BIO-3: Retain a Qualified Biologist to Conduct Periodic Monitoring during Construction

The County will retain a qualified biologist to conduct periodic construction monitoring in and adjacent to all sensitive habitats in the construction area. The frequency of monitoring will range from daily to weekly depending on the biological resource. The monitor, as part of the overall monitoring duties, will inspect the fencing once a week to ensure that fencing around environmentally sensitive areas is intact. The biological monitor will assist the construction crew as needed to comply with all Project implementation restrictions and guidelines. The biological monitor also will be responsible for ensuring that the contractor maintains the staked and flagged perimeters of the construction area and staging areas adjacent to sensitive biological resources. The monitor will provide the County with a monitoring log for each site visit, which will be provided to interested agencies upon request.

Mitigation Measure BIO-4: Protect Water Quality and Prevent Erosion and Sedimentation in Drainages

The County will ensure the construction specifications include the following water quality protection and erosion and sediment control best management practices (BMPs), based on standard County/Caltrans requirements, to minimize construction-related contaminants and mobilization of sediment in Granite Creek, the seasonal stream, and ditches in and adjacent to the project area.

The BMPs will be selected to achieve maximum sediment removal and represent the best available technology that is economically achievable and are subject to review and approval by the County. The County will perform routine inspections of the construction area to verify the BMPs are properly implemented and maintained. The County will notify contractors immediately if there is a noncompliance issue and will require compliance.

The BMPs will include, but are not limited to, the following.

- In-water work below the ordinary high water mark of Granite Creek will be restricted to April 15 through October 15.
- Ensure that equipment used in and around streams is in good working order and free of dripping or leaking engine fluids. All vehicle maintenance will be performed at least 300 feet from all streams. Any necessary equipment washing will be carried out where the water cannot flow into streams.
- Prepare and implement a hazardous material spill prevention control and countermeasure plan before construction begins that will minimize the potential for, and the effects of, spills of hazardous or toxic substances during construction. The plan will include storage and containment procedures to prevent and respond to spills, and will identify the parties responsible for monitoring the spill response. The plan will include the following:
    - Prevent raw cement, concrete or concrete washings, asphalt, paint or other coating material, oil or other petroleum products, or any other substances that could be hazardous to aquatic life from contaminating the soil or entering watercourses.
    - Prevent discharge of turbid water to the stream during dewatering activities by filtering the discharge first using a filter bag, diverting the water to a settling tank, and/or treating the water in a manner to ensure compliance with water quality requirements prior to discharging water back to the creek.
    - Clean up all spills immediately according to the spill prevention and countermeasure plan.
    - Provide areas located outside the OHWM for staging and storing equipment, materials, fuels, lubricants, solvents, and other possible contaminants.
    - Remove vehicles from the normal high-water area of the waterway every day and before refueling and lubricating and ensure that areas where equipment is refueled or lubricated is storm-proofed to prevent contaminants from being discharged to the stream. Pump contaminated water to a holding tank for proper disposal.
    - Avoid operating equipment in flowing water during in-channel activities by constructing water diversion structures and diverting all streamflows through or around construction sites.

- Avoid operation of vehicles and equipment in flowing water.

The County will review and approve the contractor's hazardous materials spill prevention control and countermeasure plan before allowing construction to begin. The County will routinely inspect the construction site to verity that BMPs specified in the plan are properly implemented and maintained. The County will notify the contractor immediately if there is a noncompliance issue and will require compliance.

- Prohibit the following types of materials from being rinsed or washed into the streets, shoulder areas, or gutters: concrete; solvents and adhesives; thinners; paints; fuels; sawdust; dirt; gasoline; asphalt and concrete saw slurry; heavily chlorinated water.
- Measure baseline turbidity, pH, specific conductance, and temperatures in Granite Creek. As required by the RWQCB, avoid exceeding water quality standards specified in the Water Quality Control Plan for the Sacramento and San Joaquin River Basins over the natural in-situ conditions. If dewatering activities are required, water samples would be taken periodically during construction.
- Dispose of any surplus concrete rubble, asphalt, or other rubble from construction at a local landfill.
- Prepare and implement an erosion and sediment control plan for the proposed Project. The plan will include the following provisions and protocols.
  - Discharge from dewatering operations, if needed, and runoff from disturbed areas will be made to conform to the water quality requirements of the waste discharge permit issued by the RWQCB.
  - Temporary erosion control measures, such as sandbagged silt fences, will be applied throughout construction of the proposed Project and will be removed after the working area is stabilized or as directed by the engineer. Soil exposure will be minimized through use of temporary BMPs, groundcover, and stabilization measures. Exposed dust-producing surfaces will be sprinkled daily, if necessary, until wet; this measure will be controlled to avoid producing runoff. Paved streets will be swept daily following construction activities.
  - The contractor will conduct periodic maintenance of erosion and sediment control measures.
  - An appropriate seed mix of native species will be planted on disturbed areas upon completion of construction.
  - Cover or apply nontoxic soil stabilizers to inactive construction areas (previously graded areas inactive for 10 days or more) that could contribute sediment to waterways.
  - Enclose and cover exposed stockpiles of dirt or other loose, granular construction materials that could contribute sediment to waterways. Material stockpiles will be located in non-traffic areas only. Side slopes will not be steeper than 2:1. All stockpile areas will be surrounded by a filter fabric fence and interceptor dike
  - Contain soil and filter runoff from disturbed areas by berms, vegetated filters, silt fencing, straw wattle, plastic sheeting, catch basins, or other means necessary to prevent the escape of sediment from the disturbed area.

  - Use other temporary erosion control measures (such as silt fences, staked straw bales/wattles, silt/sediment basins and traps, check dams, geofabric, sandbag dikes, and temporary re-vegetation or other ground cover) to control erosion from disturbed areas as necessary.
  - Avoid earth or organic material from being deposited or placed where it may be directly carried into streams.
- Minimize the extent of all areas requiring clearing, grading, revegetation, and recontouring.
- Grade areas following construction to minimize surface erosion.
- Cover bare areas with mulch and revegetate all cleared areas.
- Avoid riparian and wetland vegetation wherever possible and install fencing to protect riparian and wetland vegetation adjacent to the project area.
- Revegetate and enhance riparian and wetland areas where temporary impacts would occur during Project construction.
- Limit disturbance to the water column and creek bottom to the maximum extent practicable.

The County also will obtain a 401 Water Quality Certification from the Central Valley RWQCB, which may contain additional BMPs and water quality measures to ensure the protection of water quality.

Mitigation Measure BIO-5: Implement Protective Measures to Avoid or Minimize Potential Impacts on California Red-Legged Frog

The County will implement the following protective measure to avoid or reduce potential impacts on California red-legged frog in the Project construction area *and* at the oak mitigation planting area if this area is located within suitable upland habitat for California red-legged frog.

- Environmental awareness training will be conducted prior to the onset of Project work and work in the oak mitigation planting area to brief workers on how to recognize California red-legged frogs, the specific measures that are being implemented to conserve the species, the penalties for non-compliance, and the boundaries of the Project and mitigation areas. Construction personnel will also be informed that if a California red-legged frog is encountered in the work area, work activities for that area will cease until the species has moved from the site on its own volition. County personnel conducting maintenance of plantings in the Project area will also receive this training.

The County will implement the following protective measures to avoid or reduce potential impacts on California red-legged frog in the Project construction area.

- All ground-disturbing activities associated with construction of the Project will be restricted to the dry season (between approximately April 15 and October 15) to avoid the period when California red-legged frogs could be actively dispersing through upland habitats. If construction needs to occur past October 15, the County will request an authorization from the USFWS to extend the work period.
- Within the riparian area, vegetation will be removed by manually clipping to ground level and removing by hand. The vegetation removal will be conducted in the presence of a qualified biologist, who will monitor the area for the presence of California red-legged frog.

- Following manual removal of vegetation, the work area within riparian habitat will be fenced with sediment fencing at the upstream and downstream limits of the Project and away from the stream at least 100 feet. The fencing will be buried a minimum of 6 inches into the ground. The project limits will be delineated with orange fencing to prevent encroachment of construction personnel and equipment into any sensitive areas during project work. Animal exclusion fencing will be checked once per week by a construction personnel that have been trained by a USFWS-approved biologist to identify fencing issues/weaknesses. All compromised portions of fence will be repaired and/or replaced immediately. Animal exclusion fencing will be removed once the construction is completed or by October 15 of the construction year, whichever comes first.
- Preconstruction surveys will be conducted by a USFWS-approved biologist immediately prior to the initiation of any Project activities (e.g. ground disturbance, vegetation clearing) that may result in take of California red-legged frog. All suitable aquatic and upland habitat including refugia habitat such as dense vegetation, small woody debris, refuse, burrows, etc., will be thoroughly inspected.
- The County will submit the name and credentials of the project's biologist(s) to the USFWS for review and approval at least 15 days prior to the onset of construction activities.
- During project activities, all trash that may attract predators will be properly contained, removed from the work site, and disposed of regularly. Following construction, all trash and construction debris will be removed from work areas.
- To avoid entrapment of wildlife, all excavated steep-walled holes or trenches more than 6 inches deep will be provided with one or more escape ramps constructed of earth fill or wooden planks at the end of each work day. If escape ramps cannot be provided, then holes or trenches will be covered with plywood or similar materials. Providing escape ramps or covering open trenches is anticipated to prevent injury or mortality of wildlife resulting from falling into trenches and becoming trapped. The trenches will be thoroughly inspected for the presence of federally listed species at the beginning of each workday by a designated person trained by the USFWS-approved biologist. This person will report daily during construction to the USFWS-approved biologist on the findings of these inspections and daily monitoring
- Staging areas as well as fueling and maintenance activities will be a minimum of 100 feet from riparian and aquatic habitats. The County will prepare a spill prevention and clean-up plan.
- The Project will administer BMPs to protect water quality and control erosion, as discussed above in Mitigation Measure BIO-4. Additionally, erosion control materials that use plastic or synthetic mono-filament netting will not be used within the Project area. This includes products that use photodegradable or biodegradable synthetic netting, which can take several months to decompose. Acceptable materials include natural fibers such as jute, coconut, twine or other similar.
- If a work site is to be temporarily dewatered by pumping, intakes will be completely screened with wire mesh not larger than 5 millimeters. Water will be released or pumped downstream at an appropriate rate to maintain downstream flows during construction. The sediment fencing will tie into the intake and outfall of the dewatering system at each end of the Project area to prevent a gap in the exclusion.

- Upon completion of construction activities, any barriers to flow of the creek will be removed in a manner that would allow flow of the creek to resume with the least disturbance to substrate.
- All temporarily impacted areas, including the bridge removal area, will be re-vegetated with an assemblage of native riparian and upland vegetation suitable for the area using a combination of hydroseeding and tree planting. Locally collected plant materials will be used to the extent practicable. Invasive, exotic plants will be controlled to the maximum extent practicable. Herbicides will not be used in controlling vegetation, including the maintenance of riparian plantings described in the June 2013 Compensatory Mitigation and Monitoring Plan.
- The oak mitigation plan will be submitted to the USFWS for approval at least one month prior to Project implementation.

Foothill Yellow-Legged Frog

There is one CNDDB record for an occurrence of foothill yellow-legged frog from 2003 approximately 2 miles north of the study area. An additional record exists for an occurrence from 2009, approximately 9 miles from the study area (California Department of Fish and Wildlife 2013). Focused surveys for foothill yellow-legged frog were not conducted and no frogs were observed during the site visit. Granite Creek provides suitable breeding and dispersal habitat for foothill yellow-legged frog. The tributary of Granite Creek provides suitable dispersal habitat during the time of year that the creek is flowing.

Work within Granite Creek could result in the injury or mortality of foothill yellow-legged frog, including the potential loss or eggs or larvae. The Project would not result in the permanent net loss of suitable aquatic habitat for foothill yellow-legged frog. The Project would result in the temporary loss of 0.001 acre of, and, temporary water quality impacts to, suitable aquatic habitat for foothill yellow-legged frog. Injury or mortality of foothill yellow-legged frog would be a significant impact because it could reduce the size of the local population of this special-status species. Implementation of Mitigation Measures BIO-1 through BIO-4, described above, and BIO-6, described below, would reduce this impact to less than significant.

Western Pond Turtle

There is a CNDDB record for an occurrence of western pond turtle approximately 2 miles southeast of the study area. There are three additional records for western pond turtle that are 5–10 miles from the study area (California Department of Fish and Wildlife 2013). Granite Creek and the tributary of Granite Creek provide suitable aquatic habitat for western pond turtle. Use of these creeks may be limited by the depth or flow of water, depending on the time of year. The tributary of Granite Creek likely provides habitat for western pond turtle for only a portion of the year. Western pond turtle is likely to occur in the South Fork American River and could travel from the river into Granite Creek. The study area also provides suitable nesting/upland habitat for western pond turtles.

Construction of the proposed Project would result in a temporary loss of approximately 0.001 acre of aquatic habitat for western pond turtle, but no permanent net loss of habitat. Additionally, construction of the Project would result in the permanent loss of approximately 0.45 acre and temporary loss of 0.3 acre of suitable upland/nesting habitat for western pond turtle. In-water work within Granite Creek could cause entrapment of western pond turtles, resulting in injury or

mortality of turtles. Construction activities in adjacent woodland habitat could also result in the injury or mortality of turtles or their eggs, if present during construction. Because construction is proposed to occur between April and October, which is during the egg-laying period for turtles, loss of eggs could occur. Construction noise and/or activity could disturb turtles or cause them to avoid the area. Injury or mortality of western pond turtle would be a significant impact because it could reduce the size of the local population of this special-status species. The implementation of Mitigation Measures BIO-1 through BIO-4 (above), and BIO-6 (below) would reduce this impact to less than significant.

Blainville's (Coast) Horned Lizard

There are no CNDDB records for Blainville's horned lizard within 5 miles of the study area. The closest reported occurrence is approximately 7 miles southwest of the study area. There are three additional records for occurrences approximately 10 miles from the study area. All of the horned lizards found within 10 miles were in chaparral habitat (California Department of Fish and Wildlife 2013). Focused surveys for Blainville's horned lizard were not conducted. The potential for Blainville's horned lizard to occur in the study area is low; although the live oak woodland in and adjacent to the study area could provide suitable habitat for this species.

Because the Blainville's horned lizards that have been found in the project vicinity were located within chaparral habitat and there is no chaparral in the study area, the potential for this species to occur in the study area is considered low. In the unlikely case that a horned lizard is present during construction, activities associated with construction could result in disturbance or harm of the lizard. The Project would also result in the loss of a small amount (0.45 acre) of suitable habitat. Injury or mortality of Blainville's horned lizard would be a significant impact because it could reduce the size of the local population of this special-status species. Implementation of Mitigation Measures BIO-1 through BIO-3, described above, and BIO-6 and BIO-7, described below, would reduce this impact to less than significant.

Mitigation Measure BIO-6: Conduct Preconstruction Surveys for Foothill Yellow-Legged Frog, Western Pond Turtle, and Blainville's Horned Lizard and Monitor Initial In-Water Work

To avoid potential injury or mortality of foothill yellow-legged frog and western pond turtle, the County will retain a qualified wildlife biologist to conduct a preconstruction survey for these species within 24 hours of the start of construction activities. The biologist will survey Granite Creek from the construction area downstream to the confluence with South Fork American River, and 300 feet upstream of the construction area for foothill yellow-legged frog and western pond turtle. If in-water work does not start immediately, the biologist will return to the construction site immediately prior to the start of in-water work to conduct another preconstruction survey. If in-water work occurs at two different time periods or stops and restarts, the biologist will survey the aquatic habitat prior to restarting in-water work. During this survey, the biologist will also survey the live oak woodland in the study area for Blainville's horned lizard; the potential for this species to occur in the study area is low.

The biologist will remain on site until initial in-water work is complete. If the biologist discovers any foothill yellow-legged frogs tadpoles or egg masses, work will be delayed until the end of the breeding season. If a foothill yellow legged frog or western pond turtle becomes trapped during in-water work, the biologist will relocate the individual to suitable aquatic habitat upstream or downstream of the construction area. The biologist will have had their CDFW scientific

collecting permit amended to include capture and relocation of foothill yellow-legged frog, western pond turtle, and Blainville's horned lizard. Because turtle eggs are buried and generally cannot be seen, a survey for eggs is not recommended. If turtle eggs are discovered during construction in upland grassland areas, the biologist will be contacted immediately and the eggs will be reburied.

For the remainder of construction, the biologist will remain on-call in case a foothill yellow-legged frog, western pond turtle, a nest within turtle eggs, or Blainville's horned lizard is discovered. The construction crew will be instructed to notify the crew foreman who will contact the biologist if any of these species is found dead or trapped within the construction area, or if a nest containing turtle eggs is found. Work in the area where the frog/turtle/lizard is found dead or trapped, or where the eggs are found will stop until the biologist arrives and removes and relocates the frog/turtle/lizard or eggs. The biologist will report their activities to the County and CDFW within 1 day of relocating or finding any dead foothill yellow-legged frog, western pond turtle, turtle eggs, or Blainville's horned lizard.

Mitigation Measure BIO-7: Avoid and Minimize Potential Disturbance of Live Oak Woodland and White Alder Riparian Forest Habitat

The County will avoid and minimize potential disturbance of the live oak woodland and white alder riparian forest community by implementing the following measures:

- The potential for long-term loss of woody vegetation will be minimized by trimming vegetation rather than removing entire trees or shrubs in areas where complete removal is not required. Trees or shrubs that need to be trimmed will be cut at least 1 foot above ground level to leave the root systems intact and allow for more rapid regeneration. Cutting will be limited to the minimum area necessary within the construction zone. To protect nesting birds, Caltrans will not allow pruning or removal of woody vegetation between February 1 and August 31 without preconstruction surveys.
- A certified arborist will be retained to perform any necessary pruning or root cutting of retained trees.
- The areas that undergo vegetative pruning and tree removal will be inspected immediately before construction, immediately after construction, and 1 year after construction to determine the amount of existing vegetative cover, cover that has been removed, and cover that resprouts. After 1 year, if these areas have not resprouted sufficiently to return the cover to the pre-project level, the County will replant the areas with appropriate native species to reestablish the cover to the pre-project condition.

Bald Eagle

There are no CNDDB records for nesting or wintering bald eagles within 5 miles of the study area. The closest record for wintering bald eagles is approximately 10 miles southwest of the study area at Bass Lake. Bald eagles are also known to nest at Folsom Lake (California Department of Fish and Wildlife 2013). Focused surveys for bald eagles were not conducted and no bald eagles were observed during the field survey. Bald eagles could nest or perch in the study area and forage along the South Fork American River adjacent to the study area.

Construction activities would occur during the bald eagle nesting season (February 1 through August 1) and could result in the disturbance of nesting bald eagle. Removal of nests or construction

disturbance (noise and/or activity) during the breeding season could result in the incidental loss of fertile eggs or nestlings or otherwise lead to nest abandonment. Because bald eagle is fully protected, removal of trees with active nests and activities that result in loss of bald eagles are prohibited by the California Fish and Game Code (CFGC). The removal of 93 trees in the study area may reduce the amount of available nesting habitat for bald eagle, however, many of these trees are less than a foot in diameter and are unlikely to support a bald eagle nest. Injury or mortality of bald eagle would be a significant impact because it could reduce the size of the local population of this state endangered species. Implementation of Mitigation Measures BIO-1 through BIO-3 and BIO-7, described above, and BIO-8, below, would reduce this impact to less than significant.

White-Tailed Kite

There are no CNDDB records for white-tailed kite within 10 miles of the study area; however there are 2 records for occurrences within 10-15 miles of the study area (California Department of Fish and Wildlife 2013). Focused surveys for white-tailed kite nests were not conducted and no white-tailed kites were observed during the field survey. Suitable nest trees for white-tailed kite are located in and adjacent to the study area. In addition, white-tailed kites could occasionally perch or forage adjacent to the study area.

Construction activities would occur during the white-tailed kite nesting season (February to October) and could result in the disturbance of white-tailed kite. Removal of nests or construction disturbance (noise and/or activity) during the breeding season could result in the incidental loss of fertile eggs or nestlings or otherwise lead to nest abandonment. Because white-tailed kite is fully protected, removal of trees with active nests and activities that result in loss of white-tailed kite are prohibited by the CFGC. The removal of trees in the study area may reduce the amount of available nesting habitat for white-tailed kite and there would be a temporal loss of the use of the trees until they mature. However there are abundant trees in the project vicinity, so this impact would not be substantial. Injury or mortality of white-tailed kite would be a significant impact because it could reduce the size of the local population of this special-status species. Implementation of Mitigation Measures BIO-1 through BIO-3 and BIO-7, above, and BIO-8, below, would reduce this impact to less than significant.

Yellow Warbler

There are no records of occurrences of yellow warbler within 5 miles of the study area (California Department of Fish and Wildlife 2013). Focused surveys for yellow warbler were not conducted and no yellow warblers were observed during the field survey. The white alder riparian forest in the study area provides suitable nesting and foraging habitat for yellow warbler.

Construction activities would occur during the yellow warbler nesting season (April through July) and could result in the disturbance of yellow warbler. Removal of nests or construction disturbance (noise and/or activity) during the breeding season could result in the incidental loss of fertile eggs or nestlings or otherwise lead to nest abandonment. The removal of trees in the study area may reduce the amount of available nesting habitat for yellow warbler; however there are abundant trees in the project vicinity, so this impact would not be substantial. Injury or mortality of yellow warbler would be a significant impact because it could reduce the size of the local population of this special-status species. Implementation of Mitigation Measures BIO-1 through BIO-3 and BIO-7, above, and BIO-8, below, would reduce this impact to less than significant.

Mitigation Measure BIO-8: Remove Vegetation during the Nonbreeding Season and Conduct Preconstruction Surveys for Nesting Migratory Birds

To the maximum extent feasible, tree removal will occur during the non-breeding season for most migratory birds (generally between October 1 and January 31). This is highly preferred because if an active nest is found in a tree (or other vegetation) to be removed during preconstruction nest surveys (described below), the tree cannot be removed until the end of the nesting season, which could delay construction. If trees cannot be removed between October 1 and January 31, the area where vegetation will be removed must be surveyed for nesting birds, as discussed below.

If construction activities are expected to begin during the nesting season for birds (generally February 1 through September 30), the County will retain a qualified wildlife biologist with knowledge of the relevant species to conduct nesting surveys before the start of construction. A minimum of two separate surveys will be conducted for migratory birds, including raptors. Surveys will include a search of all trees and shrubs that provide suitable nesting habitat in the project area. In addition, a 500 foot area around the project area will be surveyed for nesting raptors. If possible, the first survey should occur during the height of the breeding season (March 1 to June 1) and the final survey will occur within 1 week of the start of construction. If no active nests are detected during these surveys, no additional measures are required.

If an active nest is found in the survey area, a no-disturbance buffer will be established around the site to avoid disturbance or destruction of the nest site until the end of the breeding season (September 30) or until after a qualified wildlife biologist determines that the young have fledged and moved out of the project area (this date varies by species). The extent of these buffers will be determined by the biologist in coordination with USFWS and CDFW and will depend on the level of noise or construction disturbance, line-of-sight between the nest and the disturbance, ambient levels of noise and other disturbances, and other topographical or artificial barriers. Suitable buffer distances may vary between species.

Migratory Birds

Suitable nesting habitat for migratory birds is present within the live oak woodland forest, white alder riparian forest, and landscaped areas in and adjacent to the study area. Swallows and black phoebe have the potential to nest on the bridge structure. Three mud nests were observed on the Bassi Road Bridge during the site visit. One small stick nest was observed in a live oak just northwest of the bridge. No other nests were noticed in or adjacent to the study area during field surveys, but a focused nest survey was not conducted.

Construction activities would occur during the nesting season of migratory birds (generally February 1 through September 30) and could result in the possible loss of nesting birds, including swallows or black phoebes that could nest on the Bassi Road Bridge structure. Removal of nests or construction disturbance during the breeding season could result in the incidental loss of fertile eggs or nestlings or otherwise lead to nest abandonment. The removal of 65 oak trees in the study area, if not replaced, would reduce the amount of available nesting habitat for migratory birds. These impacts could be significant if they resulted in reductions of the sizes of local populations of migratory birds. Implementation of Mitigation Measures BIO-1 through BIO-3, BIO-7, BIO-8, above, and BIO-9, below, would reduce this impact to less than significant.

Mitigation Measure BIO-9: Conduct Preconstruction Survey for Mud Nests on the Bridge and Implement Protective Measures for Bridge-Nesting Birds

To avoid impacts on nesting swallows and other bridge-nesting migratory birds that are protected under the Migratory Bird Treaty Act and California Fish and Game Code, the County will implement the following measures:

- The County will hire a qualified wildlife biologist to inspect the bridge during the swallows' non-breeding season (September 1 through February 28). If nests are found and are abandoned, they may be removed. To avoid damaging active nests adjacent to new bridge construction, nests must be removed before the breeding season begins (March 1).
- After nests are removed, the undersides of the bridge will be covered with 0.5- to 0.75-inch mesh net by a qualified contractor. All net installation will occur before March 1 and will be monitored by a qualified biologist throughout the breeding season (typically several times a week). The netting will be anchored so that swallows and other birds cannot attach their nests to the bridge through gaps in the net.
- As an alternative to netting the underside of a bridge, the County may hire a qualified biologist to remove nests as the birds construct them and before any eggs are laid. Visits to the site would need to occur daily throughout the breeding season (March 1 through August 31) as swallows can complete a nest in a 24-hour period.
- If netting of the bridges does not occur by March 1 and swallows colonize the bridge, modifications to the structure will not begin before August 31 of that year or until a qualified biologist has determined that the young have fledged and all nest use has been completed.

If appropriate steps are taken to prevent swallows and other birds from constructing new nests, work can proceed at any time of the year.

Special Status Bats (Four Species)

There are no CNDDB records for occurrences of pallid bat, western red bat, or hoary bat within 5 miles of the study area (California Department of Fish and Wildlife 2013). This is probably because of a lack of surveys for these species. There are two records for occurrences of silver-haired bat that are approximately 7 and 8 miles southeast of the study area. Acoustic surveys for bats were not conducted. The Bassi Road Bridge was examined for expansion joints and other crevices that provide day roosting habitat for bats, and no expansion joints or other crevices are present. No sign of bat use (i.e., guano, urine stains) of the bridge was observed; however, bats could use the bridge as an occasional night roost. Trees within the white alder riparian forest and live oak woodland provide suitable roosting habitat for bats.

Construction is anticipated to occur during the maternity season of bats (April 1 through September 15). The proposed Project would result in the loss of trees, which provide suitable roosting habitat (cavities, crevices, furrowed bark, and foliage) for special-status bats (western red bat and pallid bat) and bats for which conservation actions are warranted (silver-haired bat and hoary bat) (Western Bat Working Group 2007). Although there are abundant trees with foliage in the surrounding area that bats may roost in, the loss of trees with suitable cavities or crevices may result in a more substantial impact since this habitat is less common. Tree removal/trimming and noise or other construction activities could result in the injury, mortality, or disturbance of roosting bats, if present in cavities, crevices, furrowed bark, or foliage of trees. Because the bridge does not

have suitable crevices for bats, replacement of the bridge would not result in injury or mortality of roosting bats or the removal of day roosting habitat. Injury or mortality of special-status bats and removal of potential or occupied roost habitat would be a significant impact because these could reduce the local population of special-status bats. Implementation of Mitigation Measures BIO-1 through BIO-3, BIO-7, described above, and BIO-10, below, would reduce these impacts to less than significant.

Mitigation Measure BIO-10: Identify Suitable Roosting Habitat for Bats and Implement Avoidance and Protective Measures

If tree removal/trimming cannot be conducted between September 16 and October 31, qualified biologists will examine trees to be removed or trimmed for suitable bat roosting habitat before removal/trimming. High-quality habitat features (large tree cavities, basal hollows, loose or peeling bark, larger snags, palm trees with intact thatch, etc.) will be identified and the area around these features searched for bats and bat sign (guano, culled insect parts, staining, etc.). Riparian woodland and stands of mature broadleaf trees should be considered potential habitat for solitary foliage–roosting bat species. Passive monitoring using bat detectors may be needed if identification of bat species is required. Survey methods should be discussed with DFW prior to the start of surveys.

Measures to avoid and minimize impacts to sensitive bats species will be determined in coordination with DFW and may include the following.

- Tree removal will be avoided between April 1 and September 15 (the maternity period) to avoid effects on pregnant females and active maternity roosts (whether colonial or solitary).
- All tree removal will be conducted between September 16 and October 31, which corresponds to a time period when bats have not yet entered torpor or would be caring for nonvolant young.
- Trees will be removed in pieces rather than felling an entire tree.
- If a maternity roost is located, whether solitary or colonial, that roost will remain undisturbed until September 16 or a qualified biologist has determined the roost is no longer active.
- If avoidance of nonmaternity roost trees is not possible, and tree removal or trimming cannot occur between September 16 and October 31, qualified biologists will monitor tree trimming/removal that occurs before September 16 or after October 31. If possible, tree trimming/removal should occur in the late afternoon or evening when it is closer to the time that bats would normally arouse. Prior to removal/trimming, each tree will be shaken gently and several minutes should pass before felling trees or limbs to allow bats time to arouse and leave the tree. If a bat is found on or around the tree, tree removal will stop until the bat moves away on its own. If the bat doesn't move away on its own, tree removal will be postponed until later in the evening or at night when it is more likely that the bat has left the tree to forage. The biologists should search downed vegetation for dead and injured bats. If dead or injured bats are discovered, work will temporarily stop in the area in order to assure that there are no other bats in the area. The presence of dead or injured bats that are species of special concern will be reported to CDFW. The biologist will prepare biological monitoring report, which will be provided to the Project lead and CDFW.

Sacramento-San Joaquin Roach

No focused surveys for Sacramento-San Joaquin roach were conducted. There are no CNDDB records Sacramento-San Joaquin roach within 5 miles of the study area. However, the study area is encompassed by the known distribution of the species. Granite Creek provides suitable aquatic habitat for roach when flow or standing water is present; however, their occurrence in Granite Creek is unknown. Sacramento-San Joaquin roach likely occur in the South Fork American River and could also travel from the river into Granite Creek, depending on the time of year.

Project impacts to sensitive fish species and their habitat, include potentially significant effects related to increased turbidity and sedimentation, potential discharges of contaminants, stranding of fish in dewatered areas, and temporary and permanent losses of creek habitat, are discussed below.

Erosion and Mobilization of Sediment

Site clearing, earthwork, bridge construction, and bridge demolition activities, will result in disturbance of soil and streambed sediments, resulting in temporary increases in turbidity and suspended sediments in Granite Creek and potentially the South Fork American River.

The severity of biological effects depends on the sediment concentration, duration of exposure, and sensitivity of the affected life stage. Short-term increases in turbidity and suspended sediment may disrupt feeding activities or result in avoidance or displacement of fish from preferred habitat. For example, juvenile salmonids have been observed to avoid streams that are chronically turbid (Lloyd et al. 1987) or move laterally or downstream to avoid turbidity plumes (Sigler et al. 1984). Bisson and Bilby (1982) reported that juvenile coho salmon avoid turbidities exceeding 70 nephelometric turbidity units (NTUs). Chronic exposure to high turbidity and suspended sediment may affect fish growth and survival by impairing respiratory function, reducing tolerance to disease and contaminants, and causing physiological stress (Waters 1995). For example, Sigler et al. (1984) found that prolonged exposure to turbidities between 25 and 50 NTUs resulted in reduced growth of juvenile coho salmon and steelhead compared to controls.

While most studies of the effects of turbidity and sedimentation on fish have focused on salmonids, it is reasonable to assume that excessive turbidity and sedimentation can have similar adverse effects on roach, and on stream habitat in general (particularly on food production [e.g., aquatic invertebrates]). Implementation of Mitigation Measure BIO-4 would reduce this impact to less than significant..

Contaminant Spills

Construction activities that occur in or near stream channels can result in the discharge of contaminants that are potentially lethal to fish. The operation of bulldozers, scrapers, excavators, backhoes, and other construction equipment can result in spills and leakage of fuel, lubricants, hydraulic fluids, and coolants. Other sources of potential contamination include asphalt, wet concrete, and other materials that may come into direct contact with surface water during construction activities.

The potential magnitude of biological effects resulting from contaminant spills depends on a number of factors, including the proximity of spill to the stream; the type, volume, concentration, and solubility of the contaminant; and the timing and duration of the spill. Contaminants can affect survival, growth, and reproductive success of fish and other aquatic organisms. The level of effect depends on the species, life stage sensitivity, duration of exposure, condition or health of exposed

individuals, and the physical and chemical properties of the water (e.g., temperature, dissolved oxygen). Implementation of Mitigation Measure BIO-4, above, would reduce this impact to less than significant.. In addition, dewatering and isolation of the construction and demolition sites would further eliminate or minimize the risk of direct contact of equipment fluids with surface water.

Stranding of Fish in Dewatered Areas

Dewatering of the construction site during construction of the new bridge and demolition of the existing bridge could result in fish mortality if fish become trapped in areas being dewatered. Implementation of Mitigation Measures BIO-11 and BIO-12, below, would reduce this impact to less than significant.

Mitigation Measure BIO-11: Implement Stream Diversion Restrictions

Any activity that temporarily diverts flow from any segment of the creeks will trigger implementation of the following constraint.

- Before flow is diverted, water diversion structures will be placed in the creek in such a way that flow to creek segments downstream from the construction site will not be interrupted.

Mitigation Measure BIO-12: Avoid Stranding Fish in Dewatered Areas

After water diversion structures are in place and before dewatering is initiated, qualified fish biologists who have authorization from CDFW will be on site to capture and relocate fish from areas to be dewatered. During dewatering, flow will be incrementally diverted from the affected stream reach at the upstream boundary, with diversion progressively increasing over a 4-hour period in the following increments: 50%, 75%, 90%, and 100%. Incremental reduction in flow allows fish that elude initial capture to move to deeper habitats where they can be captured and relocated before affected stream segments are completely dewatered. The biologists will relocate fish to suitable habitat outside of the construction area. The methods of removal and relocation of fish captured during the dewatering of the construction area will be implemented in close coordination with CDFW.

Temporary and Permanent Loss of Aquatic Habitat

The proposed Project would result in the temporary loss of aquatic habitat area, including habitat for Sacramento-San Joaquin roach. Stream dewatering would result in the temporary loss of aquatic habitat (substrate and water column) equal to the cumulative area of the creek channel being dewatered.

Construction of the new bridge abutments and installation of rock slope protection would result in no net permanent loss of aquatic habitat because the amount of permanent impact from the new bridge and rock slope protection would be offset by the removal of the existing bridge piers from the channel. Therefore, the Project is not expected to have long-term effects on Sacramento-San Joaquin roach habitat. The temporary loss of aquatic habitat would not be considered a significant impact.

The new bridge is also expected to result in additional shading of the creek as a result of the increase in bridge width; however, the small amount of shade increase is expected to have a negligible effect on habitat quality.

Hardhead

No focused surveys for hardhead were conducted. There are no CNDDB records for hardhead within 5 miles of the study area. However, the study area is encompassed by the known distribution of the species. The occurrence of hardhead in Granite Creek is unknown; however they occur in the South Fork American River and could also travel from the river into Granite Creek, depending on the time of year.

Impacts on hardhead include temporary adverse effects on water quality, increase in fish mortality in dewatered creek sections, and temporary and permanent loss of habitat area in Granite Creek. These impacts are the same as those described above for the Sacramento-San Joaquin roach. Implementation of Mitigation Measures BIO-4, BIO-11, and BIO-12, described above, would reduce these impacts to less than significant.

Sport Fish (Three Species)

Rainbow trout, brown trout, and smallmouth bass support recreational fisheries to varying degrees in the South Fork American River. No focused surveys for rainbow trout, brown trout, and smallmouth bass were conducted. In fall 2010, CDFW conducted snorkel surveys of the lower 3 miles of the South Fork American River upstream of Folsom Reservoir and observed rainbow trout, brown trout, and smallmouth bass to occur in this reach of the river. Based on CDFW's surveys, rainbow trout were the most frequently observed species in this section of the South Fork American River, followed by brown trout and smallmouth bass. There is no information on the occurrence of these species in Granite Creek; however, the relatively small size and existing habitat conditions in Granite Creek suggest that the potential is low although there do not appear to be any physical barriers preventing these species from moving into Granite Creek, provided that stream flows in Granite Creek provide adequate conditions for fish passage.

Impacts on rainbow trout, brown trout, and smallmouth bass would be similar to that described above for the Sacramento-San Joaquin roach and hardhead. Implementation of Mitigation Measures BIO-1 through BIO-4, BIO-11, and BIO-12, above, would reduce potential impacts on sport fish to less than significant.

b. Potentially Significant Unless Mitigation is Incorporated

Natural Plant Communities

The study area supports four natural communities of special concern: interior live oak woodland (0.81 acre), white alder riparian forest (0.24 acre), Granite Creek (0.12 acre), and seasonal stream (0.003 acre). The natural communities are described above. Impacts on Granite Creek and the seasonal stream are discussed under item "c" below.

Live Oak Woodland

Live oak woodland is the dominant community type in the study area. Interior live oak and grey pine are the predominant overstory trees, although ponderosa pine, blue oak, black oak, valley oak, and California bay are also present. A total of 98 oak trees were mapped in the study area. Small tree and shrub species include California buckeye, manzanita, buckbrush, dogwood, and toyon. Annual grasses and native and nonnative forbs also grow in the understory.

The proposed Project would result in direct permanent effects on live oak woodland in the study area. There is potential for temporary impacts on the oak woodland habitat during construction of

the improvements to the Bassi Road Bridge and use of the proposed staging area. Temporary impacts could include trimming of woody vegetation and trees that are to be retained or disturbance of the area within the dripline of trees to be retained. A tree survey was prepared for the project site to determine which trees would be removed for the Project. It is anticipated that approximately 71 trees in the oak woodland habitat (65 oak trees and 6 non-oak trees) would require removal for construction of the proposed Project. This number may be amended slightly with the final design, but not to a substantial degree.

Trees identified for removal are located south of the existing roadway in areas proposed for alteration of existing topography to accommodate the new bridge construction. Because the new bridge would be located south of the existing bridge, fill would be placed in the low-lying oak woodland area south of Bassi Road to raise elevations for the proposed approaches to the bridge. Trees proposed for removal in this fill area include up to 17 oaks, 1 pine, and 1 buckeye. The west bridge approach would require cut into an existing hillside that supports oak woodland. Trees proposed for removal in this cut area include up to 48 oaks and 4 pines.

The purpose of the Project is for safety only and to replace the existing bridge with one that meets current design standards. The Project would not create additional road capacity. Improvements are the minimum necessary in order to address safety on this stretch of roadway and to meet current design standards. Impacts to oak woodland habitat are also the minimum necessary to carry out these improvements.

The County obtained federal funding from the Highway Bridge Program to provide improvements that result in a functional bridge that meets current design standards. The Project design currently incorporates all means to limit tree removal while remaining within the necessary safety standards set forth in Caltrans Standard Specifications. Many trees were spared by reducing the shoulder widths from the maximum standard of 8 feet to 3 feet. Further, every effort to minimize impact to oak woodlands is incorporated into the design of the Project. Therefore, in accordance with the limited public safety exemption for certain road projects, as set forth in the July 10, 2012 Peremptory Writ of Mandate, the proposed Project is exempt from the General Plan Policy 7.4.4.4 oak woodland canopy retention and replacement standards for reasons outlined in the regulatory discussion in Chapter 2 (see Section 2.1.3.1). However, because CDFW considers oak woodland a sensitive natural community, and because it provides an important food source for wildlife, and nesting and roosting habitat for birds and bats, the loss of 71 trees is considered a significant impact. Implementation of Mitigation Measures BIO-1 through BIO-3 and BIO-7, above, and Mitigation Measure BIO-14 below, would reduce impacts to less than significant.

Mitigation Measure BIO-1: Install Construction Barrier Fencing around the Construction Area to Protect Sensitive Biological Resources to Be Avoided

Please refer to the discussion of BIO-1, under item “a.”

Mitigation Measure BIO-2: Conduct Environmental Awareness Training for Construction Employees

Please refer to the discussion of BIO-2, under item “a.”

Mitigation Measure BIO-3: Retain a Qualified Biologist to Conduct Periodic Monitoring during Construction

Please refer to the discussion of BIO-3, under item "a."

Mitigation Measure BIO-7: Avoid and Minimize Potential Disturbance of Live Oak Woodland and White Alder Riparian Forest Habitat

Please refer to the discussion of BIO-7, under item "a."

Mitigation Measure BIO-13: Compensate for Loss of Oak Trees

The County will mitigate for the loss of approximately 65 oak trees at a ratio no less than 2:1, consistent with the project's Compensatory Mitigation and Monitoring Plan (Appendix B) designed to offset direct permanent impacts on native trees that will result from construction of the project. The County will prepare an oak mitigation plan when the tree planting locations have been determined. Details of the number of oak trees to be planted, based on the final design, as well as the specific planting locations, maintenance and irrigation needs, monitoring requirements, and success criteria will be included in the oak mitigation plan. The Compensatory Mitigation and Monitoring Plan contains additional performance criteria relating to monitoring and survival that will also be followed. The location of the tree planting site will be determined prior to project permitting. Due to the limited area of County right-of-way in the study area available for oak tree compensation planting, an off-site planting location will likely be considered to supplement the available area on-site.

White Alder Riparian Forest

White alder riparian forest borders Granite Creek in the study area. The average width of the habitat is approximately 30 feet. Near the Bassi Road Bridge, the riparian community is predominantly white alder and red willow in the overstory, with dense Himalayan blackberry on the creek banks near the bridge. A total of 29 native riparian trees were mapped in the study area. Fig and tree-of-heaven saplings also occur in this community. Greater periwinkle occurs south of the bridge on the creek banks. The Himalayan blackberry does not occur upstream where the area around the creek is grazed.

The proposed Project would result in direct permanent effects on white alder riparian forest in the study area (Figure 4). There is potential for temporary impacts on the riparian habitat during construction of the improvements to Bassi Road Bridge and use of the proposed staging area. Temporary impacts could include trimming of woody vegetation and trees that are to be retained or disturbance of the area within the dripline of trees to be retained. A tree survey was prepared for the project site to determine which trees would be affected. It is anticipated that approximately 22 native riparian trees would require removal for construction of the proposed Project. This number may be amended slightly with the final design, but not to a substantial degree.

Trees identified for removal are located south of the existing roadway in areas proposed for alteration of existing topography to accommodate construction of the bridge and bridge approaches. Because the new bridge would be located south of the existing bridge, the riparian area around Granite Creek would require placement of fill to raise elevations for the proposed approaches to the bridge. Trees proposed for removal in this fill area include 1 buckeye and 21 trees of other species, including alder and willow. Implementation of the Streambed Alteration Agreement from CDFW would require compensation for the loss of riparian trees. Because riparian forest has been

substantially reduced from its historic distribution and is considered a sensitive natural community, the loss of riparian trees is considered significant. Implementation of Mitigation Measures BIO-1 through BIO-3 and BIO-7, above, and Mitigation Measure BIO-14, below, would reduce this impact to less than significant.

Mitigation Measure BIO-14. Compensate for Loss of Riparian Trees

The County will compensate for the loss of native riparian trees by replacing trees at a 2:1 ratio, or as required by the Streambed Alteration Agreement, as described in the Compensatory Mitigation and Monitoring Plan (Appendix B).

Invasive Plants

The introduction and spread of invasive plants can adversely affect natural plant communities by displacing native plant species that provide shelter and forage for wildlife species. Roads, highways, and related construction projects are some of the principal dispersal pathways for invasive plant species. Table 3.2.4-1 identifies the invasive plant species located in the study area.

Table 3.2.4-1. Invasive Plant Species Identified in the Study Area

Species	CDFA	Cal-IPC
Tree-of-heaven (*Ailanthus altissima*)	C	Moderate
Wild oat (*Avena fatua*)	–	Moderate
Ripgut brome (*Bromus diandrus*)	–	Moderate
Soft chess (*Bromus hordeaceus*)	–	Limited
Italian thistle (*Carduus pycnocephalus* ssp. *pycnocephalus*)	C	Moderate
Yellow star-thistle (*Centaurea solstitialis*)	C	High
Skeleton weed (*Chondrilla juncea*)	A	Moderate
Bull thistle (*Cirsium vulgare*)	C	Moderate
Bermuda grass (*Cynodon dactylon*)	C	Moderate
Hedgehog dogtail (*Cynosurus echinatus*)	–	Moderate
Scotch broom (*Cytisis scoparius*)	C	High
Red-stemmed filaree (*Erodium cicutarium*)	–	Limited
Foxtail fescue (*Festuca myuros*)	–	Moderate
Italian ryegrass (*Festuca perennis*)	–	High
Fig (*Ficus carica*)	–	Moderate
Cranesbill (*Geranium dissectum*)	–	Limited
English ivy (*Hedera helix*)	–	High
Velvet grass (*Holcus lanatus*)	–	Moderate
Hare barley (*Hordeum murinum* ssp. *leporinum*)	–	Moderate
Klamathweed (*Hypericum perforatum* ssp. *perforatum*)	C	Moderate
Smooth cat's ear (*Hypochaeris glabra*)	–	Limited
Hyssop loosestrife (*Lythrum hyssopifolia*)	–	Moderate
Narrow-leaved plantain (*Plantago lanceolata*)	–	Limited
Cherry plum (*Prunus cerasifera*)	–	Limited
Himalayan blackberry (*Rubus armeniacus* [*discolor*])	–	High
Sheep sorrel (*Rumex acetosella*)	–	Moderate
Brazilian pepper tree (*Schinus terebinthifolius*)	–	Limited
Hedgeparsley (*Torilis arvensis*)	–	Moderate
Rose clover (*Trifolium hirtum*)	–	Moderate
Woolly mullein (*Verbascum thapsus*)	–	Limited
Bigleaf periwinkle (*Vinca major*)	–	Moderate

Species	CDFA	Cal-IPC

Notes: The California Department of Agriculture (CDFA) and California Invasive Plant Council (Cal-IPC) lists assign ratings that reflect the CDFA and Cal-IPC views of the statewide importance of the pest, likelihood that eradication or control efforts would be successful, and present distribution of the pest in the state. These ratings are guidelines that indicate the most appropriate action to take against a pest under general circumstances. The Cal-IPC species list is more inclusive than the CDFA list.

The **CDFA categories** indicated in the table are defined as follows:

A: Eradication, containment, rejection, or other holding action at the state-county level. Quarantine interceptions to be rejected or treated at any point in the state.

B: Eradication, containment, control or other holding action at the discretion of the county agricultural commissioner.

C: State-endorsed holding action and eradication only when found in a nursery; action to retard spread outside nurseries at the discretion of the county agricultural commissioner.

The **Cal-IPC categories** indicated in the table are defined as follows:

High: Species with severe ecological impacts, high rates of dispersal and establishment, and usually widely distributed.

Moderate: Species with substantial and apparent ecological impacts, moderate to high rates of dispersal, establishment dependent on disturbance, and limited to widespread distribution.

Limited: Species with minor ecological impacts, low to moderate rates of invasion, limited distribution, and locally persistent and problematic.

These species occur on the banks of Granite Creek, at the edges of Bassi Road, and scattered in the oak woodland understory. The infestation of the study area by these species is generally limited, occurring primarily as scattered individuals. The proposed Project has the potential to create additional disturbed areas that could become infested with invasive plants, which could be a significant impact. Implementation of Mitigation Measures BIO-1 through BIO-3 and BIO-7, described above, and BIO-15, below, would reduce this impact to less than significant.

Mitigation Measure BIO-15: Avoid the Introduction and Spread of Invasive Plants

The County or its contractor will be responsible for avoiding the introduction of new invasive plants and the spread of invasive plants previously documented in the study area. Accordingly, the following measures will be implemented during construction.

- Minimize surface disturbance to the greatest extent feasible to complete the work; and
- Use weed-free imported erosion-control materials (or rice straw in upland areas).

c. Potentially Significant Unless Mitigation is Incorporated

No wetlands were identified in the study area. However, Granite Creek and the seasonal stream were identified as other waters of the United States within USACE jurisdiction under Section 404 of the CWA.

Granite Creek

Granite Creek crosses near the middle of the study area with an average width of 20 feet at the OHWM. The creek bed is unvegetated, with sand, gravel, cobble, and boulder substrate. The banks of the creek are low to steeply sloped with grasses, forbs, rocks, and patches of Himalayan blackberry. The water depth under the bridge was approximately 1 foot at the time of the December 2012 field survey.

Permanent and temporary impacts would occur in Granite Creek for construction of the proposed Project. Permanent impacts would occur due to the construction of bridge abutments and placement of RSP within the OHWM of Granite Creek. The total amount of fill to be placed in Granite Creek for the abutments and RSP would be 98 square feet or approximately 0.002 acre. This impact would be

fully compensated by the removal of the existing bridge piers from Granite Creek, which would create 0.002 acre of open water in the creek.

Temporary impacts in Granite Creek would occur due to diversion or dewatering of the creek during construction. Diversion methods, which could include water pillows, rock, sandbags, sheet piling, pipes, or cofferdams would directly affect up to 0.001 acre and would be considered temporary fill within a water of the U.S.

Indirect effects on water quality in Granite Creek and the nearby South Fork American River could occur due to erosion and sedimentation into the creek as a result of construction activities involving earth moving and demolition of the existing bridge.

Both permanent fill for bridge abutments and RSP, and temporary fill for diversion structures within the OHWM of Granite Creek, would be regulated by the USACE under Section 404 nationwide permits. Nationwide Permit #14 (Linear Transportation Projects) would most likely cover the permanent fill resulting from Project construction, and Nationwide Permit #33 (Temporary Construction, Access, and Dewatering) would be for the creek diversion impacts. Work in Granite Creek would also be subject to any additional requirements in a Streambed Alteration Agreement from the CDFW. Implementation of Mitigation Measure BIO-4 to protect water quality and prevent erosion and sedimentation in drainages would prevent indirect impacts on Granite Creek. The County and its contractor would restore the temporarily disturbed portions of the perennial drainage habitat in Granite Creek to original grade and preconstruction conditions following construction and no additional compensation would be required.

Mitigation Measure BIO-4: Protect Water Quality and Prevent Erosion and Sedimentation in Drainages

Please refer to the discussion of BIO-4, under item "a."

Seasonal Stream

A portion of an unnamed seasonal stream that is a tributary of Granite Creek is located in the southern portion of the study area. The average width of the stream is 4 feet. The stream had a small amount of emergent grassy vegetation at the time of the survey, and likely fills in with annual grassland species when it is dry in the late spring and summer. The substrate is sand, gravel, and cobble. The water depth was 3 to 4 inches at the time of the December 2012 field survey, which followed 3 days of rainfall.

The proposed Project footprint would not result in any permanent direct impacts on the unnamed seasonal stream in the study area. Construction activities, including use of equipment in and around the stream and stockpiling of soil, could temporarily or indirectly affect the stream bed and water quality within the stream. Implementation of Mitigation Measure BIO-4 to protect water quality and prevent erosion and sedimentation in drainages would minimize impacts on the seasonal stream.

d. Less than Significant Impact

Migratory birds and fish are discussed above under item "a".

Important Biological Corridor

The Project is located within a County-designated Important Biological Corridor (IBC). Policy 7.4.2.9 of the El Dorado County General Plan identifies and protects areas designated as an IBC. The IBC

overlay applies to lands identified as having high wildlife habitat values because of extent, habitat function, connectivity, and other factors. Applicable provisions in the policy include no hindrances to wildlife movement (El Dorado County 2004a).

The intent and emphasis of the Open Space land use designation and of the non-disturbance policy is to ensure continued viability of contiguous or interdependent habitat areas and the preservation of all movement corridors between related habitats. The new bridge would have a wider space between abutments. The increased width between abutments would improve the terrestrial wildlife movement corridor in the study area. The Project would not result in impacts to wildlife movement within the IBC.

Construction of the Project could temporarily disrupt movement of diurnal wildlife species that occur in or adjacent to the study area. Construction activities would not disrupt or impede nocturnal wildlife movement. Although construction disturbance may temporarily hinder wildlife movements within the study area, the impact is less than significant due to its short-term nature and because the increased bridge length would result in an improved wildlife corridor upon completion of the Project.

e. Less than Significant Impact

The El Dorado County Oak Woodland Management Plan governs the conservation of native oaks in the County. The Management Plan states that when oak canopy removal is necessary to complete County capital improvement projects, such projects are exempt from the canopy retention and replacement standards. This exemption applies to road widening and realignments which are necessary to increase capacity, to protect the public's health, and to improve the safe movement of people and goods in existing public road rights-of-way, as well as acquired rights-of-way necessary to complete the Project.

As this Project is a component of the capital improvement plan and is necessary to protect the health, and to improve the safe movement of people and goods in existing public road rights-of-way as well as acquired rights-of-way necessary to complete the Project, the Project meets the exemption criteria.

The Management Plan calls for the County to minimize, where feasible, the impacts to oaks through the design process and right-of-way acquisition for such projects. The design of this Project has used avoidance to the best extent feasible. Therefore, the Project is not in conflict with the local policy and no mitigation is necessary.

Nevertheless, the Project would result in the removal of approximately 71 native trees, including 65 oaks and 22 native riparian trees. Compensation for the loss of these trees would be provided through implementation of Mitigation Measures BIO-13 and BIO-14, discussed above under item "b."

f. Less than Significant Impact

The Project is not located in an area covered by a habitat or natural community conservation plan. The Project is consistent with the Oak Woodland Management Plan as it meets the criteria for exemption from the plan, as described above under item "e". El Dorado County is currently preparing an Integrated Natural Resources Management Plan to identify important habitats in the county and establish a program for the management and preservation of these areas (El Dorado County 2004a). The plan is still in progress and is not anticipated to be adopted until after this Project has been completed.

3.2.5 Cultural Resources

V. CULTURAL RESOURCES—Would the project:	*Potentially Significant Impact*	*Potentially Significant Unless Mitigation is Incorporated*	*Less than Significant Impact*	*No Impact*
a. Cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5?	☐	☐	☒	☐
b. Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?	☐	☐	☒	☐
c. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☐	☐	☒
d. Disturb any human remains, including those interred outside of formal cemeteries?	☐	☐	☒	☐

Environmental Setting

The Project is located in the community of Lotus, 0.16 mile west of Lotus Road, in unincorporated El Dorado County. The Bassi Road Bridge spans Granite Creek, a perennially stream that flows into the South Fork of the American River.

The Project lies on Mesozoic granitic rocks and metamorphosed Paleozoic and Mesozoic marine sedimentary and volcanic rocks. The soils of the study area are identified as Placer diggings which are typical in areas where extensive historic era placer mining has occurred (Rogers 1974). Placer diggings consist of areas of stony, cobbly, and gravelly material that support some fine sand and silt (Rogers 1974).

Background research was conducted to identify any known cultural resources within or adjacent to the project area. An architectural historian surveyed and recorded built-environment cultural resources in the Area of Potential Effect (APE) during December of 2012 and documented the findings in the Historical Resources Evaluation Report (HRER) (ICF International 2013b). Archaeologists conducted an intensive pedestrian survey of the APE in December of 2012. These findings are documented in the Archaeological Survey Report (ASR) (ICF International 2013c).

Potential Environmental Effects

a. Less than Significant Impact

One residential complex in the APE was formally evaluated under National Register of Historic Places (NRHP) and California Register of Historical Resources (CRHR) criteria. The property includes two residences, a well house, and various rock walls. The property was found not eligible for listing in the NRHP or the CRHR.

Uniontown Cemetery is also located within the same parcel as the residential complex; however, the cemetery is not associated with the buildings and does not contribute to their setting. El Dorado County maintains the cemetery. In consultation with Caltrans, the County determined that the Project's limits of disturbance would not affect the Uniontown Cemetery and there would be no disturbance of native soil in the area of the cemetery. Due to the possibility of unmarked graves outside of the formal cemetery boundaries, areas within 100 feet of the cemetery would be protected against inadvertent damage during project construction through the establishment of an Environmentally Sensitive Area (ESA) and implementation of the ESA Action Plan prepared for the Project. An eligibility evaluation of the Uniontown Cemetery was not conducted but the cemetery is considered eligible for listing for the NRHP only since an ESA would be established and protected for construction of the Project. For the purposes of establishing an ESA, a finding of No Adverse Effect with Standard Conditions-ESA was made.

The Bassi Road Bridge (25C0071- Granite Creek) was previously determined not eligible for listing in the NRHP or the CRHR as a result of the state-wide historic bridge inventory conducted by Caltrans.

b. Less than Significant Impact

No archaeological resources were identified in the APE, although the Uniontown Cemetery is located adjacent to the project area. The archaeological sensitivity assessment indicates the area has a very low potential for buried prehistoric resources because of its highly disturbed nature from historic era placer mining (ICF International 2013c). An ESA will be established to protect the cemetery against inadvertent damage. However, there is still a possibility for accidental discovery of archaeological resources during construction. The Project would implement County policies and state laws to protect any buried archeological resources discovered during Project construction. As described in the *Project Description*, the contractor would be required to stop all work in the vicinity of discovered resources and have a qualified archaeologist evaluate the nature and significance of the find prior to resuming any work in the area of the discovery.

c. No Impact

Paleontological resources in El Dorado County have been found in Pleistocene channel deposits and limestone caves in the southern portion of the county. In addition, vertebrate fossils have been found in the Mehrten formation. None of these formations occur in the project area (El Dorado County 2004b). There are no unique geological features in the project area. There would be no impact.

d. Less than Significant Impact

As noted above, the Uniontown Cemetery is located adjacent to the project area. Due to the possibility of unmarked graves outside the formal cemetery boundaries, areas within 100 feet of the cemetery will be protected against inadvertent damage during Project construction through establishment of the ESA and ESA Action Plan. The ESA Action Plan establishes procedures for monitoring, fencing, and reporting during the Project's construction period.

If human remains are discovered during Project construction, the County would be notified and compliance would be required with the provisions of the California Health and Safety Code 7050.5 and the Public Resources Code 5097.94 et seq.

3.2.6 Geology and Soils

VI. GEOLOGY AND SOILS—Would the project:	*Potentially Significant Impact*	*Potentially Significant Unless Mitigation is Incorporated*	*Less than Significant Impact*	*No Impact*
a. Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	☐	☐	☐	☒
ii. Strong seismic ground shaking?	☐	☐	☐	☒
iii. Seismic-related ground failure, including liquefaction?	☐	☐	☐	☒
iv. Landslides?	☐	☐	☐	☒
b. Result in substantial soil erosion or the loss of topsoil?	☐	☐	☒	☐
c. Be located on a geologic unit or soil that is unstable or that would become unstable as a result of the project and potentially result in an onsite or offsite landslide, lateral spreading, subsidence, liquefaction, or collapse?	☐	☐	☐	☒
d. Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	☐	☐	☐	☒
e. Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems in areas where sewers are not available for the disposal of wastewater?	☐	☐	☐	☒

Environmental Setting

Regional Geology: El Dorado County is located along the western slope of the Sierra Nevada Geomorphic Province. The Sierra Nevada is a tilted fault block nearly 400-miles long which starts near Bakersfield to the south and stretches north to just south of Lassen Peak. The Sierra Nevada's east face is high, rugged, with multiple scarps, contrasting with the gentle western slope (average 2-percent) that disappears under the sediments of the Great Valley (Group Delta Consultants 2013a).

Project Area Geology: The project area is underlain by three geologic formations. Dominant among the three are the Mesozoic (250-65 million years ago) granitic rocks. This formation represents the

Sierra Nevada batholith. Small areas of unidentified, possibly Paleozoic (542-251 million years ago) rocks are situated elsewhere in the project area. Finally, minor amounts of andesitic conglomerate, sandstone, and breccia of the Mio-Pliocene (23.0-2.6 million years ago) Mehrten Formation are located in the project area (ICF International 2013b). These formations are almost completely obscured by more recent soil formation.

Seismicity and Fault Systems: The Project is located in an area of low seismicity. Active faulting has not been mapped as occurring across or adjacent to the project site. The closest active fault is the Foothills Fault System northern reach section (Spenceville fault), located approximately 20 miles northwest of the project site. The project site does not lie within or adjacent to an Alquist-Priolo Earthquake Fault Zone (Group Delta Consultants 2013a).

Soils: There is one mapped soil unit on the project site, Placer diggings (Natural Resources Conservation Service 2012). Placer diggings consist of areas of stony, cobbly, and gravelly material that support some fine sand and silt (ICF international 2013b). This soil unit is typical in areas where placer mining has occurred.

Potential Environmental Effects

a. No Impact

The Project is not located within an Alquist-Priolo Earthquake Fault Zone and the area is also considered to have relatively low potential for seismic activity. The project site is underlain by shallow granitic bedrock, boulders, overlain by thin layer of decomposed granite consisting of gravel, sand and silt, which generally has a very low susceptibility to liquefaction. All soils on site will be stabilized after construction. The project site has no known history of subsidence, rock falls/landslides, or embankment failures (Group Delta Consultants 2013a). No impacts are anticipated.

b. Less than Significant

The Project would require grading in the area surrounding the bridge, but primarily to the south where the bridge replacement and roadway realignment would occur. Grading would occur in an area of 1.56-acres. The contractor must prepare a construction-related Storm Water Pollution Prevention Plan (SWPPP), consistent with section 402 of the Clean Water Act, and construction activities will include implementation of storm water runoff best management practices (BMPs) identified in the SWPPP. Application of these requirements and measures would prevent substantial erosion or topsoil loss. Following construction, all disturbed areas not paved would be revegetated consistent with measures identified in the contract special provisions to ensure long-term soil stabilization.

c. No Impact

The Project lies on Mesozoic granitic rocks and metamorphosed Paleozoic and Mesozoic marine sedimentary and volcanic rocks. The soils underlying the Project have a very low susceptibility to liquefaction and are not susceptible to landslide, lateral spreading, subsidence, liquefaction, or collapse. No impacts are anticipated.

d. No Impact

The soil unit in the project area, Placer diggings, is not an expansive soil as defined in Table 18-1-B of the Uniform Building Code. Construction of the Project would comply with County building code standards. There would be no impact.

e. No Impact

The proposed Project is a surface transportation project, not a residential, commercial, or industrial development. Neither septic tanks nor alternative wastewater disposal systems are part of the Project.

3.2.7 Hazards and Hazardous Materials

VII. HAZARDS AND HAZARDOUS MATERIALS—Would the project:	*Potentially Significant Impact*	*Potentially Significant Unless Mitigation is Incorporated*	*Less than Significant Impact*	*No Impact*
a. Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☒	☐
b. Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☒	☐	☐
c. Emit hazardous emissions or involve handling hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☐	☒
d. Be located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☐	☒
e. Be located within an airport land use plan area or, where such a plan has not been adopted, be within two miles of a public airport or public use airport, and result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☒
f. Be located within the vicinity of a private airstrip and result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☒
g. Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☒	☐

VII. HAZARDS AND HAZARDOUS MATERIALS—Would the project:	*Potentially Significant Impact*	*Potentially Significant Unless Mitigation is Incorporated*	*Less than Significant Impact*	*No Impact*
h. Expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	☐	☐	☐	☒

Regulatory Setting

A material is considered hazardous if it appears on a list of hazardous materials prepared by a Federal, State, or local agency, or if it has characteristics defined as hazardous by such an agency. A hazardous material is defined in Title 22 of the California Code of Regulations (CCR) as follows:

> A substance or combination of substances which, because of its quantity, concentration, or physical, chemical or infectious characteristics, may either (1) cause, or significantly contribute to, an increase in mortality or an increase in serious irreversible, or incapacitating reversible, illness; or (2) pose a substantial present or potential hazard to human health or environment when improperly treated, stored, transported or disposed of or otherwise managed. (California Code of Regulations, Title 22, Section 66261.10)

Chemical and physical properties cause a substance to be considered hazardous. Such properties include toxicity, ignitability, corrosivity, and reactivity. CCR, Title 22, Sections 66261.20-66261.24 define the aforementioned properties. The release of hazardous materials into the environment could potentially contaminate soils, surface water, and groundwater supplies. Under Government Code Section 65962.5, the California Department of Toxic Substances Control (DTSC) maintains a list of hazardous substance sites. This list, referred to as the "Cortese List", includes CALSITE hazardous material sites, sites with leaking underground storage tanks, and landfills with evidence of groundwater contamination. In addition, the El Dorado County Community Development Agency, Environmental Management Division (EMD) maintains records of toxic or hazardous material incidents, and the RWQCB keeps files on hazardous material sites.

Most hazardous materials regulation and enforcement in El Dorado County is overseen by the El Dorado County EMD, which refers large cases of hazardous materials contamination or violations to the RWQCB and the State DTSC. Other agencies, such as the EDCAQMD and the Federal and State Occupational Safety and Health Administrations (OSHA), may also be involved when issues related to hazardous materials arise.

Environmental Setting

An Initial Site Assessment (ISA) was prepared for the Project to evaluate current and historical conditions of the project site to identify recognized environmental conditions within the site. A recognized environmental condition is defined as the presence of or likely presence of any hazardous substances or petroleum products on a property under conditions that indicate an existing release, a past release, or a material threat of a release of any hazardous substances or petroleum products even under conditions in compliance with laws.

A database search of government records prepared for the project alignment was reviewed, as well as the additional agency files for the site and adjacent properties. In addition, historic aerial photography and historic topographic maps data provided in the Environmental Data Resources, Inc. report were reviewed. No evidence of the potential for recognized environmental conditions or activity and use limitations was found as a result of review of this information. A site visit was performed and documented in January 2013, to observe current conditions along the route (Group Delta Consultants 2013). Five areas of concern were identified during the site visit, including the following:

- Lead-based paint (LBP): Standard black and yellow striping was observed down the center of Bassi Road up to the transition from two lanes to one lane at the bridge approaches. White paint was observed on all sides of the bridge railing. Since the age of the paint is unknown, it is assumed that it may contain an LBP, which is a recognized environmental condition.
- Asbestos containing materials (ACM): ACM may be present in materials used to construct the existing bridge. ACM were banned by the Environmental Protection Agency (EPA) in 1989. Revisions to regulations issued by OSHA on June 30, 1995, require that all thermal systems insulation, surfacing materials, and resilient flooring materials installed prior to 1981 be considered Presumed Asbestos Containing Materials and treated accordingly. ACMs have also been documented in the rail shim sheet packing, bearing pads, support piers, and expansion joint material of bridges.
- Treated Wood: Power poles were observed east and southwest of the project site on adjacent properties. Treated wood (or treated wood waste) is potentially present with the study area in the form of power poles, and sign and fence posts. These potentially treated wood structures may have been treated with preserving chemicals that may be hazardous (carcinogenic) and include, but are not limited to, arsenic, chromium, copper, creosote, and pentachlorophenal. As noted in the Project Description, overhead utilities would not likely be relocated or affected by Project construction.
- Polychlorinated biphenyl's: An overhead power pole mounted electrical transformer was observed on adjacent private property located southeast of the bridge. The power pole with the electrical transformer is located outside the project area and would not be affected by Project construction.
- Propane tank: A small above ground residential propane tank was observed on the adjacent property east of the bridge and is at the edge of the limit of disturbance boundary. However, the propane tank would not be relocated or affected by Project construction.
- Radon: According to the EDR database review El Dorado County is located within the Federal EPA Radon Zone No. 2 (moderate potential). Zone 2 refers to an indoor potential average level of Radon of greater than or equal to 2.0 pCi/L and less than or equal to 4.0 pCi/L. Radon is an invisible, odorless, radioactive gas produced by the decay of uranium in rock and soil. Radon gas enters a building through cracks in the foundation, areas surrounding drainage pipes, and other openings in the foundation and walls. Buildings with basements and concrete slab foundations are more susceptible to elevated radon gas levels. The radon decay products, once inside a building, may become attached to dust particles and inhaled, or the decayed radioactive particles alone may be inhaled and cause damage to lung tissue. Radon exposition associated with the proposed bridge construction and structure type is considered very low to non-exposure hazard. (Group Delta Consultants 2013)

Potential Environmental Effects

a. Less than Significant Impact

Small amounts of hazardous materials would be used during construction activities (i.e., equipment maintenance, fuel, solvents, roadway resurfacing and re-striping materials). Hazardous materials would only be used during construction of the Project, and any hazardous material uses would be required to comply with all applicable local, state, and federal standards associated with the handling and storage of hazardous materials. Use of hazardous materials in accordance with applicable standards ensures that any exposure of the public to hazardous materials would have a less-than-significant impact.

b. Potentially Significant Unless Mitigation is Incorporated

Demolition of the bridge could expose construction workers to hazardous materials including LBP and ACM if those materials are present. Implementation of Mitigation Measure HAZ-1 and use of hazardous materials in accordance with applicable standards ensure that any exposure of workers or the public to hazardous materials would have a less than significant impact.

Mitigation Measure HAZ-1: Conduct Surveys for Hazardous Materials

Prior to demolition or modification of the existing bridge and roadway, surveys and testing will be conducted for lead-based paint and ACM by certified consultants. If present, the materials will be removed and disposed of in accordance with all applicable laws and regulations, including Caltrans Construction Program Procedure Bulletin 99-2 (CPB 99-2).

c. No Impact

The proposed Project is not located near an existing or proposed school. The nearest schools are over two miles away to the south and northeast. As noted above, the Project would involve the short-term handling of hazardous materials during construction. Handling and storage of hazardous materials during construction would comply with all applicable local, state, and federal standards.

d. No Impact

No hazardous material sites occur in the project area (Group Delta Consultants 2013b).

e. No Impact

The Project is not located within an airport land use plan area or within two miles of a public or public use airport.

f. No Impact

The Project is not located within the vicinity of a private airstrip.

g. Less than Significant

The existing bridge would remain open during construction of the new bridge, with the exception of occasional short-term closures. During the closures, one-way reversing traffic would be controlled by flaggers. Access for emergency vehicles through the Project area will be maintained at all times. A Traffic Control/Detour Plan would be prepared and implemented, in coordination with law enforcement and emergency service providers.

h. No Impact

The Project would not result in a new or increased exposure of people or structures to a significant risk of loss, injury, or death involving wildland fires.

3.2.8 Hydrology and Water Quality

VIII. HYDROLOGY AND WATER QUALITY—Would the project:	*Potentially Significant Impact*	*Potentially Significant Unless Mitigation is Incorporated*	*Less than Significant Impact*	*No Impact*
a. Violate any water quality standards or waste discharge requirements?	☐	☐	☒	☐
b. Substantially deplete groundwater supplies or interfere substantially with groundwater recharge, resulting in a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level that would not support existing land uses or planned uses for which permits have been granted)?	☐	☐	☐	☒
c. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner that would result in substantial erosion or siltation onsite or offsite?	☐	☒	☐	☐
d. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner that would result in flooding onsite or offsite?	☐	☐	☒	☐
e. Create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	☐	☐	☒	☐
f. Otherwise substantially degrade water quality?	☐	☐	☐	☒
g. Place housing within a 100-year flood hazard area, as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	☐	☐	☐	☒
h. Place within a 100-year flood hazard area structures that would impede or redirect floodflows?	☐	☐	☒	☐

VIII. HYDROLOGY AND WATER QUALITY—Would the project:	*Potentially Significant Impact*	*Potentially Significant Unless Mitigation is Incorporated*	*Less than Significant Impact*	*No Impact*
i. Expose people or structures to a significant risk of loss, injury, or death involving flooding, including flooding as a result of the failure of a levee or dam?	☐	☐	☒	☐
j. Contribute to inundation by seiche, tsunami, or mudflow?	☐	☐	☐	☒

Environmental Setting

The Project is located in the South Fork American Watershed (hydrologic unit code 18020129) (U.S. Environmental Protection Agency 2013). Granite Creek, a perennial stream flows to the South Fork American River, approximately 125 feet downstream of the study area. Additionally, a portion of an unnamed seasonal tributary of Granite Creek is located in the study area. Two erosional ditches flow to a roadside ditch south of Bassi Road on the west end of the project area. The roadside ditch drains runoff to Granite Creek.

Bridge 25C0071 is located within the South Fork American River's 100-year flood hazard zone (Federal Emergency Management Agency 2008). The bridge is also located in the dam failure inundation zone of the Chili Bar and Slab Creek Dams (El Dorado County2004a).

Potential Environmental Effects

a. Less than Significant

Replacing the Bassi Road Bridge would not violate water quality or waste discharge requirements. Water quality objectives would be met through adherence to construction provisions, precautions, and stipulations as described in the NPDES permit, Section 404 CWA permit, Section 401 Water Quality Certification and 1602 Streambed Alteration Agreement. Coverage under the Statewide General Permit for Discharges of Storm Water Associated with Construction Activity will be obtained. In accordance with the provisions of the General Permit, the County will require the contractor to prepare, submit, and implement a Storm Water Pollution Prevention Plan (SWPPP) to reduce or minimize discharge of pollutants from construction activities. Following construction, all disturbed areas not paved would be mitigated as described in Section 3.2.4, *Biological Resources*, to ensure long-term soil stabilization and reduce or minimize violation of water quality standards.

b. No Impact

The Project would not involve any withdrawals from an aquifer or groundwater table.

c. Potentially Significant Unless Mitigation is Incorporated

As described in the *Project Description*, construction of the new bridge and abutment excavation may require dewatering or diversion of Granite Creek. It is anticipated the contractor would use a combination of sandbags and pipes to convey creek flows through the project site. Diversion methods may include the use of water pillows, rock, sandbags, sheet piling, pipes, or coffer dams.

The diversion methods would not change the course of the creek but would temporarily change the location where the water flows within the existing creek bed. The existing bridge would be removed after the completion of the new bridge. Bridge realignment would require realigning the roadside ditch to maintain its function.

The Project would not alter the course of the erosional ditches or unnamed seasonal tributary of Granite Creek. In addition, the onsite drainage patterns would not be substantially altered. Granite Creek and the erosional ditches would retain their approximate function and capacity at the completion of the Project. Rock slope protection would be used to protect the creek banks and bridge abutment from scour.

With implementation of Mitigation Measure BIO-4, this impact would be reduced to less than significant.

Mitigation Measure BIO-4: Protect Water Quality and Prevent Erosion and Sedimentation in Drainages

This measure is described in detail under in Section 3.2.4, *Biological Resources*, above.

d. Less than Significant

Though the new bridge would be located just upstream of the current bridge, the Project would not alter the course of Granite Creek or substantially alter drainage patterns within the project area that would cause flooding on- or off-site.

e. Less than Significant

The replacement of Bridge 25C0071 would not provide additional sources of runoff compared with the existing bridge. The increase in impervious surface area resulting from construction of the new bridge and realignment of the approaches is not expected to contribute to a substantial increase in water runoff from the site.

f. No Impact

No additional impacts other than those discussed above are anticipated.

g. No Impact

The Project is a roadway improvement project, and no housing development is associated with the Project.

h. Less than Significant

The Project proposes to replace the existing bridge just upstream of the existing location within the 100-year flood hazard area. A detailed hydraulic evaluation for the new bridge location was prepared and used to design the new bridge so as not impede or redirect 100-year flood flows (El Dorado County 2012). In addition, the longer span would likely improve the existing flow conditions. The Project would also incorporate the conditions of permits and approvals required from federal, state, and local agencies resulting in a less-than-significant impact.

i. Less than Significant

The Project is located within the inundation zone of the Chili Bar and Slab Creek Dams. The Chili Bar Dam is located over seven miles upstream on the South Fork American River. As noted above, the

new bridge was designed to not impede or redirect flood flows and it is anticipated the flow conditions would be improved in Granite Creek. The Project would not expose people or other structures to substantial risks to life or property from flooding nor would it increase the risk associated with inundation hazards. The impact is considered less than significant.

j. No Impact

The Project is not in an area subject to seiche, tsunami or mudflow.

3.2.9 Land Use and Planning

IX. LAND USE AND PLANNING—Would the project:		*Potentially Significant Impact*	*Potentially Significant Unless Mitigation is Incorporated*	*Less than Significant Impact*	*No Impact*
a.	Physically divide an established community?	☐	☐	☐	☒
b.	Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to, a general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☐	☒
c.	Conflict with any applicable habitat conservation plan or natural community conservation plan?	☐	☐	☐	☒

Environmental Setting

The 2004 El Dorado County General Plan is the relevant land use plan for the project area. Land use designation surrounding the bridge is Rural Residential (RR) (one dwelling unit per 10 to 160 acres) and IBC (El Dorado County 2004a). The IBC designation is discussed above under Section 3.2.4, *Biological Resources*.

Potential Environmental Effects

a. No Impact

The Project proposes to replace the existing bridge on a new alignment just upstream of the existing bridge (Figure 3) and would not physically divide an established community.

b. No Impact

The Project would not conflict with the goals, objectives or policies intended to mitigate environmental impacts adopted in the 2004 El Dorado County General Plan. Replacing the Bassi Road Bridge is identified as a needed improvement (project number 77128) in the El Dorado County Community Development Agency, Transportation Division's 2013 Adopted Capital Improvement Program (El Dorado County 2013).

c. No Impact

The Project is not located in an area covered by a habitat or natural community conservation plan. El Dorado County is currently preparing an Integrated Natural Resources Management Plan to identify important habitats in the county and establish a program for the management and preservation of these areas (El Dorado County 2004a). The plan is still in progress and is not anticipated to be adopted until after this Project has been completed.

3.2.10 Mineral Resources

X. MINERAL RESOURCES—Would the project:	*Potentially Significant Impact*	*Potentially Significant Unless Mitigation is Incorporated*	*Less than Significant Impact*	*No Impact*
a. Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☐	☒
b. Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?	☐	☐	☐	☒

Environmental Setting

Important mineral resources in El Dorado County include metallic (e.g., gold, silver, copper, etc.) and non-metallic (e.g., building stone, limestone, slate, etc.) mineral deposits. The most important extractive mineral resources are metallic mineral deposits, especially gold. The majority of the important mineral resources are concentrated in the western third of the county near Placerville (El Dorado County 2003). As noted in Section 3.2.6, *Geology and Soils*, soils in the area are identified as belonging to Placer Diggings (Rogers 1974), indicating the occurrence of past placer mining. Some areas may contain tailings piles from placer mining activities. However, important mineral resources are not located in the vicinity of the Bassi Road Bridge and no mining activities occur in the immediate area around the proposed Project.

Potential Environmental Effects

a. No Impact

The Bassi Road Bridge is not located in an important mineral resource area designated by the state and bridge replacement would not affect the availability of these resources to state residents.

b. No Impact

The proposed Project is not located in an important mineral resource area delineated in the El Dorado County General Plan (2004a). Replacing the bridge would not affect the availability of the important mineral resources in the area.

3.2.11 Noise

XI. NOISE—Would the project:	*Potentially Significant Impact*	*Potentially Significant Unless Mitigation is Incorporated*	*Less than Significant Impact*	*No Impact*
a. Expose persons to or generate noise levels in excess of standards established in a local general plan or noise ordinance or applicable standards of other agencies?	☐	☒	☐	☐
b. Expose persons to or generate excessive groundborne vibration or groundborne noise levels?	☐	☐	☒	☐
c. Result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☐	☒
d. Result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☒	☐	☐
e. Be located within an airport land use plan area, or, where such a plan has not been adopted, within two miles of a public airport or public use airport and expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒
f. Be located in the vicinity of a private airstrip and expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒

Environmental Setting

Noise is commonly defined as unwanted sound that annoys or disturbs people and potentially causes an adverse psychological or physiological effect on human health. Because noise is an environmental pollutant that can interfere with human activities, evaluation of noise is necessary when considering the environmental impacts of a proposed Project.

Sound is mechanical energy (vibration) transmitted by pressure waves over a medium such as air or water, and noise is generally defined as unwanted sound that annoys or disturbs people. Sound is characterized by various parameters that include the rate of oscillation of sound waves (frequency), the speed of propagation, and the pressure level or energy content (amplitude). In particular, the sound pressure level is the most common descriptor used to characterize the loudness of an ambient (existing) sound level. Although the decibel (dB) scale, a logarithmic scale, is used to quantify sound intensity, it does not accurately describe how sound intensity is perceived by human hearing. The human ear is not equally sensitive to all frequencies in the entire spectrum, so noise

measurements are weighted more heavily for frequencies to which humans are sensitive in a process called "A-weighting," written as "dBA" and referred to as "A-weighted decibels".

Different types of measurements are used to characterize the time-varying nature of sound. These measurements include the equivalent sound level (L_{eq}), the minimum and maximum sound levels (L_{min} and L_{max}), percentile-exceeded sound levels (such as L_{10}, L_{20}), the day-night sound level (L_{dn}), and the community noise equivalent level (CNEL). L_{dn} and CNEL values differ by less than 1 dB. As a matter of practice, L_{dn} and CNEL values are considered to be equivalent and are treated as such in this assessment.

Operation of heavy construction equipment, particularly pile driving and other impacts devices such as pavement breakers create also seismic waves that radiate along the surface of the earth and downward into the earth. These surface waves can be felt as ground vibration. Perceptible ground-borne vibration is generally limited to areas within a few hundred feet of construction activities. As seismic waves travel outward from a vibration source, they excite the particles of rock and soil through which they pass and cause them to oscillate. The actual distance that these particles move is usually only a few ten-thousandths to a few thousandths of an inch. The rate or velocity (in inches per second) at which these particles move is the commonly accepted descriptor of the vibration amplitude, referred to as the peak particle velocity (PPV).

The Project-site is rural with traffic on Lotus Road representing the primary source of noise in the area. Sensitive noise land uses in the immediate vicinity of the Project include single family homes, the closest of which are located approximately 70 feet and 160 feet south of the construction area. There are no hospitals, schools or outdoor recreational spaces in the vicinity.

Policies and standards for noise exposures at noise sensitive land uses during construction are outlined in the July 2004 El Dorado County General Plan Public Health, Safety, and Noise Element. The relevant policies are listed below:

Policy 6.5.1.11

The standards outlined in Tables 6-3, 6-4, and 6-5 shall apply to those activities associated with actual construction of a project as long as such construction occurs between the hours of 7 a.m. and 7 p.m., Monday through Friday, and 8 a.m. and 5 p.m. on weekends, and on federally-recognized holidays. Exceptions are allowed if it can be shown that construction beyond these times is necessary to alleviate traffic congestion and safety hazards.

The noise standards outlined in General Plan Table 6-4 are most applicable to the Project because it is located in a predominantly rural area. The standards outlined in General Plan Table 6-4 are summarized in Table 3.2.11-1

Table 3.2.11-1. Maximum Allowable Noise Exposure for Construction Noise in Rural Centers (General Plan Table 6-4)

		Noise Level (dB)	
Land Use Designation	Time Period	L_{eq}	L_{max}
All Residential (MFR, HDR, MDR)	7 am–7 pm	55	75
	7 pm–10 pm	50	65
	10 pm–7 am	40	55
Commercial, Recreation, and Public Facilities (C, TR, PF)	7 am–7 pm	65	75
	7 pm–7 am	60	70
Industrial (I)	Any Time	70	80
Open Space (OS)	7 am–7 pm	55	75
	7 pm–7 am	50	65

The El Dorado County General Plan also outlines maximum noise exposure limits for transportation noise sources. However, the Project would not result in an increase of the number of vehicles in the roadway network. While the Project would result in a slight change to the alignment of the roadway, the new alignment would increase the distance between vehicles passing through the roadway corridor and nearby sensitive receptors. Operating traffic noise levels at existing sensitive receptors may therefore decrease slightly with implementation of the Project. Overall noise levels in the Project corridor are not expected to change. There would therefore be no operational noise impacts associated with the Project.

Potential Environmental Effects

a. Less than Significant

Table 3.2.11-2 summarizes noise levels produced by construction equipment that is necessary for Project construction. Individual construction equipment is expected to generate maximum noise levels ranging from 74 to 82 dBA at a distance of 50 feet. Table 3.2.11-2 shows L_{max} sound levels along with the typical acoustical use factors. The acoustical use factor is the percentage of time each piece of construction equipment is assumed to be operating at full power (i.e., its noisiest condition) during construction operation and is used to estimate L_{eq} values from L_{max} values. For example the L_{eq} value for a piece of equipment that operates at full power 50% of the time (acoustical use factor of 50) is 3 dB less than the L_{max} value.

Table 3.2.11-2. Construction Equipment Noise (dBA)

Equipment	Maximum Noise Level at 50 feet (dBA)	Acoustical Use Factor (%)	L_{eq} at 50 feet (dBA)
Excavator	81	40	77
Dump Truck	76	40	72
Dozer	82	40	78
Backhoe	78	40	74
Water Truck	74	40	70
Roller	80	20	73
Source: Federal Highway Administration 2006.			

It was assumed construction would require five phases between April 2017 and September 2017. A reasonable worst case cumulative construction noise level assumes that all pieces of equipment during each phase would operate concurrently. The cumulative sound levels for these phases at 50 feet are summarized in Table 3.2.11-3. Sound levels that may be observed at the closest sensitive receptors (e.g., 70 and 160 feet) are also presented in Table 3.2.11-3 and were calculated based on point source attenuation, which is 6 dBA reduction per doubling distance. All construction activities would occur between 7am and 7pm, Monday through Friday.

Table 3.2.11-3. Construction Noise Levels at 50, 70, and 160 Feet from the Construction Fenceline (dBA)

	50 Feet		70 Feet[a]		160 Feet[a]	
Phase	L_{max}	L_{eq}	L_{max}	L_{eq}	L_{max}	L_{eq}
1. Grubbing/Land Clearing	85	81	82	79	75	71
2. Grading/Excavation	85	81	82	79	75	71
3. Drainage/Utilities	83	79	80	76	73	69
4. Paving	81	74	78	71	71	64
5. Demolition	82	78	79	75	72	68

[a] Single family residences.

The results in Table 3.2.11-3 indicate that construction activity could exceed the applicable daytime noise standards of 55 dBA-L_{eq} and 75 dBA-L_{max} at nearby residences. Accordingly, implementation of Mitigation Measures NOI-1 and NOI-2 are required to reduce construction-related noise to levels outlined in the El Dorado County General Plan, Policy 6.5.1.11. This impact is less than significant with mitigation.

Mitigation Measure NOI-1: Employ Noise-Reducing Construction Practices

The construction contractor shall employ noise-reducing construction practices such that construction noise does not exceed construction noise standards in the El Dorado County general plan noise element. These standards limit construction noise as follows:

		Noise Level (dB)	
Land Use Designation	Time Period	L_{eq}	L_{max}
All Residential (MFR, HDR, MDR)	7 am–7 pm	55	75
	7 pm–10 pm	50	65
	10 pm–7 am	40	55
Commercial, Recreation, and Public Facilities (C, TR, PF)	7 am–7 pm	65	75
	7 pm–7 am	60	70
Industrial (I)	Any Time	70	80
Open Space (OS)	7 am–7 pm	55	75
	7 pm–7 am	50	65

Measures that can be used to limit noise include but are not limited to

- prohibiting noise-generating construction activity between the hours of 7:00 p.m. and 7:00 a.m.

- locating equipment as far a practical from noise sensitive uses;
- requiring that all construction equipment powered by gasoline or diesel engines have sound-control devices that are at least as effective as those originally provided by the manufacturer and that all equipment be operated and maintained to minimize noise generation;
- prohibiting gasoline or diesel engines from having unmuffled exhaust; and
- selecting haul routes that affect the fewest number of people.

Mitigation Measure NOI-2: Disseminate Essential Information to Residences and Implement a Complaint/Response Tracking Program

Before construction begins, the County shall notify residences within 500 feet of the construction areas of the construction schedule in writing. The notification will include contact information for a County representative who will be responsible for responding to complaints regarding construction noise during the full term of construction. The representative will determine the cause of the complaint and will ensure that reasonable measures are implemented to correct the problem.

b. Less than Significant

Project construction may result in the periodic, temporary generation of groundborne vibration. However, based on the anticipated equipment inventory (see Table 3.2.11-2), it is unlikely that construction will require pile driving and other impacts devices capable of creating strong groundborne vibration. Moreover, given that construction would be temporary and periodic, potential vibration impacts would be less than significant.

c. Less than Significant

Because the Project would not decrease the distance between the roadway and sensitive receptors, or increase the traffic carrying capacity of the roadway, the Project would not contribute to a substantial permanent increase in the ambient noise level in the Project vicinity. There would be no impact.

d. Less than Significant

The discussion of construction noise above indicates that construction activity will result in a temporary increase in noise that could exceed applicable daytime noise standards. Implementation of Mitigation Measures NOI-1 and NOI-2 are required to reduce construction-related noise to levels outlined in the El Dorado County General Plan, Policy 6.5.1.11. This impact is less than significant with mitigation.

Mitigation Measure NOI-1: Employ Noise-Reducing Construction Practices

Please refer to the discussion of NO1-1 under item “a.”

Mitigation Measure NOI-2: Disseminate Essential Information to Residences and Implement a Complaint/Response Tracking Program

Please refer to the discussion of NO1-2 under item “a.”

e. No Impact

The Project is not located within an airport land use plan area or within two miles of a public or public use airport.

f. No Impact

The Project is not located within the vicinity of a private airstrip.

3.2.12 Population and Housing

XII. POPULATION AND HOUSING—Would the project:	*Potentially Significant Impact*	*Potentially Significant Unless Mitigation is Incorporated*	*Less than Significant Impact*	*No Impact*
a. Induce substantial population growth in an area, either directly (e.g., by proposing new homes and businesses) or indirectly (e.g., through extension of roads or other infrastructure)?	☐	☐	☐	☒
b. Displace a substantial number of existing housing units, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒
c. Displace a substantial number of people, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

Environmental Setting

The Bassi Road Bridge is located in a rural residential area with single family homes located southwest and east of the Project.

Potential Environmental Effects

a. No Impact

The Project proposes replacing the existing one-lane Bassi Road Bridge on a new alignment just upstream of the existing bridge (Figure 3). The new bridge would be two lanes wide and the roadway would be slightly realigned. However, the Project does not include expansion of the roadway capacity or extension of new infrastructure that could induce population growth, either directly or indirectly.

b. No Impact

The proposed Project would not displace any homes.

c. No Impact

Replacing the bridge would not displace people.

3.2.13 Public Services

XIII. PUBLIC SERVICES—Would the project:	*Potentially Significant Impact*	*Potentially Significant Unless Mitigation is Incorporated*	*Less than Significant Impact*	*No Impact*
a. Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities or a need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the following public services:				
Fire protection?	☐	☐	☒	☐
Police protection?	☐	☐	☒	☐
Schools?	☐	☐	☐	☒
Parks?	☐	☐	☐	☒
Other public facilities?	☐	☐	☐	☒

Environmental Setting

Fire protection and emergency services in the Project area are provided by the El Dorado Fire Protection District. Law enforcement services are provided by the El Dorado County Sheriff's Office in Placerville (El Dorado County 2003). There are no schools or parks in the vicinity of the Project. Public facilities including Bassi Road and other roadways in the vicinity of the Project are maintained by El Dorado County.

Potential Environmental Effects

a. Less than Significant Impact

The proposed Project would not result in a population increase that would require new government facilities or lead to the physical alteration of existing facilities, including fire and police protection, schools and parks. With the exception of occasional short-term closures, the existing bridge would remain open during construction. During closures, one-way reversing traffic would be controlled by flaggers. Access for emergency vehicles through the Project area will be maintained at all times. A Traffic Control/Detour Plan would be prepared and implemented, in coordination with fire and police agencies.

3.2.14 Recreation

XIV. RECREATION—Would the project:	*Potentially Significant Impact*	*Potentially Significant Unless Mitigation is Incorporated*	*Less than Significant Impact*	*No Impact*
a. Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☐	☒
b. Include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?	☐	☐	☐	☒

Environmental Setting

There are no parks or recreational facilities adjacent to or in the vicinity of the Bassi Road Bridge. The closest park is Henningsen Lotus Park, which is more than 0.4 mile to the northeast. The South Fork of the American River is located north of the Project and popular with recreationists, such as rafters and/or boaters and fishermen. The Project would have no impact on the river.

Potential Environmental Effects

a. No Impact

Replacement of the Bassi Road Bridge would not increase the use of any existing parks or recreational facilities that could lead to physical deterioration.

b. No Impact

The proposed Project does not include the construction or expansion of recreational facilities that could result in adverse environmental impacts.

3.2.15 Transportation/Traffic

XV. TRANSPORTATION/TRAFFIC—Would the project:	*Potentially Significant Impact*	*Potentially Significant Unless Mitigation is Incorporated*	*Less than Significant Impact*	*No Impact*
a. Cause an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at intersections)?	☐	☐	☒	☐
b. Exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways?	☐	☐	☐	☒
c. Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	☐	☐	☐	☒
d. Substantially increase hazards because of a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	☐	☒
e. Result in inadequate emergency access?	☐	☐	☒	☐
f. Result in inadequate parking capacity?				
g. Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)?	☐	☐	☐	☒

Environmental Setting

Bassi Road is designated a Local Road. Local Roads are described in the El Dorado County General Plan Transportation and Circulation Element as providing service to adjacent land uses. (El Dorado County 2004a).

Potential Environmental Effects

a. Less than Significant

Replacement of Bridge 25C0071 on Bassi Road would not change the amount of traffic on the roadway because it is not a new development or growth-inducing project. The number of through lanes on Bassi Road would remain the same. Short-term temporary closures of Bassi Road within the limits of the Project area could occur, but one-way reversing traffic would be maintained. This could result in temporary congestion near the project site on Bassi Road. A Traffic Control/Detour Plan would be prepared and implemented to ensure adequate access.

b. No Impact

Replacing the bridge would not change the amount of traffic on Bassi Road.

c. No Impact

The Project would not result in a change in air traffic patterns*.*

d. No Impact

The Project includes features intended to improve safety on Bassi Road, including realigning the roadway to the south (upstream) with a straighter curve and longer-span bridge (see Figure 3), and providing two traffic lanes on the bridge with 3-foot shoulders. Because uses of the roadway and surrounding areas would not change, the Project would not result in a use incompatibility.

e. Less than Significant

The existing bridge would remain open during construction, except for occasional, short-term closures when one-way traffic would be controlled by flaggers. Access for emergency vehicles would be maintained at all times. A Traffic Control/Detour Plan would be prepared and implemented, in coordination with emergency service providers.

f. No Impact

Bassi Road is not designated for on-street parking and the proposed Project would not result in an increase in demand for parking in the vicinity of the Project.

g. No Impact

Bassi Road is not a designated bike route nor is it proposed as a bike route (El Dorado County Transportation Commission 2010). A Class II facility is proposed on Lotus Road, but would not be affected by the Project. No other roads within the project limits are designated as a bike path.

3.2.16 Utilities

XVI. UTILITIES AND SERVICE SYSTEMS—Would the project:	*Potentially Significant Impact*	*Potentially Significant Unless Mitigation is Incorporated*	*Less than Significant Impact*	*No Impact*
a. Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	☐	☐	☐	☒
b. Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☐	☒
c. Require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☒	☐

XVI. UTILITIES AND SERVICE SYSTEMS—Would the project:	*Potentially Significant Impact*	*Potentially Significant Unless Mitigation is Incorporated*	*Less than Significant Impact*	*No Impact*
d. Have sufficient water supplies available to serve the project from existing entitlements and resources, or would new or expanded entitlements be needed?	☐	☐	☐	☒
e. Result in a determination by the wastewater treatment provider that serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☐	☒
f. Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	☐	☐	☐	☒
g. Comply with federal, state, and local statutes and regulations related to solid waste?	☐	☐	☐	☒

Environmental Setting

Utilities in the Project area include aerial AT&T and Pacific Gas and Electric lines. It is not anticipated that these aerial lines need relocation. There is a roadside ditch on the south side of Bassi Road on the west end of the Project area. Two erosional ditches drain to the roadside ditch. Seasonal surface runoff sheet flows to lower elevations through the Project site which includes the two erosional ditches that contribute to the roadside ditch that then drains to Granite Creek.

Potential Environmental Effects

a. No Impact

The proposed Project would not generate wastewater that would exceed the Central Valley Regional Water Quality Control Board wastewater treatment requirements. No impact would occur.

b. No Impact

The proposed Project would not increase the demand on existing water or wastewater treatment facilities. There would be no impact.

c. Less than Significant Impact

Bridge realignment would require realigning the roadside ditch to maintain its function, but would not require construction of new or expansion of stormwater drainage features in the vicinity of the Project. Storm water would continue to sheet flow to lower elevations, including the two smaller erosional ditches and the roadside ditch.

d. No Impact

The proposed Project would not require water service.

e. No Impact

The proposed Project would not generate wastewater.

f. No Impact

Construction debris from demolition of the existing bridge would be transported offsite and disposed of at a permitted landfill site. The amount of solid waste generated by the Project would not be great enough that it would reduce the capacity of a permitted landfill. There would be no impact.

g. No Impact

Solid waste generated by the proposed Project would be disposed of at a permitted landfill in compliance with federal, state, and local regulations. No impact would occur.

3.2.17 Mandatory Findings of Significance

XVII. MANDATORY FINDINGS OF SIGNIFICANCE (To be filled out by Lead Agency, if required)	*Potentially Significant Impact*	*Potentially Significant Unless Mitigation is Incorporated*	*Less than Significant Impact*	*No Impact*
a. Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory?	☐	☒	☐	☐
b. Does the project have impacts that are individually limited but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.)	☐	☐	☒	☐
c. Does the project have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☒	☐	☐

a. Potentially Significant Unless Mitigation is Incorporated

Through the use of Best Management Practices and the mitigation measures noted previously (Mitigation Measures BIO-1 through BIO-15, and HAZ-1), the Project will not degrade the quality of the environment.

b. Less than Significant

The Project is consistent with the General Plan and would not result in individually limited but collectively significant impacts. Therefore, the project would not cause any additional environmental effects or significantly contribute to a cumulative impact.

c. Less than Significant

Through the use of Best management Practices and the mitigation measures noted previously (Mitigation Measures AES-1, HAZ-1, NOI-1 and NOI-2), the Project would not result in substantial direct or indirect adverse effects from hazardous materials or noise, either during project construction or operation, nor would it result in impacts to air quality, water quality, or utilities and public services. Therefore the Project would not cause substantial adverse effects on human beings.

Section 4
Determination

4.1 Environmental Factors Potentially Affected

This Initial Study has determined that in the absence of mitigation the proposed Project could have the potential to result in significant impacts associated with the factors checked below. Mitigation measures are identified in this Initial Study that would reduce all potentially significant impacts to less-than-significant levels.

☒ Aesthetics	☐ Agricultural Resources	☐ Air Quality
☒ Biological Resources	☐ Cultural Resources	☐ Geology and Soils
☒ Hazards/Hazardous Materials	☒ Hydrology/Water Quality	☐ Land Use and Planning
☐ Mineral Resources	☒ Noise	☐ Population and Housing
☐ Public Services	☐ Recreation	☐ Transportation/Traffic
☐ Utilities and Service Systems	☒ Mandatory Findings of Significance	☐ None Identified

On the basis of this initial evaluation:

☐ I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.

☒ I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because the project-specific mitigation measures described in Section III have been added to the project. A MITIGATED NEGATIVE DECLARATION will be prepared.

☐ I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

☐ I find that the Project MAY have a "Potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

☐ I find that although the Project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

Janet Postlewait — October 9, 2014

Signature — Date

Name and Title: Janet Postlewait, Principal Planer

Section 5
Report Preparation and References

5.1 Report Preparation

El Dorado County Community Development Agency, Transportation Division–CEQA Lead Agency

Janel Gifford	Senior Civil Engineer
Dustin Harrington	Associate Civil Engineer
Janet Postlewait	Principal Planner

ICF International

Sally Zeff	Project Director
Claire Bromund	Project Manager
Kimberly Stevens	Environmental Analyst
Jennifer Haire	Biologist
Lisa Webber	Botanist
Dave Buehler	Noise Specialist
Laura Yoon	Air Quality Specialist
Senh Saelee	Graphics

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Appendix A

Mitigation Monitoring and Reporting Plan

MITIGATION MONITORING AND REPORTING PLAN FOR THE BASSI ROAD AT GRANITE CREEK—BRIDGE REPLACEMENT (BRIDGE NO. 25C0071)(CIP #77128)

CEQA LEAD AGENCY:

El Dorado County

PREPARED:

October 2014

ADOPTED BY BOARD OF SUPERVISORS ON:

_____

Introduction

Purpose

The El Dorado County Community Development Agency, Transportation Division (County) proposes to replace the Bassi Road Bridge over Granite Creek (Project), located 0.16 mile west of Lotus Road in the community of Lotus, in unincorporated El Dorado County. The Bassi Road bridge was built in 1949. It is 15 feet-wide with one lane. The project is needed since the existing bridge is structurally deficient with a rating of 32.2 and has exhibited evidence of scour degradation at the piers and abutments within recent years. The County has evaluated both rehabilitation and replacement options for the existing bridge and has determined that replacement of the bridge is the most cost-effective approach for correcting the structural deficiency of the bridge.

As described in the IS/MND, the Project itself incorporates a number of measures to minimize adverse effects on the environment. The IS/MND also identified several mitigation measures that are required to reduce potentially significant impacts to levels that are less than significant. This Mitigation Monitoring and Reporting Plan (MMRP) describes a program for ensuring that these mitigation measures are implemented in conjunction with the Project. El Dorado County, as the lead agency under the California Environmental Quality Act (CEQA), is responsible for overseeing the implementation and administration of this MMRP. The County will designate a staff member to manage the MMRP. Duties of the staff member responsible for program coordination will include conducting routine inspections and reporting activities, coordinating with the Project construction contractor, coordinating with regulatory agencies, and ensuring enforcement measures are taken.

Regulatory Framework

California Public Resources Code Section 21081.6 and California Code of Regulations Title 14, Chapter 3, Section 15097 require public agencies to adopt mitigation monitoring or reporting plans when they approve projects under a MND. The reporting and monitoring plans must be adopted when a public agency makes its findings pursuant to CEQA so that the mitigation requirements can be made conditions of Project approval.

Format of This Plan

The MMRP summarizes the impacts and mitigation measures identified and described in the Project IS/MND. Each of the impacts discussed within this MMRP is numbered based on the sequence in which they are discussed in the IS/MND. A summary of each impact with the corresponding specific mitigation measures are provided. Mitigation measures are followed by an implementation description, the criteria used to determine the effectiveness of the mitigation, the timeframe for implementation, and the party responsible for monitoring the implementation of the measure.

Implementation of mitigation measures is ultimately the responsibility of the County; during construction, the delegated responsibility is shared by the County's contractors. Each mitigation measure in this plan contains a "Verified By" signature line, which will be signed by the County Project manager when the measure has been fully implemented and no further actions or monitoring are necessary for the implementation or effectiveness of the measure.

Impacts and Associated Monitoring or Reporting Measures

Impact Aesthetics (c): Substantially degrade the existing visual character or quality of the site and its surroundings.

Mitigation Measure AES-1: Retain Natural Character of the Project Area

- The County will develop design plans that reduce the extent of negative visual alteration of the existing visual quality or character of the project area from construction through remediation of terrain, revegetation, and other practices in the following measures.
    - All plantings will be native and indigenous to the area, and no invasive plant species will be used under any conditions.
    - The County will require construction contractors to incorporate native grass and wildflower seed to standard seed mixes (which may be non-native), for erosion control measures that will be applied to all exposed slopes. Wildflowers will provide seasonal interest to areas where trees and shrubs are removed. Only wildflower and grass species that are native will be incorporated into the seed mix, and under no circumstances will any invasive grass or invasive wildflower plant species be used as any component in any erosion control measures. Species will be chosen that are indigenous to the area and for their appropriateness to the surrounding habitat
    - Where feasible, grading plans will mimic existing site conditions to the greatest degree possible, given geotechnical constraints, and the terrain will be designed and graded to be undulating, avoiding large, flat-sloped areas.
    - Special attention should be paid to transitions between undisturbed and disturbed terrains to ensure that the transition appears as natural as possible and to blend the lines between the two for a natural, organic appearance.

Implementation:	The County will develop design plans that retain the natural character of the project area, as described above.
Effectiveness Criteria:	The County will prepare and keep on file documentation verifying the implementation of the above-referenced measures.
Timing:	Pre-Construction and Construction, and Post-Construction Phases
Verified By:	_____ Date: _____ County Project Manager

Impact Biological Resources (a): Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service.

Mitigation Measure BIO-1: Install Construction Barrier Fencing around the Construction Area to Protect Sensitive Biological Resources to Be Avoided

- The County's contractor will install orange construction barrier fencing to identify environmentally sensitive areas as one of the first orders of work. The area that would generally be required for construction, including staging and access, is shown in Figures 3 and 4. Portions

of this area that are to be avoided during construction will be fenced off to avoid disturbance. The protected areas will be designated as environmentally sensitive areas and clearly identified on the construction plans. The fencing will be installed before construction activities are initiated, maintained throughout the construction period, and removed when construction is completed. Sensitive biological resources that occur adjacent to the construction area include sensitive natural communities and special-status wildlife habitats.

Implementation:	The County will install orange construction barrier fencing, as described above, to identify environmentally sensitive areas as one of the first orders of work.
Effectiveness Criteria:	The County will prepare and keep on file documentation verifying the implementation of the above-referenced measures.
Timing:	Pre-Construction, Construction, and Post-Construction Phases
Verified By:	_____ Date: _____ County Project Manager

Mitigation Measure BIO-2: Conduct Environmental Awareness Training for Construction Employees

- The County will retain a qualified biologist to develop and conduct environmental awareness training for construction employees on the importance of onsite biological resources, including sensitive natural communities; mature trees to be retained; and special-status wildlife habitats. In addition, construction employees will be educated about invasive plant identification and the importance of controlling and preventing the spread of invasive plant infestations.
- The environmental awareness program will be provided to all construction personnel to brief them on the life history of special-status species in or adjacent to the project area, the need to avoid impacts on sensitive biological resources, any terms and conditions required by state and federal agencies, and the penalties for not complying with biological mitigation requirements. If new construction personnel are added to the Project, the contractor's superintendent will ensure that the personnel receive the mandatory training before starting work. An environmental awareness handout that describes and illustrates sensitive resources to be avoided during Project construction and identifies all relevant permit conditions will be provided to each person.

Implementation:	The County will hire a qualified biologist to develop and conduct environmental awareness training for construction employees, as described above.
Effectiveness Criteria:	The County will prepare and keep on file documentation verifying the implementation of the above-referenced measures.
Timing:	Pre-Construction and Construction Phase
Verified By:	_____ Date: _____ County Project Manager

Mitigation Measure BIO-3: Retain a Qualified Biologist to Conduct Periodic Monitoring during Construction

- The County will retain a qualified biologist to conduct periodic construction monitoring in and adjacent to all sensitive habitats in the construction area. The frequency of monitoring will range from daily to weekly depending on the biological resource. The monitor, as part of the overall monitoring duties, will inspect the fencing once a week to ensure that fencing around environmentally sensitive areas is intact. The biological monitor will assist the construction crew as needed to comply with all Project implementation restrictions and guidelines. The biological monitor also will be responsible for ensuring that the contractor maintains the staked and flagged perimeters of the construction area and staging areas adjacent to sensitive biological resources. The monitor will provide the County with a monitoring log for each site visit, which will be provided to interested agencies upon request.

Implementation:	The County will hire a qualified biologist to conduct construction monitoring in and adjacent to all sensitive habitats, inspect fencing, assist the construction crew, and document monitoring activities, as described above.
Effectiveness Criteria:	The County will prepare and keep on file documentation verifying the implementation of the above-referenced measures.
Timing:	Construction Phase
Verified By:	_____ Date: _____ County Project Manager

Mitigation Measure BIO-4: Protect Water Quality and Prevent Erosion and Sedimentation in Drainages

- The County will ensure the construction specifications include the following water quality protection and erosion and sediment control best management practices (BMPs), based on standard County/Caltrans requirements, to minimize construction-related contaminants and mobilization of sediment in Granite Creek, the seasonal stream, and ditches in and adjacent to the project area.
- The BMPs will be selected to achieve maximum sediment removal and represent the best available technology that is economically achievable and are subject to review and approval by the County. The County will perform routine inspections of the construction area to verify the BMPs are properly implemented and maintained. The County will notify contractors immediately if there is a noncompliance issue and will require compliance.
- The BMPs will include, but are not limited to, the following.
    - In-water work below the ordinary high water mark of Granite Creek will be restricted to April 15 through October 15.
    - Ensure that equipment used in and around streams is in good working order and free of dripping or leaking engine fluids. All vehicle maintenance will be performed at least 300 feet from all streams. Any necessary equipment washing will be carried out where the water cannot flow into streams.

- Prepare and implement a hazardous material spill prevention control and countermeasure plan before construction begins that will minimize the potential for, and the effects of, spills of hazardous or toxic substances during construction. The plan will include storage and containment procedures to prevent and respond to spills, and will identify the parties responsible for monitoring the spill response. The plan will include the following:
    - Prevent raw cement, concrete or concrete washings, asphalt, paint or other coating material, oil or other petroleum products, or any other substances that could be hazardous to aquatic life from contaminating the soil or entering watercourses.
    - Prevent discharge of turbid water to the stream during dewatering activities by filtering the discharge first using a filter bag, diverting the water to a settling tank, and/or treating the water in a manner to ensure compliance with water quality requirements prior to discharging water back to the creek.
    - Clean up all spills immediately according to the spill prevention and countermeasure plan.
    - Provide areas located outside the OHWM for staging and storing equipment, materials, fuels, lubricants, solvents, and other possible contaminants.
    - Remove vehicles from the normal high-water area of the waterway every day and before refueling and lubricating and ensure that areas where equipment is refueled or lubricated is storm-proofed to prevent contaminants from being discharged to the stream. Pump contaminated water to a holding tank for proper disposal.
    - Avoid operating equipment in flowing water during in-channel activities by constructing water diversion structures and diverting all streamflows through or around construction sites.
    - Avoid operation of vehicles and equipment in flowing water.
- The County will review and approve the contractor's hazardous materials spill prevention control and countermeasure plan before allowing construction to begin. The County will routinely inspect the construction site to verity that BMPs specified in the plan are properly implemented and maintained. The County will notify the contractor immediately if there is a noncompliance issue and will require compliance.
    - Prohibit the following types of materials from being rinsed or washed into the streets, shoulder areas, or gutters: concrete; solvents and adhesives; thinners; paints; fuels; sawdust; dirt; gasoline; asphalt and concrete saw slurry; heavily chlorinated water.
    - Measure baseline turbidity, pH, specific conductance, and temperatures in Granite Creek. As required by the RWQCB, avoid exceeding water quality standards specified in the Water Quality Control Plan for the Sacramento and San Joaquin River Basins over the natural in-situ conditions. If dewatering activities are required, water samples would be taken periodically during construction.
    - Dispose of any surplus concrete rubble, asphalt, or other rubble from construction at a local landfill.
    - Prepare and implement an erosion and sediment control plan for the proposed Project. The plan will include the following provisions and protocols.

- Discharge from dewatering operations, if needed, and runoff from disturbed areas will be made to conform to the water quality requirements of the waste discharge permit issued by the RWQCB.
- Temporary erosion control measures, such as sandbagged silt fences, will be applied throughout construction of the proposed Project and will be removed after the working area is stabilized or as directed by the engineer. Soil exposure will be minimized through use of temporary BMPs, groundcover, and stabilization measures. Exposed dust-producing surfaces will be sprinkled daily, if necessary, until wet; this measure will be controlled to avoid producing runoff. Paved streets will be swept daily following construction activities.
- The contractor will conduct periodic maintenance of erosion and sediment control measures.
- An appropriate seed mix of native species will be planted on disturbed areas upon completion of construction.
- Cover or apply nontoxic soil stabilizers to inactive construction areas (previously graded areas inactive for 10 days or more) that could contribute sediment to waterways.
- Enclose and cover exposed stockpiles of dirt or other loose, granular construction materials that could contribute sediment to waterways. Material stockpiles will be located in non-traffic areas only. Side slopes will not be steeper than 2:1. All stockpile areas will be surrounded by a filter fabric fence and interceptor dike
- Contain soil and filter runoff from disturbed areas by berms, vegetated filters, silt fencing, straw wattle, plastic sheeting, catch basins, or other means necessary to prevent the escape of sediment from the disturbed area.
- Use other temporary erosion control measures (such as silt fences, staked straw bales/wattles, silt/sediment basins and traps, check dams, geofabric, sandbag dikes, and temporary re-vegetation or other ground cover) to control erosion from disturbed areas as necessary.
- Avoid earth or organic material from being deposited or placed where it may be directly carried into streams.
- Minimize the extent of all areas requiring clearing, grading, revegetation, and recontouring.

- Grade areas following construction to minimize surface erosion.
- Cover bare areas with mulch and revegetate all cleared areas.
- Avoid riparian and wetland vegetation wherever possible and install fencing to protect riparian and wetland vegetation adjacent to the project area.
- Revegetate and enhance riparian and wetland areas where temporary impacts would occur during Project construction.
- Limit disturbance to the water column and creek bottom to the maximum extent practicable.

- The County also will obtain a 401 Water Quality Certification from the Central Valley RWQCB, which may contain additional BMPs and water quality measures to ensure the protection of water quality.

Implementation:	The Contractor will ensure the construction specifications include the water quality protection and erosion and sediment control best management practices described above and will ensure they are implemented during and immediately after construction.
Effectiveness Criteria:	The County will prepare and keep on file documentation verifying the implementation of the above-referenced measures.
Timing:	Pre-Construction, Construction, and Post-Construction Phases
Verified By:	_____ Date: _____ County Project Manager

Mitigation Measure BIO-5: Implement Protective Measures to Avoid or Minimize Potential Impacts on California Red-Legged Frog

- The County will implement the following protective measure to avoid or reduce potential impacts on California red-legged frog in the Project construction area *and* at the oak mitigation planting area if this area is located within suitable upland habitat for California red-legged frog.
    - Environmental awareness training will be conducted prior to the onset of Project work and work in the oak mitigation planting area to brief workers on how to recognize California red-legged frogs, the specific measures that are being implemented to conserve the species, the penalties for non-compliance, and the boundaries of the Project and mitigation areas. Construction personnel will also be informed that if a California red-legged frog is encountered in the work area, work activities for that area will cease until the species has moved from the site on its own volition. County personnel conducting maintenance of plantings in the Project area will also receive this training.
- The County will implement the following protective measures to avoid or reduce potential impacts on California red-legged frog in the Project construction area.
    - All ground-disturbing activities associated with construction of the Project will be restricted to the dry season (between approximately April 15 and October 15) to avoid the period when California red-legged frogs could be actively dispersing through upland habitats. If construction needs to occur past October 15, the County will request an authorization from the USFWS to extend the work period.
    - Within the riparian area, vegetation will be removed by manually clipping to ground level and removing by hand. The vegetation removal will be conducted in the presence of a qualified biologist, who will monitor the area for the presence of California red-legged frog.
    - Following manual removal of vegetation, the work area within riparian habitat will be fenced with sediment fencing at the upstream and downstream limits of the Project and away from the stream at least 100 feet. The fencing will be buried a minimum of 6 inches into the ground. The project limits will be delineated with orange fencing to prevent encroachment of construction personnel and equipment into any sensitive areas during project work. Animal exclusion fencing will be checked once per week by a construction

personnel that have been trained by a USFWS-approved biologist to identify fencing issues/weaknesses. All compromised portions of fence will be repaired and/or replaced immediately. Animal exclusion fencing will be removed once the construction is completed or by October 15 of the construction year, whichever comes first.

- Preconstruction surveys will be conducted by a USFWS-approved biologist immediately prior to the initiation of any Project activities (e.g. ground disturbance, vegetation clearing) that may result in take of California red-legged frog. All suitable aquatic and upland habitat including refugia habitat such as dense vegetation, small woody debris, refuse, burrows, etc., will be thoroughly inspected.
- The County will submit the name and credentials of the project's biologist(s) to the USFWS for review and approval at least 15 days prior to the onset of construction activities.
- During project activities, all trash that may attract predators will be properly contained, removed from the work site, and disposed of regularly. Following construction, all trash and construction debris will be removed from work areas.
- To avoid entrapment of wildlife, all excavated steep-walled holes or trenches more than 6 inches deep will be provided with one or more escape ramps constructed of earth fill or wooden planks at the end of each work day. If escape ramps cannot be provided, then holes or trenches will be covered with plywood or similar materials. Providing escape ramps or covering open trenches is anticipated to prevent injury or mortality of wildlife resulting from falling into trenches and becoming trapped. The trenches will be thoroughly inspected for the presence of federally listed species at the beginning of each workday by a designated person trained by the USFWS-approved biologist. This person will report daily during construction to the USFWS-approved biologist on the findings of these inspections and daily monitoring
- Staging areas as well as fueling and maintenance activities will be a minimum of 100 feet from riparian and aquatic habitats. The County will prepare a spill prevention and clean-up plan.
- The Project will administer BMPs to protect water quality and control erosion, as discussed above in Mitigation Measure BIO-4. Additionally, erosion control materials that use plastic or synthetic mono-filament netting will not be used within the Project area. This includes products that use photodegradable or biodegradable synthetic netting, which can take several months to decompose. Acceptable materials include natural fibers such as jute, coconut, twine or other similar.
- If a work site is to be temporarily dewatered by pumping, intakes will be completely screened with wire mesh not larger than 5 millimeters. Water will be released or pumped downstream at an appropriate rate to maintain downstream flows during construction. The sediment fencing will tie into the intake and outfall of the dewatering system at each end of the Project area to prevent a gap in the exclusion.
- Upon completion of construction activities, any barriers to flow of the creek will be removed in a manner that would allow flow of the creek to resume with the least disturbance to substrate.
- All temporarily impacted areas, including the bridge removal area, will be re-vegetated with an assemblage of native riparian and upland vegetation suitable for the area using a

combination of hydroseeding and tree planting. Locally collected plant materials will be used to the extent practicable. Invasive, exotic plants will be controlled to the maximum extent practicable. Herbicides will not be used in controlling vegetation, including the maintenance of riparian plantings described in the June 2013 Compensatory Mitigation and Monitoring Plan.

- The oak mitigation plan will be submitted to the USFWS for approval at least one month prior to Project implementation.

	Implement protective measure to avoid or reduce potential impacts on California red-legged frog in the Project construction area and at the oak mitigation planting area, if this area is located within suitable upland habitat for California red-legged frog.
Implementation:	The County will submit the oak mitigation plan to USFWS for approval at least one month prior to project implementation.
Effectiveness Criteria:	The County will prepare and keep on file documentation verifying the implementation of the above-referenced measures and provide compliance documentation to USFWS.
Timing:	Pre-Construction, Construction, and Post-Construction Phases
Verified By:	_____ Date: _____ County Project Manager

Mitigation Measure BIO-6: Conduct Preconstruction Surveys for Foothill Yellow-Legged Frog, Western Pond Turtle, and Blainville's Horned Lizard and Monitor Initial In-Water Work

- To avoid potential injury or mortality of foothill yellow-legged frog and western pond turtle, the County will retain a qualified wildlife biologist to conduct a preconstruction survey for these species within 24 hours of the start of construction activities. The biologist will survey Granite Creek from the construction area downstream to the confluence with South Fork American River, and 300 feet upstream of the construction area for foothill yellow-legged frog and western pond turtle. If in-water work does not start immediately, the biologist will return to the construction site immediately prior to the start of in-water work to conduct another preconstruction survey. If in-water work occurs at two different time periods or stops and restarts, the biologist will survey the aquatic habitat prior to restarting in-water work. During this survey, the biologist will also survey the live oak woodland in the study area for Blainville's horned lizard; the potential for this species to occur in the study area is low.
- The biologist will remain on site until initial in-water work is complete. If the biologist discovers any foothill yellow-legged frogs tadpoles or egg masses, work will be delayed until the end of the breeding season. If a foothill yellow legged frog or western pond turtle becomes trapped during in-water work, the biologist will relocate the individual to suitable aquatic habitat upstream or downstream of the construction area. The biologist will have had their CDFW scientific collecting permit amended to include capture and relocation of foothill yellow-legged frog, western pond turtle, and Blainville's horned lizard. Because turtle eggs are buried and generally cannot be seen, a survey for eggs is not recommended. If turtle eggs are discovered during construction in upland grassland areas, the biologist will be contacted immediately and the eggs will be reburied.

- For the remainder of construction, the biologist will remain on-call in case a foothill yellow-legged frog, western pond turtle, a nest within turtle eggs, or Blainville's horned lizard is discovered. The construction crew will be instructed to notify the crew foreman who will contact the biologist if any of these species is found dead or trapped within the construction area, or if a nest containing turtle eggs is found. Work in the area where the frog/turtle/lizard is found dead or trapped, or where the eggs are found will stop until the biologist arrives and removes and relocates the frog/turtle/lizard or eggs. The biologist will report their activities to the County and CDFW within 1 day of relocating or finding any dead foothill yellow-legged frog, western pond turtle, turtle eggs, or Blainville's horned lizard.

Implementation:	The County will retain a qualified wildlife biologist with knowledge of the relevant species to conduct surveys, monitoring, and other measures described above, to protect the yellow-legged frog, western pond turtle, and Blainville's horned lizard.
Effectiveness Criteria:	The County will prepare and keep on file documentation verifying the implementation of the above-referenced measures.
Timing:	Pre-Construction and Construction Phases
Verified By:	_____ Date: _____ County Project Manager

Mitigation Measure BIO-7: Avoid and Minimize Potential Disturbance of Live Oak Woodland and White Alder Riparian Forest Habitat

- The County will avoid and minimize potential disturbance of the live oak woodland and white alder riparian forest community by implementing the following measures:
    - The potential for long-term loss of woody vegetation will be minimized by trimming vegetation rather than removing entire trees or shrubs in areas where complete removal is not required. Trees or shrubs that need to be trimmed will be cut at least 1 foot above ground level to leave the root systems intact and allow for more rapid regeneration. Cutting will be limited to the minimum area necessary within the construction zone. To protect nesting birds, Caltrans will not allow pruning or removal of woody vegetation between February 1 and August 31 without preconstruction surveys.
    - A certified arborist will be retained to perform any necessary pruning or root cutting of retained trees.
    - The areas that undergo vegetative pruning and tree removal will be inspected immediately before construction, immediately after construction, and 1 year after construction to determine the amount of existing vegetative cover, cover that has been removed, and cover that resprouts. After 1 year, if these areas have not resprouted sufficiently to return the cover to the pre-project level, the County will replant the areas with appropriate native species to reestablish the cover to the pre-project condition.

Implementation:	The County will hire a certified arborist to prune, trim, and cut vegetation and roots, as described above. The County will conduct inspections, as described above, and replant areas, if necessary.
Effectiveness Criteria:	The County will prepare and keep on file documentation verifying the implementation of the above-referenced measures.
Timing:	Pre-Construction, Construction, and Post-Construction Phases
Verified By:	_____ Date: _____ County Project Manager

Mitigation Measure BIO-8: Remove Vegetation during the Nonbreeding Season and Conduct Preconstruction Surveys for Nesting Migratory Birds

- To the maximum extent feasible, tree removal will occur during the non-breeding season for most migratory birds (generally between October 1 and January 31). This is highly preferred because if an active nest is found in a tree (or other vegetation) to be removed during preconstruction nest surveys (described below), the tree cannot be removed until the end of the nesting season, which could delay construction. If trees cannot be removed between October 1 and January 31, the area where vegetation will be removed must be surveyed for nesting birds, as discussed below.
- If construction activities are expected to begin during the nesting season for birds (generally February 1 through September 30), the County will retain a qualified wildlife biologist with knowledge of the relevant species to conduct nesting surveys before the start of construction. A minimum of two separate surveys will be conducted for migratory birds, including raptors. Surveys will include a search of all trees and shrubs that provide suitable nesting habitat in the project area. In addition, a 500 foot area around the project area will be surveyed for nesting raptors. If possible, the first survey should occur during the height of the breeding season (March 1 to June 1) and the final survey will occur within 1 week of the start of construction. If no active nests are detected during these surveys, no additional measures are required.
- If an active nest is found in the survey area, a no-disturbance buffer will be established around the site to avoid disturbance or destruction of the nest site until the end of the breeding season (September 30) or until after a qualified wildlife biologist determines that the young have fledged and moved out of the project area (this date varies by species). The extent of these buffers will be determined by the biologist in coordination with USFWS and CDFW and will depend on the level of noise or construction disturbance, line-of-sight between the nest and the disturbance, ambient levels of noise and other disturbances, and other topographical or artificial barriers. Suitable buffer distances may vary between species.

Implementation:	The County will retain a qualified wildlife biologist with knowledge of the relevant species to conduct nesting surveys before the start of construction, and implement appropriate timing and buffer area avoidance measures to protect migratory birds, as described above.
Effectiveness Criteria:	The County will prepare and keep on file documentation verifying the implementation of the above-referenced measures.
Timing:	Pre-Construction and Construction Phases
Verified By:	_____ Date: _____ County Project Manager

Mitigation Measure BIO-9: Conduct Preconstruction Survey for Mud Nests on the Bridge and Implement Protective Measures for Bridge-Nesting Birds

- To avoid impacts on nesting swallows and other bridge-nesting migratory birds that are protected under the Migratory Bird Treaty Act and California Fish and Game Code, the County will implement the following measures:
    - The County will hire a qualified wildlife biologist to inspect the bridge during the swallows' non-breeding season (September 1 through February 28). If nests are found and are abandoned, they may be removed. To avoid damaging active nests adjacent to new bridge construction, nests must be removed before the breeding season begins (March 1).
    - After nests are removed, the undersides of the bridge will be covered with 0.5- to 0.75-inch mesh net by a qualified contractor. All net installation will occur before March 1 and will be monitored by a qualified biologist throughout the breeding season (typically several times a week). The netting will be anchored so that swallows and other birds cannot attach their nests to the bridge through gaps in the net.
    - As an alternative to netting the underside of a bridge, the County may hire a qualified biologist to remove nests as the birds construct them and before any eggs are laid. Visits to the site would need to occur daily throughout the breeding season (March 1 through August 31) as swallows can complete a nest in a 24-hour period.
    - If netting of the bridges does not occur by March 1 and swallows colonize the bridge, modifications to the structure will not begin before August 31 of that year or until a qualified biologist has determined that the young have fledged and all nest use has been completed.
- If appropriate steps are taken to prevent swallows and other birds from constructing new nests, work can proceed at any time of the year.

Implementation:	The County will hire a qualified wildlife biologist to inspect the bridge during the swallows' non-breeding season and will implement the measures described above.
Effectiveness Criteria:	The County will prepare and keep on file documentation verifying the implementation of the above-referenced measures.
Timing:	Pre-Construction Phase
Verified By:	_____ Date: _____ County Project Manager

Mitigation Measure BIO-10: Identify Suitable Roosting Habitat for Bats and Implement Avoidance and Protective Measures

- If tree removal/trimming cannot be conducted between September 16 and October 31, qualified biologists will examine trees to be removed or trimmed for suitable bat roosting habitat before removal/trimming. High-quality habitat features (large tree cavities, basal hollows, loose or peeling bark, larger snags, palm trees with intact thatch, etc.) will be identified and the area around these features searched for bats and bat sign (guano, culled insect parts, staining, etc.). Riparian woodland and stands of mature broadleaf trees should be considered potential habitat for solitary foliage–roosting bat species. Passive monitoring using bat detectors may be needed if identification of bat species is required. Survey methods should be discussed with DFW prior to the start of surveys.
- Measures to avoid and minimize impacts to sensitive bats species will be determined in coordination with DFW and may include the following.
    - Tree removal will be avoided between April 1 and September 15 (the maternity period) to avoid effects on pregnant females and active maternity roosts (whether colonial or solitary).
    - All tree removal will be conducted between September 16 and October 31, which corresponds to a time period when bats have not yet entered torpor or would be caring for nonvolant young.
    - Trees will be removed in pieces rather than felling an entire tree.
    - If a maternity roost is located, whether solitary or colonial, that roost will remain undisturbed until September 16 or a qualified biologist has determined the roost is no longer active.
- If avoidance of nonmaternity roost trees is not possible, and tree removal or trimming cannot occur between September 16 and October 31, qualified biologists will monitor tree trimming/removal that occurs before September 16 or after October 31. If possible, tree trimming/removal should occur in the late afternoon or evening when it is closer to the time that bats would normally arouse. Prior to removal/trimming, each tree will be shaken gently and several minutes should pass before felling trees or limbs to allow bats time to arouse and leave the tree. If a bat is found on or around the tree, tree removal will stop until the bat moves away on its own. If the bat doesn't move away on its own, tree removal will be postponed until later in the evening or at night when it is more likely that the bat has left the tree to forage. The biologists should search downed vegetation for dead and injured bats. If dead or injured bats are discovered, work will temporarily stop in the area in order to assure that there are no other bats

in the area. The presence of dead or injured bats that are species of special concern will be reported to CDFW. The biologist will prepare biological monitoring report, which will be provided to the Project lead and CDFW.

Implementation:	The County will retain a qualified biologist to examine trees to be removed or trimmed for suitable bat roosting habitat before removal/trimming if tree removal/trimming cannot be conducted between September 16 and October 31, and will implement the avoidance and minimization measures above.
Effectiveness Criteria:	The County will prepare and keep on file documentation verifying the implementation of the above-referenced measures.
Timing:	Pre-Construction Phase
Verified By:	_____ Date: _____ County Project Manager

Mitigation Measure BIO-11: Implement Stream Diversion Restrictions

- Any activity that temporarily diverts flow from any segment of the creeks will trigger implementation of the following constraint.
    - Before flow is diverted, water diversion structures will be placed in the creek in such a way that flow to creek segments downstream from the construction site will not be interrupted.

Implementation:	The Contractor will implement the measure described above to avoid impacts on fish.
Effectiveness Criteria:	The County will prepare and keep on file documentation verifying the implementation of the above-referenced measures.
Timing:	Construction Phase
Verified By:	_____ Date: _____ County Project Manager

Mitigation Measure BIO-12: Avoid Stranding Fish in Dewatered Areas

- After water diversion structures are in place and before dewatering is initiated, qualified fish biologists who have authorization from CDFW will be on site to capture and relocate fish from areas to be dewatered. During dewatering, flow will be incrementally diverted from the affected stream reach at the upstream boundary, with diversion progressively increasing over a 4-hour period in the following increments: 50%, 75%, 90%, and 100%. Incremental reduction in flow allows fish that elude initial capture to move to deeper habitats where they can be captured and relocated before affected stream segments are completely dewatered. The biologists will relocate fish to suitable habitat outside of the construction area. The methods of removal and relocation of fish captured during the dewatering of the construction area will be implemented in close coordination with CDFW.

Implementation:	The County will hire a qualified wildlife biologist with authorization from CDFW to capture and relocate fish from areas to be dewatered and alter flows during dewatering, as described above.
Effectiveness Criteria:	The County will prepare and keep on file documentation verifying the implementation of the above-referenced measures.
Timing:	Construction Phase
Verified By:	_____ Date: _____ County Project Manager

Impact Biological Resources (b): Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service.

Mitigation Measure BIO-13: Compensate for Loss of Oak Trees

- The County will mitigate for the loss of approximately 65 oak trees at a ratio no less than 2:1, consistent with the project's Compensatory Mitigation and Monitoring Plan (Appendix B) designed to offset direct permanent impacts on native trees that will result from construction of the project. The County will prepare an oak mitigation plan when the tree planting locations have been determined. Details of the number of oak trees to be planted, based on the final design, as well as the specific planting locations, maintenance and irrigation needs, monitoring requirements, and success criteria will be included in the oak mitigation plan. The Compensatory Mitigation and Monitoring Plan contains additional performance criteria relating to monitoring and survival that will also be followed. The location of the tree planting site will be determined prior to project permitting. Due to the limited area of County right-of-way in the study area available for oak tree compensation planting, an off-site planting location will likely be considered to supplement the available area on-site.

Implementation:	County will identify planting locations, coordinate mitigation with CDFW, prepare and implement oak mitigation plan. The oak mitigation plan will also be submitted to the USFWS for approval at least one month prior to Project implementation.
Effectiveness Criteria:	The County will prepare and keep on file documentation verifying the implementation of the above-referenced measures.
Timing:	Pre-Construction and Post-Construction Phases
Verified By:	_____ Date: _____ County Project Manager

Mitigation Measure BIO-14: Compensate for the Loss of Riparian Trees

- The County will compensate for the loss of native riparian trees by replacing trees at a 2:1 ratio, or as required by the Streambed Alteration Agreement, as described in the Compensatory Mitigation and Monitoring Plan (IS/MND Appendix B).

Implementation:	County will compensate for the loss of riparian trees as described in the Compensatory Mitigation and Monitoring Plan.
Effectiveness Criteria:	The County will prepare and keep on file documentation verifying the implementation of the above-referenced measures.
Timing:	Pre-Construction and Post-Construction Phases
Verified By:	_____ Date: _____ County Project Manager

Mitigation Measure BIO-15: Avoid the Introduction and Spread of Invasive Plants

- The County or its contractor will be responsible for avoiding the introduction of new invasive plants and the spread of invasive plants previously documented in the study area. Accordingly, the following measures will be implemented during construction.
    - Minimize surface disturbance to the greatest extent feasible to complete the work; and
    - Use weed-free imported erosion-control materials (or rice straw in upland areas).

Implementation:	The Contractor will implement the measures above to avoid the introduction of new invasive plants and the spread of plants documented in the project area.
Effectiveness Criteria:	The County will prepare and keep on file documentation verifying the implementation of the above-referenced measures.
Timing:	Pre-Construction and Construction Phases
Verified By:	_____ Date: _____ County Project Manager

Impact Biological Resources (c): Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marshes, vernal pools, coastal wetlands, etc.) through direct removal, filling, hydrological interruption, or other means.

Mitigation Measure BIO-4: Protect Water Quality and Prevent Erosion and Sedimentation in Drainages

- The County will implement Mitigation Measures BIO-4, as described above under Impact Biological Resources (a).

Implementation:	The Contractor will ensure the construction specifications include the water quality protection and erosion and sediment control best management practices described above and will ensure they are implemented during and immediately after construction.
Effectiveness Criteria:	The County will prepare and keep on file documentation verifying the implementation of the above-referenced measures.
Timing:	Pre-Construction, Construction, and Post-Construction Phases
Verified By:	_____ Date: _____ County Project Manager

Impact Hazards and Hazardous Materials (a): Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.

Mitigation Measure HAZ-1: Conduct Surveys for Hazardous Materials

- Prior to demolition or modification of the existing bridge and roadway, surveys and testing will be conducted for lead-based paint and ACM by certified consultants. If present, the materials will be removed and disposed of in accordance with all applicable laws and regulations, including Caltrans Construction Program Procedure Bulletin 99-2 (CPB 99-2).

Implementation:	The County will retain certified consultants to survey, test, and remove if necessary, lead-based paint, ACM, and treated wood waste.
Effectiveness Criteria:	The County will prepare and keep on file documentation verifying the implementation of the above-referenced measures.
Timing:	Pre-Construction and Construction Phases
Verified By:	_____ Date: _____ County Project Manager

Impact Hydrology and Water Quality (c): Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner that would result in substantial erosion or siltation onsite or offsite.

Mitigation Measure BIO-4: Protect Water Quality and Prevent Erosion and Sedimentation in Drainages

- The County will implement Mitigation Measures BIO-4, as described above under Impact Biological Resources (a).

Implementation:	The Contractor will ensure the construction specifications include the water quality protection and erosion and sediment control best management practices described above and will ensure they are implemented during and immediately after construction.
Effectiveness Criteria:	The County will prepare and keep on file documentation verifying the implementation of the above-referenced measures.
Timing:	Pre-Construction, Construction, and Post-Construction Phases
Verified By:	_____ Date: _____ County Project Manager

Impact Noise (a): Expose persons to or generate noise levels in excess of standards established in a local general plan or noise ordinance or applicable standards of other agencies.

and

Impact Noise (d): Result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project.

Mitigation Measure NOI-1: Employ Noise-Reducing Construction Practices

- The construction contractor shall employ noise-reducing construction practices such that construction noise does not exceed construction noise standards in the El Dorado County general plan noise element. These standards limit construction noise as follows:

Land Use Designation	Time Period	Noise Level (dB) L_{eq}	Noise Level (dB) L_{max}
All Residential (MFR, HDR, MDR)	7 am–7 pm	55	75
	7 pm–10 pm	50	65
	10 pm–7 am	40	55
Commercial, Recreation, and Public Facilities (C, TR, PF)	7 am–7 pm	65	75
	7 pm–7 am	60	70
Industrial (I)	Any Time	70	80
Open Space (OS)	7 am–7 pm	55	75
	7 pm–7 am	50	65

- Measures that can be used to limit noise include but are not limited to
  - prohibiting noise-generating construction activity between the hours of 7:00 p.m. and 7:00 a.m.
  - locating equipment as far a practical from noise sensitive uses;
  - requiring that all construction equipment powered by gasoline or diesel engines have sound-control devices that are at least as effective as those originally provided by the manufacturer and that all equipment be operated and maintained to minimize noise generation;
  - prohibiting gasoline or diesel engines from having unmuffled exhaust; and
  - selecting haul routes that affect the fewest number of people.

Implementation:	The Contractor shall employ noise-reducing construction practices such that construction noise does not exceed construction noise standards in the El Dorado County general plan noise element, as described above.
Effectiveness Criteria:	The County will prepare and keep on file documentation verifying the implementation of the above-referenced measures.
Timing:	Construction Phase
Verified By:	_____ Date: _____
	County Project Manager

Mitigation Measure NOI-2: Disseminate Essential Information to Residences and Implement a Complaint/Response Tracking Program

- Before construction begins, the County shall notify residences within 500 feet of the construction areas of the construction schedule in writing. The notification will include contact information for a County representative who will be responsible for responding to complaints regarding construction noise during the full term of construction. The representative will determine the cause of the complaint and will ensure that reasonable measures are implemented to correct the problem

Implementation:	The Contractor shall notify residences within 500 feet of the construction areas of the construction schedule in writing and implement the complaint/response tracking program described above.
Effectiveness Criteria:	The County will prepare and keep on file documentation verifying the implementation of the above-referenced measures.
Timing:	Pre-Construction and Construction Phases
Verified By:	_____ Date: _____ County Project Manager

Appendix B

Compensatory Mitigation and Monitoring Plan

Appendix B
Compensatory Mitigation and Monitoring Plan

B.1 Introduction

This document describes El Dorado County Transportation Division's (County's) compensatory mitigation plan to offset direct permanent impacts on native trees that will result from construction of the Bassi Road Bridge Replacement Project (proposed project). Project impacts on environmental resources are described in this document and will be included in permit applications and materials sent to the U.S. Army Corps of Engineers (USACE), U.S. Fish and Wildlife Service (USFWS), Central Valley Regional Water Quality Control Board (RWQCB), California Department of Fish and Wildlife (CDFW, previously known as the California Department of Fish and Game), and the County. The goal of this document is to describe the County's plan to satisfy mitigation requirements and fully compensate for project effects on resources regulated by the agencies listed above.

B.1.1 Responsible Parties

B.1.1.1 Applicant

El Dorado County
Transportation Division
2820 Fairlane Court
Placerville, CA 95667
Phone: 530-621-5950
Contact: Dustin Harrington

El Dorado County is the present and expected long-term owner of the proposed mitigation site, has financial responsibility for attaining the mitigation plan success criteria, and is responsible for long-term maintenance of the mitigation site.

B.1.1.2 Preparer of Mitigation and Monitoring Plan

ICF International
630 K Street, Suite 400
Sacramento, CA 95814
Phone: 916-737-3000
Fax: 916-737-3030
Contact: Lisa Webber

B.1.2 Bassi Road Bridge Replacement Project Summary

The project area encompasses a section of Bassi Road at the bridge over Granite Creek, which is located in the community of Lotus, approximately 0.16 miles west of Lotus Road (Figures 1 and 2). The project includes replacing the existing 52-foot-long, 15-foot-wide, one-lane reinforced concrete

slab bridge with a new concrete bridge that meets current design standards. The proposed bridge will have a longer span that is approximately 96 feet long and 28 feet wide providing two traffic lanes and 3-foot shoulders on each side. The proposed bridge will be located just upstream of the existing bridge.

B.2 Project Impacts and Mitigation

B.2.1 Riparian and Oak Trees

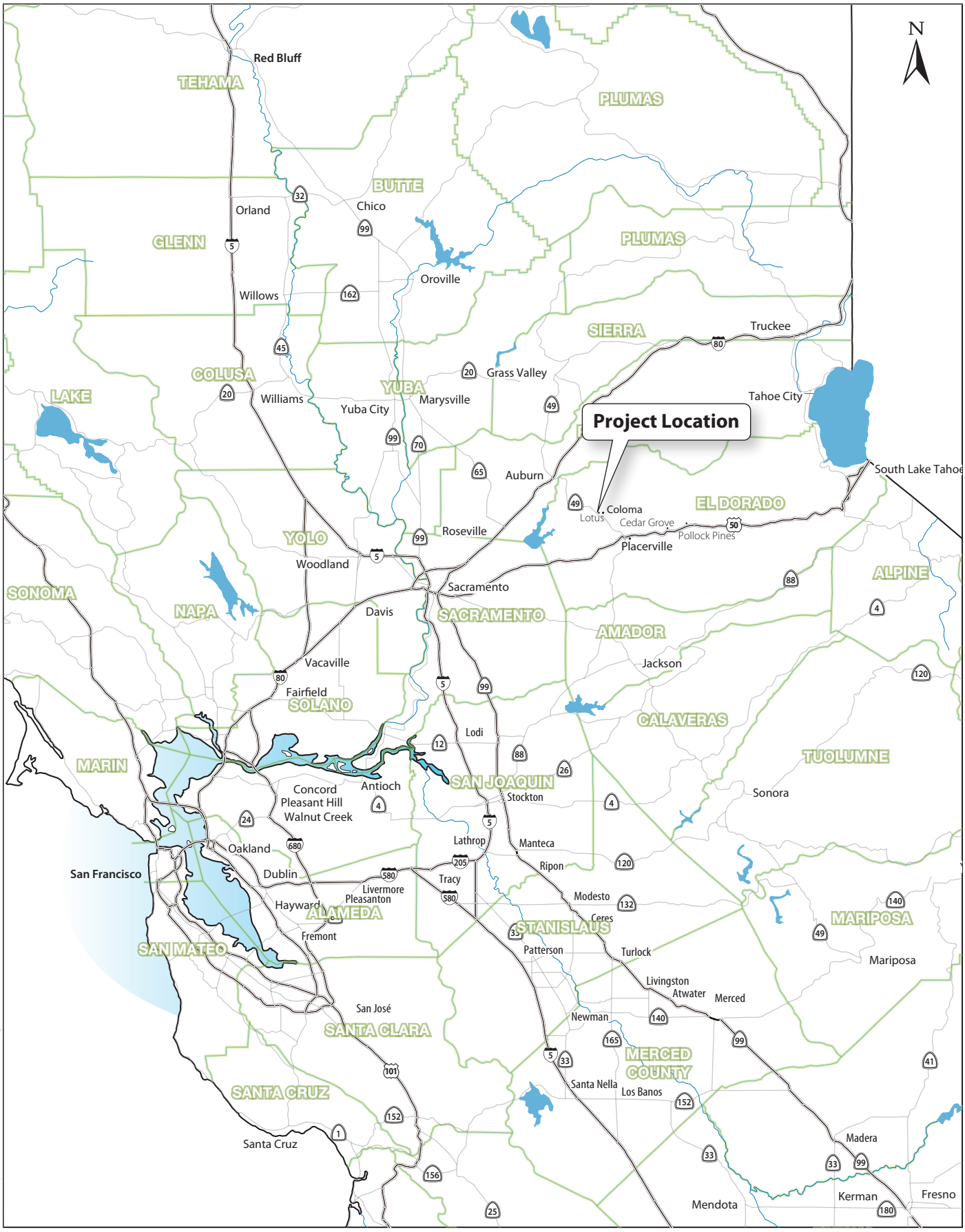
A tree survey was conducted in the project area. The map and tree table are included in Appendix D in this NES. A total of 136 trees with a dbh of 4 inches or greater were mapped in the project area. Trees to be removed are shown on Figure 3. With implementation of avoidance and minimization efforts, temporary impacts on native trees will be avoided.

B.2.1.1 Permanent Impacts

The County performed a tree survey in the project area in January 2012 to identify existing tree resources in the project area and determine project-related impacts. The proposed project will require the removal of 22 riparian trees, including white alders and willow (273 inches of total diameter at breast height [dbh]), and 65 oak trees (Figure 3). The mitigation ratio for riparian tree compensation will be a minimum of 2:1 (2 trees planted for each tree removed). The oak tree replacement ratio will be determined in coordination with CDFW.

B.2.1.2 Compensation for Trees

The County will compensate for the loss of riparian trees at a ratio of 2 trees for each 1 tree removed. A total of 22 trees will be removed with project construction; therefore, compensation will be achieved by planting, maintaining, and monitoring for 5 years, 44 riparian trees at identified sites near Bassi Road. Based on the assumption that the riparian trees will be planted 8 feet apart on center, or 1 riparian tree for each 64 square feet, an estimated 2,816 square feet or 0.065 acre would be needed to plant 44 trees. The County will also compensate for the loss of 65 oak trees at a ratio no less than 2:1. The oak tree replacement ratio will be coordinated with CDFW, and the location of the tree planting site will be determined prior to project permitting. Based on a replacement ratio of 2:1, 130 trees would be planted. Based on the assumption that the oak trees will be planted 8 feet apart on center, or 1 oak tree for each 64 square feet, an estimated 8,320 square feet or 0.19 acre would be needed to plant 130 trees. Due to the limited area of County right-of-way in the study area available for oak tree compensation planting, an off-site planting location will likely be considered to supplement the available area on-site. The County will prepare an oak mitigation plan when the tree replacement ratio and planting locations have been determined. Details of the number of oak trees to be planted, based on the replacement ratio, as well as the specific planting locations, maintenance and irrigation needs, monitoring requirements, and success criteria will be included in the oak mitigation plan.



Graphics/Projects/00507-12 El Dorado Hills Three Bridges

Figure 1
Project Vicinity

Graphics/Projects/00507.12 El Dorado Hills Three Bridges (10-12) SS

Figure 2
Project Location

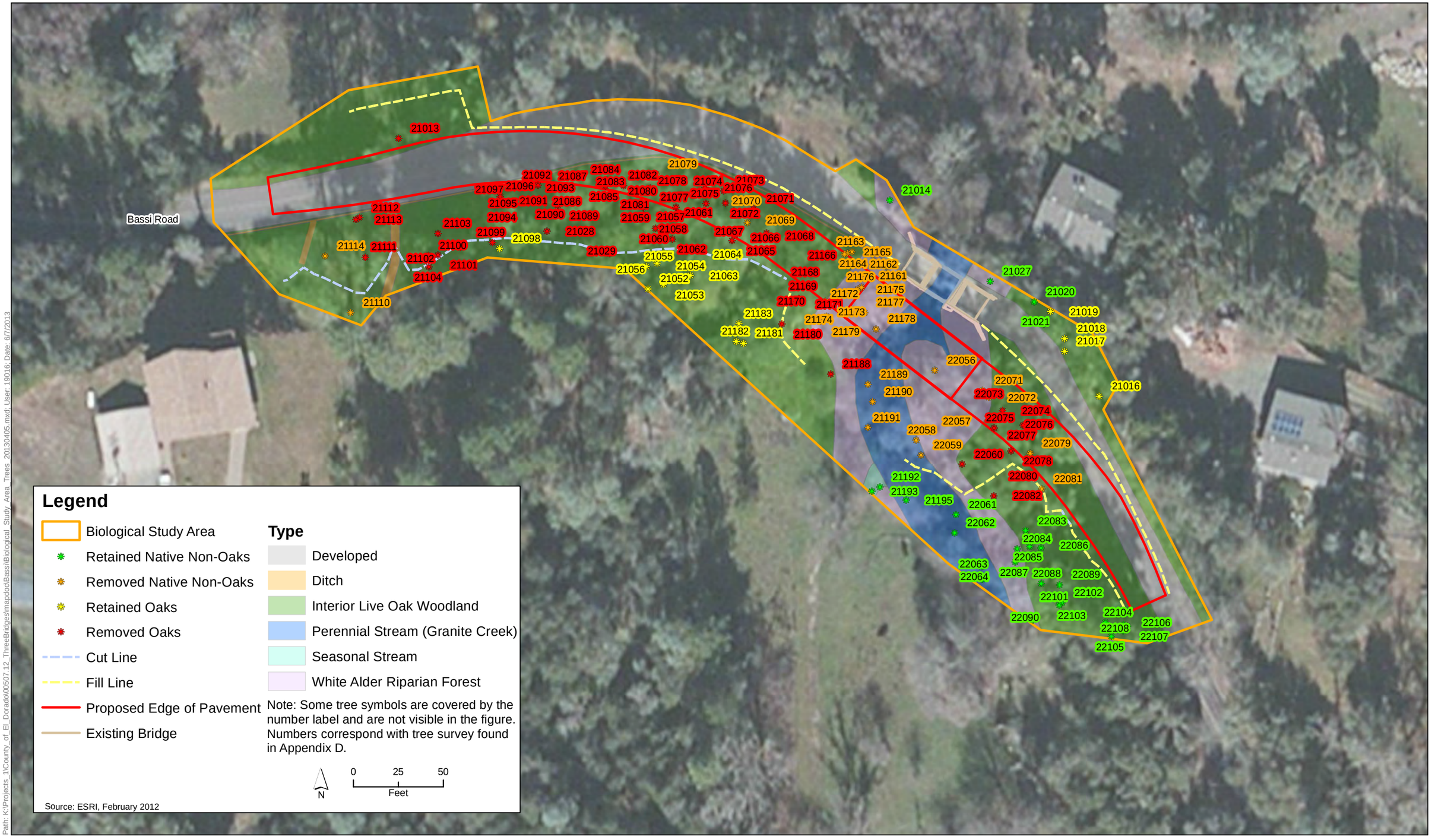


Figure 3
Trees in the Biological Study Area

B.3 Mitigation Plan

The County will mitigate for loss of riparian and oak trees by planting native trees in the Granite Creek riparian corridor, along the Bassi Road right-of-way, and, if necessary, in an off-site planting easement. This section identifies the location of the planting sites and provides information about site preparation, plant installation, and plant watering.

B.3.1 Schedule

Trees will be planted in the fall following construction to reduce transplant shock and to allow them to begin growing prior to the dry summer months. Trees will be irrigated to the point of saturation within 24 hours of planting, and irrigation will continue as needed. Mitigation maintenance and performance monitoring will begin immediately after completion of all initial restoration activities.

B.3.2 Location of Mitigation Planting Areas

The proposed tree planting areas include locations on-site and in the vicinity of the proposed project area. Riparian trees will be replanted on-site on both the east and west sides of Granite Creek and north and south of the new Bassi Road Bridge, including along the top of the creek bank. Tree planting locations are subject to revision based on requirements of the Final Engineering Plans.

B.3.3 Site Preparation

Site preparation will consist of clearing the herbaceous understory vegetation prior to planting. Site preparation may include mowing and discing. Herbaceous vegetation will be cleared in an approximate 2-foot diameter around each plant site to facilitate planting and to remove vegetation that would compete with the plantings.

B.3.4 Planting Plan

The County's contractor will determine the appropriate planting methods for trees, including transporting, storing, planting, and guying. An engineer-approved root stimulant will be applied in accordance with the manufacturer's instructions. Two-year release 20N-10P-5K, 10-gram fertilizer tablets or the equivalent, will be used in accordance with the fertilizer manufacturer's instructions. Watering basins will be constructed around each planted tree.

Each plant will be tagged and numbered after planting to facilitate annual monitoring and to track the performance of individual plants.

B.3.5 Irrigation Plan

Plantings may require irrigation during the plant establishment period. Planting at the beginning of the wet season will increase plant survival and lessen the need for supplemental irrigation. However, the revegetation contractor and/or County will monitor plantings to ensure they receive adequate water during the initial establishment period.

B.4 Maintenance and Management

B.4.1 Short-Term Maintenance Guidelines

The mitigation areas will be monitored, and maintenance will be performed as needed to ensure that the mitigation project meets the prescribed survival and growth criteria. The 30-day contractor-provided plant establishment period (Type 2) will commence upon completion and acceptance of construction and will conform to the provisions in Section 20-9 of the Caltrans Standard Specifications (2010). After this period, County staff will provide short-term maintenance for the mitigation plantings. Maintenance will include weed control, plant protection cage maintenance, plant replacement, and supplemental irrigation, if necessary.

B.4.1.1 Weed Control

The mitigation areas will be checked regularly for weed competition. Weeds will be removed from the immediate area around each plant, and weed barrier fabric will be repaired or replaced as needed. Any invasive weeds that are rated "High" by Cal-IPC will be removed and disposed of off-site. Areas between plants will be mowed 1–2 times during the growing season to reduce weed seed production, competition for water and nutrients, and the area's attractiveness to voles and other vertebrate pests that can damage young trees.

B.4.1.2 Wildlife Damage

All trees, including the areas belowground, will be inspected throughout the maintenance period for damage by browsing and gnawing animals. Tree protection cages will be checked regularly and replaced or repaired as needed. Leaf and other plant tissue will be checked for insect damage. If damage is located and proved excessive, a pest control professional will be consulted, and control measures will be implemented.

B.4.1.3 Plant Replacement

The planting areas will be inspected during annual vegetation monitoring surveys to determine whether replacement plants will be required to meet the success criterion (see the Monitoring Plan section).

Annual monitoring reports will identify the causes of plant mortality and any remedial measures that may be required. For example, if a particular species has a high mortality rate, a determination will be made about the cause of plant mortality and if replacement by another species better suited to the microsite conditions is warranted.

Required replacement trees will be provided, installed, and maintained by the County. Replacement will include planting a sufficient number of seedlings so that the number of living plants meets or exceeds the success criterion. Replacement trees will be installed according to the original plant installation methods.

B.4.2 Long-Term Management Recommendations

Although tree care is most critical during the establishment phase of a tree mitigation site, long-term monitoring and management are necessary to ensure a healthy ecosystem that provides a full complement of habitat values.

County restoration specialists will provide long-term management for the tree mitigation site in accordance with the permit conditions to retain the functions and values for wildlife habitat.

B.5 Monitoring Plan

This section describes the performance monitoring program for the tree mitigation sites, including the success criterion, monitoring schedule, monitoring methods, remedial measures, and reporting/documentation requirements. County staff will provide monitoring, remediation, and reporting for the tree mitigation sites.

The County will monitor the mitigation areas annually for a period of five years. Annual monitoring reports will be provided to CDFW with information to determine if the created and enhanced areas are progressing toward success.

B.5.1 Performance Standards and Success Criteria

For this project, a *performance standard* is a measure of a habitat characteristic used to assess the progress of the restored habitat toward meeting a success criterion. *Success criteria* are measures that indicate if the mitigation goals have been achieved at the end of the performance monitoring period. Performance standards are applied during the first four years for the tree mitigation sites. Success criteria are applied at the end of the monitoring period. The mitigation sites will be evaluated annually using the annual performance standards.

Table 1 summarizes performance standards and success criteria. Performance standards and success criteria for the mitigation sites is based on tree survival and vigor rates.

Table 1. Vegetation Monitoring Performance Standards and Success Criteria

Monitored Characteristic	Performance Standards	
	Monitoring Year	Standards
Tree Mitigation Areas		
Tree survival: minimum percentage survival of original number planted, by species	1	80%
	2–4	75%
	5	60%
Plant vigor: average vigor of plants, by species	1–4	Greater than 1.0
	5	Equal to 3.0

B.5.2 Performance Monitoring Schedule

The tree mitigation areas will be monitored during years 1–4. Monitoring surveys will be performed in August or September. Monitoring surveys will record tree survival and vigor. Monitoring results from years 1–4 will be used to determine if the mitigation site is likely to meet the success criteria. Year 5 monitoring results will be used to determine if the mitigation site has indeed met the success criteria.

If the mitigation sites do not achieve the success criteria, remedial actions, as discussed under *Contingency Measures* below, will be implemented as necessary.

B.5.3 Monitoring Methods

B.5.3.1 Survival

The success criterion for the tree plantings is 60% survival rate at the end of the 5-year monitoring period. A qualified botanist or ecologist will use the As-Built Conditions map to monitor the tree mitigation plantings and determine seedling survival rates by species. Survival rates will be determined based on the total number of plants of that species originally planted in each planting area. Plants will be recorded as dead if there is no viable aboveground growth visible. For example, if all the leaves on a tree are brown but an examination of the stems and branches shows viable stem vigor, the plant will be considered alive, although it will be given a poor vigor rating.

B.5.3.2 Plant Vigor

The tree mitigation site will be monitored to determine plant vigor by species. The determination of vigor will account for the following items:

- disease symptoms,
- low-density foliage,
- atypical leaf color,
- stem and foliar health (e.g., signs of desiccation, leaf curl),
- browsing or other wildlife-related damage, and

- vandalism.

  A vigor rating of *good*, *fair* or *poor* (values of 3.0, 2.0, and 1.0, respectively) will be assigned to each plant. Dead plants will not be assigned a vigor rating. The ratings are defined below.

- **Good (3.0):** a seedling with less than 25% of its aboveground growth exhibiting one or more of the factors listed above.
- **Fair (2.0):** a seedling with 25–75% of its aboveground growth exhibiting one or more of the factors listed above.
- **Poor (1.0):** a seedling with more than 75% of its aboveground growth exhibiting one or more of the factors listed above.
- **Dead:** a seedling that is no longer visible or that does not appear capable of growth.

  If the average plant vigor score for a given species is less than 1.0, the field monitor will evaluate the reasons the particular species received a low rating and determine if remedial measures are required. If necessary, corrective action will be taken.

B.5.4 Annual Reports

Annual reports describing the results of the performance monitoring will be submitted to CDFW each monitoring year with adequate time allowed to implement any necessary corrective measures identified in the annual report.

Annual reports will quantify conditions at the Bassi Road tree mitigation sites to demonstrate progress toward meeting the success criterion. Each monitoring report will contain:

- a summary of the project location and description;
- a summary of the monitoring methods;
- a list of County personnel who prepared the content of the annual report and/or participated in monitoring activities that year;
- a summary and analysis of the monitoring results, including an evaluation of site conditions in the context of the success criterion;
- a discussion of the monitoring results;
- management recommendations, including discussion of areas with inadequate performance and recommendations for remedial action;
- a discussion of modifications made to the monitoring methods;
- a discussion of the previous year's maintenance efforts, including (i.e., not limited to) replacement planting, weed control, and plant watering activities; and
- photodocumentation of the tree mitigation site using photographs taken from the photodocumentation stations.

B.5.5 Contingency Measures

The purpose of the tree mitigation plan is to ensure that the targeted physical and ecological functions are achieved. Remedial measures provide a mechanism for modifying the mitigation/enhancement program if the following conditions occur:

- Monitoring results during years 1-4 indicate that the mitigation site is not likely to achieve the year 3 success criteria, or
- The mitigation site does not achieve the success criteria in year 5.

The County will seek approval from CDFW for the most suitable remedial measures based on site conditions, and remedial actions must be approved prior to implementation. Remedial measures will be developed based on the qualitative and quantitative monitoring results. To develop remedial measures, the County will evaluate why the success criteria were not or are not likely to be achieved and determine the most effective remedy. Remedial measures may include the following measures.

- Replanting native trees using the same species if it is determined (based on the quantitative and qualitative site observations made during monitoring) that plant survival or vigor was influenced by human-related factors, such as fire, high-flow events, vandalism, or inadequate irrigation.
- Replanting native trees using alternative species (i.e., species other than those identified in the plant palette) if monitoring results and site conditions indicate that the original plant species is not suited to the mitigation site or to a particular location in the mitigation site.
- Installing plant protection cages or using alternative wildlife deterrent methods if wildlife damage is affecting plant survival and vigor. Wildlife use of the mitigation site is encouraged and desired, but some species (e.g., mice, voles, rabbits, deer) could cause substantial damage during the establishment period. If wildlife damage is threatening the successful establishment of woody vegetation, some types of deterrents (e.g., repellents) might be necessary.
- Continuing to water plants beyond the maintenance period if the woody plant material continually exhibits low survivorship or vigor. (These conditions might also indicate that the target plant species are not suitable for the mitigation site and that alternative species may be required.)