Draft

BUNKER HILL ROAD BRIDGE REPLACEMENT PROJECT
Initial Study / Mitigated Negative Declaration

Prepared for: Amador County Dept. of Transportation and Public Works

December 2013
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INITIAL STUDY

Proposed Project

1. Project Title: Bunker Hill Road Bridge Replacement
2. Lead Agency Name and Address: Amador County
3. Contact Person and Phone Number: Barbara Belvoir, Sr. Project Engineer (209) 223-6431
4. Project Location: Bunker Hill Road, 2.7 miles northwest of Amador City and 2,000 feet south of the northern intersection of Bunker Hill and Fremont Mine roads
5. Project Sponsor’s Name and Address: Department of Transportation and Public Works 810 Court Street Jackson, CA 95642
6. General Plan Designation(s): Residential-Suburban
7. Zoning Designation(s): R1A- Single Family Residential and Agricultural

Introduction

Amador County (County) proposed to replace the existing two-lane Bunker Hill Road Bridge (Bridge No. 26C-0043) (proposed project) in Amador County with a new two-lane bridge. The bridge crosses Rancheria Creek, a tributary of Dry Creek. The proposed project is situated in a rural portion of the County, approximately 2.7 miles northwest of Amador City and 2,000 feet south of the northern intersection of Bunker Hill and Fremont Mine roads (Figure 1). Constructed in 1925, the existing bridge is 20 feet wide and 40 feet long. The existing structure has been classified by Caltrans as Structurally Deficient and does not meet current design standards. The proposed project consists of a single span, pre-cast, pre-stressed, voided slab bridge that will be approximately 60 feet long and 26 feet wide.

Since this project is being funded by the Highway Bridge Program, the County is serving as the lead agency under the California Environmental Quality Act (CEQA). This Initial Study/Mitigated Negative Declaration (IS/MND) will address all the potential impacts of the proposed project and identify any feasible mitigation measures. Caltrans is the National Environmental Policy Act (NEPA) lead agency for the proposed project under the NEPA delegation agreement with the Federal Highway Administration (FHWA). Compliance with NEPA will be conducted by Caltrans under a separate process.
Project Purpose and Need

The existing structure is structurally deficient, does not meet current design standards, and is currently on the Caltrans eligible bridge list for replacement. The proposed project is needed to meet current shoulder widths design requirements, and improve safety.

The purpose of the proposed project is to:

- Remove the existing structure and reconstruct with a bridge that will provide adequate and safe pedestrian and vehicle access; and
- Provide a new structure that will meet current structural and geometric design standards.

Project Description

The new bridge will be constructed adjacent to the western edge of the existing bridge. The span of the new bridge would be approximately 60 feet long (20 feet longer than the existing bridge), and 26 feet wide. The approach roadway would be realigned up to 270 feet on both sides of the bridge. The realigned roadway would accommodate two 11-foot-wide travel lanes and two 2-foot-wide shoulders (Figure 2 and Figure 3).

The new foundation and abutments would be constructed behind the existing abutments and outside the ordinary high watermark (OHWM) of Rancheria Creek. Use of a precast cored slab would eliminate the need for falsework in the creek.

The replacement bridge would be constructed up to three (3) feet higher than the existing bridge in order to increase the hydraulic capacity beneath the bridge. Wing walls would be constructed parallel to the stream channel to retain the fill slopes needed to increase the height of the approaches. The wing walls would be constructed outside the OHWM of Rancheria Creek.

The existing driveway on the northwest side of Bunker Hill Road, approximately 150 feet north of the bridge would need to be modified to meet the horizontally and vertically realigned approach roadway. Access to this driveway would be maintained during construction.

During construction, traffic will be allowed to use the existing bridge. Construction would include the following activities:

- Tree removal and clearing and grubbing in the area of the new bridge and approaches
- Diversion of Rancheria Creek
- Removal of an approximately five (5)-foot-wide section of the western half of the existing bridge deck for its entire length to provide room to construct the new bridge
- Installation of k-rail along the removed western edge of the bridge to provide a temporary railing
- Constructing the new abutments and wing walls including excavating to a depth of approximately 12 feet deep to drill pile foundations
• Constructing the new roadway approaches including grading, compacting, and placing aggregate base and asphalt concrete pavement
• Installation of a new bridge deck
• Removal of the remaining portion of the existing bridge deck after construction of the new bridge
• Saw cutting and removal of a portion of the existing bridge abutments. Stabilized remaining portions of the abutments would be left in place to support the Plymouth pipeline.

Acquisition of right-of-way for the new bridge and approaches would be required along the west side of the proposed bridge alignment. A temporary construction easement would be needed for work on the private driveway.

An eight inch ductile iron water line connected to the western edge of the existing bridge and the Plymouth Pipeline (waterline) supported by the existing bridge abutments would remain in place on the existing bridge abutments. Allowances for future utilities would be incorporated into the design of the new structure.

**Demolition and Construction**

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

Construction of the new bridge abutments and wing walls may require diversion of Rancheria Creek. Diversion methods may include the use of water pillows, rock, sandbags, sheet piling, pipes or coffer dams, or other structural methods approved by the Project Engineer and California Department of Fish and Wildlife (CDFW). Excavations at the abutments and wing walls may need to be dewatered. Groundwater and seepage in the dewatered area will be removed in accordance with Section 401 of the Clean Water Act (CWA). Best management practices (BMPs) will be implemented during construction to prevent concrete or other materials from entering the channel.

Upon completion of construction activities within the creek bed, the temporary diversion structures will be removed. All gravel bags will be removed in their entirety from the Project site, and the creek bed returned to its pre-project conditions. Portions of the creek bank temporarily impacted will be revegetated for erosion control. Specific revegetation methods are described in the Revegetation Planting and Erosion Control Specifications (Appendix A).

Rock slope protection (RSP) will be placed around the bridge abutments and wing walls to stabilize the creek banks and reduce erosion. The RSP may extend from the base of the new abutments and wing walls to approximately 2.5 feet below the OHWM of Rancheria Creek. Final placement of RSP will be determined by the Project engineer.

The Project proposes to revegetate areas of temporary disturbance within the Project footprint with native riparian vegetation. A conceptual Replanting Plan is in Appendix B.
Surrounding Land Uses and Setting

The proposed project is located in California’s Sierra Nevada foothills. The proposed study area is in a rural residential/agricultural area within the central portion of Amador County. The project site is approximately 2.7 miles southwest of Amador City. Adjacent land uses consist of rural residences and grazing land. The nearest residences are located more than 300 feet north and west of the proposed project site.

Permits and Approvals Needed

The following permits, reviews, and approvals are required for project construction:

<table>
<thead>
<tr>
<th>Agency</th>
<th>Permit/Approval</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Caltrans/FHWA</td>
<td>Approval of Categorical Exclusion (CE)</td>
<td>Follows approval of technical studies.</td>
</tr>
<tr>
<td>California Department of Fish and Wildlife</td>
<td>Section 1602 Streambed Alteration Agreement</td>
<td>Permit application to follow CEQA/NEPA process</td>
</tr>
<tr>
<td>Central Valley Regional Water Quality Control Board</td>
<td>Section 401 Water Quality Certification</td>
<td>Application to follow release of MND</td>
</tr>
<tr>
<td>U.S. Army Corps of Engineers</td>
<td>Section 404 Nationwide Permit</td>
<td>Application to follow release of MND</td>
</tr>
<tr>
<td>United States Fish and Wildlife Service</td>
<td>Section 7 Consultation for Threatened and Endangered Species</td>
<td>Natural Environment Study Report (NES) and Biological Assessment (BA) prepared as basis for informal consultation</td>
</tr>
<tr>
<td>Central Valley Regional Water Quality Control Board</td>
<td>General construction activity stormwater discharge permit</td>
<td>File Notice of Intent and prepare Stormwater Pollution Prevention Plan (SWPPP) required prior to construction</td>
</tr>
</tbody>
</table>

Table 1. Project Permits and Approvals
ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

The proposed project could potentially affect the environmental factor(s) checked below. The following pages present a more detailed checklist and discussion of each environmental factor.

- Aesthetics
- Biological Resources
- Greenhouse Gas Emissions
- Hydrology and Water Quality
- Noise
- Recreation
- Mandatory Findings of Significance
- Agriculture and Forestry Resources
- Cultural Resources
- Energy
- Land Use and Land Use Planning
- Population and Housing
- Transportation and Traffic
- Air Quality
- Geology, Soils and Seismicity
- Hazards and Hazardous Materials
- Mineral Resources
- Public Services
- Utilities and Service Systems

DETERMINATION: (To be completed by Lead Agency)

On the basis of this initial study:

- 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 revisions in the project have been made by or agreed to by the project proponent. 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 proposed 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 proposed 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, no further environmental documentation is required.

Barbara Belvoir, Sr. Project Engineer

Signature: ___________________________  Date: ___________________________
## ENVIRONMENTAL CHECKLIST

### Aesthetics

<table>
<thead>
<tr>
<th>Issues (and Supporting Information Sources):</th>
<th>Potentially Significant Impact</th>
<th>Less Than Significant with Mitigation Incorporation</th>
<th>Less Than Significant Impact</th>
<th>No Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aesthetics – Would the project:</td>
<td></td>
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</tr>
<tr>
<td>a) Have a substantial adverse effect on a scenic vista?</td>
<td>☐</td>
<td>☐</td>
<td>☒</td>
<td>☐</td>
</tr>
<tr>
<td>b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?</td>
<td>☐</td>
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<td>☒</td>
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</tr>
<tr>
<td>c) Substantially degrade the existing visual character or quality of the site and its surroundings?</td>
<td>☐</td>
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<tr>
<td>d) Create a new source of substantial light or glare which would adversely affect daytime or nighttime views in the area?</td>
<td>☐</td>
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</table>

### Discussion

a) The project site is located across Rancheria Creek and is surrounded by rolling oak woodland. The project area is composed of grazing land, Rancheria Creek and the existing road and bridge. The proposed project area is representative of the general visual character of rural Amador County and is not otherwise particularly distinctive. The introduction of the proposed project would not change the current land uses in the area (grazing land, creek and road/bridge). The proposed bridge and approach work will be constructed in the same general location as the existing bridge with only slight adjustments vertically to the roadway and bridge (maximum of three feet). Slight vertical changes to the road and bridge are needed to accommodate for the 100-year flood elevation. Slight changes to the vertical alignment of the bridge would not obstruct or have an adverse effect on a scenic vista. This is a **less-than-significant impact** and no mitigation measures are required.

b) A review of the current Caltrans Map of Designated Scenic Routes indicates that there are two officially designated state scenic highways within Amador County. Highway 49 in western Amador County (runs north-south through the County) and Highway 88 (runs east-west through the County) are both officially designated state scenic highways. These highways are not located within the vicinity of the proposed project site. Furthermore, Bunker Hill Road is not identified as a scenic roadway under any County planning document. Consequently, the proposed project would have no impact on scenic resources associated with a scenic highway or roadways and no mitigation measures are required.

c) The visual character of the proposed project would be compatible with the existing visual character of the corridor. The proposed project would not affect the pattern elements (rolling foothill forms, green/natural colors or rural textures) of the project area. The proposed project would not interrupt land use diversity with addition of new land uses. The replacement of the new bridge and
approaches would be similar, though slightly larger in scale and elevated three feet above the current bridge and road.

Viewer groups include motorists and adjacent residences. Viewer sensitivity to the proposed roadway changes is considered low, because the overall clarity, distance and relative dominance of the modified roadway would all be generally low.

Construction of the proposed project would result in temporary changes in local visual conditions, such as clearing and grading at the project site. Any new cuts and fills will be contoured to smoothly transition into existing grades and to mimic adjacent landforms. Also, any area disturbed during construction will be revegetated with native and appropriate vegetation to minimize erosion and visual contrast with existing vegetation. A Revegetation Planting and Erosion Control Specification and Replanting Plan have been prepared for the proposed project (Appendix A and B). Given the relatively short-term nature of these construction-related activities, construction-related visual impacts are considered less-than-significant and no mitigation measures are required.

Since the proposed project is a replacement of an existing bridge, there would be no permanent changes to existing views; however, it would result in a slight widening of the bridge to meet current design standards. No other new structures would be added as part of the project and the proposed project would include a similar bridge structure and only slight change to the bridge elevation to accommodate the 100-year flood elevation. These changes in views would not substantially degrade the existing visual character or quality of the site and its surroundings. This is a less-than-significant impact and no mitigation measures are required.

d) The project site is located within a rural setting where lighting is currently minimal. Roadway traffic is the primary source of nighttime light and daytime glare in the vicinity of the project site. The proposed project will not result in any changes that would introduce new sources of light and glare (i.e., billboards, street lamps, security lighting, etc.) to the vicinity of the project site. Additionally, it is not the purpose of the proposed project to increase roadway capacity, so greater numbers of vehicles will not be introduced in this area as a result of construction of the proposed project. Consequently, the proposed project would have no impact and no mitigation measures are required.

References
California Department of Transportation (Caltrans), 2010. Caltrans Map of Designated Scenic Routes.

Agricultural and Forest Resources

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<thead>
<tr>
<th>Issues (and Supporting Information Sources):</th>
<th>Potentially Significant Impact</th>
<th>Less Than Significant Impact with Mitigation Incorporation</th>
<th>Less Than Significant Impact</th>
<th>No Impact</th>
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</table>

**Agricultural and Forest Resources** — In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state’s inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board.

**Would the project:**

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 a Williamson Act contract? □ □ □ □ [✗]

c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))? □ □ □ □ [✗]

d) Result in the loss of forest land or conversion of forest land to non-forest use? □ □ □ □ [✗]

e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use? □ □ □ □ [✗]

**Discussion**

a) The Department of Conservation’s Farmland Mapping and Monitoring Program (FMMP) designates the project site “Grazing Land” and “Other Land” (Department of Conservation, 2013). The proposed project would not result in any impact or acquisitions of Prime Farmland, Unique Farmland, or Farmland of Statewide Importance; therefore, there is no impact associated with the conversion or loss of farmland resulting from the project and no mitigation measures are required.

b) Similar to as discussed under (a), there is no land in the project site listed under the Williamson’s Act according to Department of Conservation. The proposed project will not result in any impacts to any lands covered by a Williamson Act contract. There is no impact and no mitigation measures are required.
c, d) The proposed project site consists of a two-lane bridge crossing a creek. Land uses surrounding the project site are designated as Residential-Suburban, classified as lands best suited to low density residential uses in suburban areas not served by both domestic water and sewer systems, or by various other urban services. The project site is not within an area zoned for forestland or timberland and would not result in the loss of forest land or conversion of forest land. There is no impact and no mitigation measures are required.

e) As discussed above in (a) though (d), no important farm lands are located within the proposed project site. The proposed project does not propose any new land uses or the permanent conversion of existing agricultural lands or result in any other actions that would impact the adjacent agricultural lands. There is no impact and no mitigation measures are required.

References
Air Quality

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<tr>
<th>Issues (and Supporting Information Sources)</th>
<th>Potentially Significant Impact</th>
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<th>Less Than Significant Impact</th>
<th>No Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>Air Quality – Where 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:</td>
<td></td>
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</tr>
<tr>
<td>a) Conflict with or obstruct implementation of the applicable air quality plan?</td>
<td>☐</td>
<td>☐</td>
<td>☒</td>
<td>☐</td>
</tr>
<tr>
<td>b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?</td>
<td>☐</td>
<td>☐</td>
<td>☒</td>
<td>☐</td>
</tr>
<tr>
<td>c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?</td>
<td>☐</td>
<td>☐</td>
<td>☒</td>
<td>☐</td>
</tr>
<tr>
<td>d) Expose sensitive receptors to substantial pollutant concentrations?</td>
<td>☐</td>
<td>☐</td>
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<td>☐</td>
</tr>
<tr>
<td>e) Create objectionable odors affecting a substantial number of people?</td>
<td>☐</td>
<td>☐</td>
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</tr>
</tbody>
</table>

Discussion

a) The project site is located in unincorporated Amador County within the Amador County Air Pollution Control District (ACAPCD). The ACAPCD is part of the Mountain County Air Basin (MCAB). The role of ACAPCD is to achieve clean air to protect public health and the environment. ACAPCD’s primary responsibility is attaining and maintaining National Ambient Air Quality Standards (NAAQS) and California Ambient Air Quality Standards (CAAQS). ACAPCD is responsible for adopting and enforcing rules and regulations concerning air pollutant sources, issuing permits for stationary sources of air pollutants, inspecting stationary sources of air pollutants, responding to citizen complaints, and monitoring ambient air quality and meteorological conditions.

The purpose of the proposed project is to replace the existing Bunker Hill Road Bridge, and to provide safe access for vehicles and meet current design standards. The proposed project would not increase roadway capacity or service capabilities that would induce unplanned growth or remove an existing obstacle to growth. The proposed project would not increase long-term traffic levels and there would be no operational impacts to air quality. Therefore, the proposed project would not conflict with the region’s air quality management plans and would be considered a less-than-significant impact and no mitigation measures are required.

b) The MCAB lies along the northern Sierra Nevada mountain range, close to or contiguous with the Nevada border, and covers an area of roughly 11,000 square miles. Elevations range from over 10,000 feet at the Sierra crest down to several hundred feet above sea level at the Sacramento County boundary. Regional airflows are affected by the mountains and hills, which direct surface air...
flows, cause shallow vertical mixing, and create areas of high pollutant concentrations by hindering dispersion.

Since the proposed project would not add lanes or increase capacity, it would only affect local air pollutants during construction (approximately eight months as a conservative estimate). The proposed project would not affect long-term air pollutant emissions in the area or stationary air pollutant sources.

Construction
The primary concern to the ACAPCD during construction would be PM$_{10}$ emissions from dust-generating activities. As of September 14, 2011, Amador County is designated an unclassified for the PM$_{10}$ NAAQS.

The ACAPCD has adopted RULE 218- FUGITIVE DUST EMISSIONS. The ACAPCD’s approach to CEQA analysis of construction impacts is to require implementation of effective and comprehensive control measures rather than to require detailed quantification of emissions. Good housekeeping and/or work practices described in RULE 218 include but are not limited to the following:

- Application of water and/or approved chemicals to control emissions in the demolition of existing buildings or structures, construction operations, solid waste disposal operations, the grading of roads and/or the clearing of land.
- Application of asphalt, water and/or approved chemicals to road surfaces.
- Application of water and/or suitable chemicals to material stockpiles and other surfaces that may generate fugitive dust emissions.
- Paving and/or re-paving roads.
- Maintenance of roadways in a clean condition by washing with water or sweeping promptly.
- Covering or wetting material stockpiles and open-bodied trucks, trailers, or other vehicles transporting materials that may generate fugitive dust emissions when in motion.
- Installation and use of paved entry aprons or other effective cleaning techniques to remove dirt accumulating on a vehicle’s wheels on haul or access roads to prevent tracking onto paved roadways.
- For process equipment, the installation and use of hoods, fans, and filters to enclose, collect, and clean the emissions prior to venting.
- Ceasing operations until fugitive emissions can be reduced and controlled.
- Using vegetation and other barriers to contain and to reduce fugitive emissions.
- Using vegetation for windbreaks.
- Instituting good housekeeping practices by regularly removing piles of material that have accumulated in work areas and/or are generated from equipment overflow.
- Maintaining reasonable vehicle speeds while driving on unpaved roads in order to minimize fugitive dust emissions.
- Other precautions not specifically listed in this rule but have been approved in writing by the ACAPCD prior to implementation.

With implementation of these required controls, PM$_{10}$ impacts from construction of the proposed project would be **less-than-significant** and no mitigation measures are required.
### Operations

The proposed project would not result in increased capacity or additional vehicle trips. The proposed project would not increase long-term traffic levels. There would be no impact to air quality under full operation of the proposed project and no mitigation measures are required.

c) As discussed above under Item (b), the proposed project would result in minimal air pollutant emissions during the short-term duration of construction. In addition, the proposed project would not result in any operational activities or emissions. Therefore, the proposed project would not result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard. Consequently, this impact is less-than-significant and no mitigation measures are required.

d) As noted above under Item (b), the proposed project would not generate substantial pollutant concentrations with implementation of measures listed under RULE 218 and, therefore, would not expose sensitive receptors to substantial pollutant concentrations. This impact would be less-than-significant and no mitigation measures are required.

e) Generally, the types of projects or activities that pose potential odor problems include refineries, chemical plants, wastewater treatment plants, landfills, composting facilities, and transfer stations. The proposed project is a short-term bridge replacement project that is located within a largely rural area that would not create objectionable odors affecting a substantial number of people. This impact would be less-than-significant and no mitigation measures are required.

### References

**Biological Resources**

<table>
<thead>
<tr>
<th>Issues (and Supporting Information Sources):</th>
<th>Potentially Significant Impact</th>
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<tbody>
<tr>
<td><strong>Biological Resources — Would the project:</strong></td>
<td></td>
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<td></td>
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</tr>
<tr>
<td>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?</td>
<td>☐</td>
<td>☒</td>
<td>☐</td>
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</tr>
<tr>
<td>b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?</td>
<td>☐</td>
<td>☐</td>
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<td>☐</td>
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<tr>
<td>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, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?</td>
<td>☐</td>
<td>☐</td>
<td>☒</td>
<td>☐</td>
</tr>
<tr>
<td>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?</td>
<td>☐</td>
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<td>e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?</td>
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<td>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?</td>
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**Setting**

**Data Sources/Methodology**

The Bunker Hill Road at Rancheria Creek Bridge Replacement Natural Environment Study (NES) was prepared for the proposed project and is available for review at the County. An evaluation of biological resources was conducted to determine whether any special-status plant or wildlife species, or their habitat, or sensitive habitats occurs in the Biological Survey Area (BSA). Data on special-status species and habitats known in the area was obtained from state and federal agencies. Maps and aerial photographs of the BSA and surrounding areas were reviewed. A field survey was conducted to determine the habitats present.
Regional Species and Habitats of Concern
Habitat types and vegetation communities within the project site include Mix Oak-Gary Pine Woodland, Annual Brome Grassland and Fremont Cottonwood Riparian Forest. Rancheria Creek is the primary feature within the project site. Bunker Hill Road is a paved, north-south aligned road in the survey area. A private gravel driveway and gravel turnout at the intersection of the driveway and Bunker Hill road occurs in the northeast portion of the survey area and a short segment of a private gravel driveway entrance occurs near the southern end.

Fremont Cottonwood Forest
There are 0.19 acre of Fremont cottonwood forest in the project impact area (PIA). Fremont cottonwood forest is a sensitive natural community because it is ranked as G4S3.2 which is considered high inventory priority by CDFW (Sawyer et al. 2009). Fremont cottonwood forest occurs along the margins of Rancheria Creek in the PIA. This community is dominated by Fremont cottonwood (Populus fremontii). Other common trees in the community are white alder (Alnus rhombifolia) and red willow (Salix laevigata). Other tree and shrub species present include Valley oak, Oregon ash (Fraxinus latifolia) and Himalayan blackberry (Rubus discolor). Dense clumps of sedges (Carex spp.) grow in and along the creek. Several patches of broad-leaved cattails (Typha latifolia) grow in the creek downstream of the bridge.

Valley Elderberry Longhorn Beetle (VELB; Desmocerus californicus dimorphis)
Although the proposed project is not located in the critical habitat for VELB, it is known to range from 31 counties from Redding south to Bakersfield and from the western foothills of the Sierra Nevada to the eastern foothills of the Coast Range. There is one California Natural Diversity Database (CNDDB) record for VELB on the nine quads centered on the survey area, located approximately 8.7 miles southwest of the BSA. One elderberry shrub occurs 25 feet outside the PIA boundary along the northern bank of Rancheria Creek, east of Bunker Hill Road. VELB has a higher probability of occurrence in individual elderberry shrubs that are members of larger elderberry shrub populations in riparian forests along perennial watercourses. The isolated nature of the elderberry shrub adjacent to the PIA decreases the likelihood of VELB occupancy. Inspection of the elderberry shrub revealed no VELB exit holes, and the elderberry shrub does not appear to be occupied by VELB. The elderberry shrub in the BSA will not be removed as a result of construction activities related to the proposed project. To further protect the shrubs from disturbance, the County will implement avoidance and protective measures as described in “Conservation Guidelines for the Valley Elderberry Longhorn Beetle” (USFWS 1999a).

California Red-legged Frog (CRLF; Rana draytonii)
CRLF are endemic to CA and Baja California, Mexico. Its known elevation range extends from near sea level to approximately 5,200 feet. Nearly all sightings have occurred below 3,500 feet (USFWS 2002). No critical habitat has been designated for CRLF in Amador County. The nearest CRLF critical habitat unit is located in Calaveras County. There are no CNDDB records for CRLF in the nine quads centered on the BSA. The closest record for CRLF is located 14.6 miles south of the BSA in Calaveras County on Youngs Creek. A site assessment and field surveys for CRLF were conducted in accordance with the USFWS Revised Guidance on Site Assessment and Field Surveys for California Red-legged Frogs (2005). The surveys were conducted in the PIA, at publicly accessible aquatic habitats, and at private aquatic habitats where permission was obtained to access within a 1-mile radius of the PIA. Rancheria Creek in the PIA does not provide suitable breeding habitat for CRLF due to the presence of bullfrogs and sunfish, combined with the high spring flows and lack of deep, slow-moving pools during the breeding season. Several ponds that occur on adjacent properties provide the deep, slow-moving habitat needed for CRLF breeding. These ponds were surveyed during the USFWS guideline surveys and no CRLF were found.
Many large bullfrogs were found in these ponds. The PIA could provide dispersal habitat for CRLF. CRLF were not observed during the field surveys.

Additional sensitive species that may occur in the project area include the following:

- Foothill Yellow-Legged Frog (FYLF; *Rana boylii*);
- Western Pond Turtle (WPT; *Emys marmorata*);
- Pallid bat (*Antrozous pallidus*);
- Red Hills soaproot (*Chlorogalum grandiflorum*);
- Brandegee’s clarkia (*Clarkia bioloba ssp. brandegeae*);
- Tuolumne button-celery (*Eryngium pinnatisectum*); and
- Parry’s horkelia (*Horkelia parryi*)

**Discussion**

a) The proposed project has the potential habitat for Valley Elderberry Longhorn Beetle (*VELB; Desmocerus californicus dimorphis*) and California red-legged frog (CRLF; *Rana draytonii*).

**Valley Elderberry Longhorn Beetle (VELB; *Desmocerus californicus dimorphis***). One elderberry shrub occurs in the Fremont cottonwood forest approximately 25 feet outside the PIA boundary along the northern bank of Rancheria Creek, east of Bunker Hill Road. The elderberry shrub will not be removed as a result of construction activities related to the proposed project. Trees and shrubs, which will not be removed, provide a buffer between the elderberry shrub and the limits of construction. To further protect the shrubs from disturbance, the County will implement avoidance and protective measures as described in “Conservation Guidelines for the Valley Elderberry Longhorn Beetle” (USFWS 1999a) and listed below.

**California Red-legged Frog (CRLF; *Rana draytonii***). Rancheria Creek in the PIA does not provide suitable breeding habitat for CRLF due to the presence of bullfrogs and sunfish, combined with the high spring flows and lack of deep, slow-moving pools during the breeding season. Several ponds that occur on adjacent properties provide the deep, slow-moving habitat needed for CRLF breeding. These ponds were surveyed during the USFWS guideline surveys and no CRLF were found. Many large bullfrogs were found in these ponds.

The closest known record of CRLF is located 14.6 miles south of the PIA in Calaveras County on Youngs Creek. A study conducted by Fellers and Kleeman (2007) showed that most CRLF do not disperse farther than the nearest suitable non-breeding habitat. A radio telemetry study of 115 CRLF in Olema Valley, Marin County, conducted over five and half years found that the majority (69%) of CRLF moved less than 100 feet (straight-line) from breeding sites and, of that group, most frogs did not leave the breeding site. Of the frogs that traveled further, the median travel distance was 500 feet from breeding habitat. The furthest distance traveled was 0.87 miles (straight-line). Youngs Creek is located outside the dispersal range of the proposed project site.

The PIA could provide dispersal habitat for CRLF, although unlikely that CRLF would disperse into the Project site based on the distance to the nearest population of CRLF (14.6 miles to the south), the presence of nonnative predators in Rancheria Creek and the ponds on adjacent parcels, and the lack of evidence that CRLF occur within one mile of the proposed project site.

Because no CRLF breeding habitat exists within the PIA, the only CRLF usage would be summer refugia and upland dispersal habitat. Removal of riparian trees and the potential
diversion/dewatering in Rancheria Creek could cause temporary impacts to potentially dispersing CRLF by displacing them from the PIA until completion of construction.

The proposed project will not result in permanent impacts to CRLF dispersal habitat. Areas disturbed as a result of construction in the riparian corridor will be revegetated at a 3:1 ratio with similar riparian tree species. The proposed project will not change the potential summer refugia and upland dispersal opportunities for CRLF after construction and will not increase capacity for traffic on Bunker Hill Road. Uses of adjacent areas will not change as a result of the proposed project. Additionally, implementation of the avoidance and minimization measures described below will reduce effects to CRLF.

With the implementation of mitigation measures listed below, it has been determined that the proposed project will have a less-than-significant impact on special status species.

b) There is 0.19 acres of Fremont cottonwood forest in the PIA. Fremont cottonwood forest is a sensitive natural community because it is ranked as G4S3.2, which is considered high inventory priority by DFG (Sawyer et al. 2009). A total of 0.05 acres of Fremont cottonwood forest will be temporarily disturbed due to construction activities. The proposed project will result in the permanent loss of 0.07 acres of Fremont cottonwood forest in the PIA.

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

The project proposes to revegetate areas of temporary disturbance within the PIA footprint with native riparian vegetation to minimize impacts to the Fremont cottonwood forest. After the project is approved, the County will apply for any necessary permits from CDFG. Impacts will be mitigated in accordance with agency requirements. A conceptual Replanting Plan is in Appendix B.

The Fremont cottonwood forest community occurs along and within the ordinary high watermark (OHWM) of Rancheria Creek in the PIA. Hydrology for Rancheria Creek originates east of and outside the PIA. Rancheria Creek is tributary to Dry Creek which is tributary to the Mokelumne River. The majority of the Rancheria Creek in the PIA consists of an equal mix of shallow riffles and deep runs. Substrate within Rancheria Creek is dominated by small boulders, bedrock, cobbles and vegetated silt.

Based on the preliminary engineering design, rock slope protection (RSP) will likely be placed around the bridge abutments and wing walls to stabilize the creek banks and reduce erosion. The new abutments and wing walls will be constructed outside the OHWM. The RSP may extend from the base of the new abutments and wing walls to approximately 2.5 feet below the OHWM of Rancheria Creek. Placement of RSP will result in up to 0.01 acres of permanent impacts to Rancheria Creek and temporarily impact 0.07 acres of Rancheria Creek. Temporary impacts will result from stream diversion and dewatering and removal of the existing bridge.
During construction, water quality will be protected by implementation of best management practices (BMPs) of the California Stormwater Quality Association (2003). The BMPs will be described in the Storm Water Pollution Prevention Plan (SWPPP) required under the National Pollutant Discharge Elimination System (NPDES) permit.

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

As previously mentioned, the project proposes to revegetate areas of temporary disturbance within the project footprint with native riparian vegetation. Additionally, after the project is approved, the County will apply for any necessary permits from the USACE, CDFG, and the RWQCB. Impacts will be mitigated in accordance with agency requirements to ensure no net loss of acreage or value to waters of the U.S.

Avoidance and minimization measures will be used to ensure that the proposed project would not affect natural communities, therefore this impact is considered less-than-significant.

c) Potential jurisdictional wetlands and other waters of the U.S. were delineated within the project site. This information must be submitted to the U.S. Army Corps of Engineers (USACE) for verification. Rancheria Creek in the PIA is a potential water of the U.S. The proposed project has been designed to minimize impacts to waters to the maximum extent practicable. The new bridge design is a single span with the new foundation and abutments to be constructed outside of the creek channel. Use of a precast cored slab will eliminate the need for falsework in the creek. A total of 0.07 acre of Rancheria Creek will be temporarily affected by project construction. A total of 0.01 acres of Rancheria Creek will be permanently affected by project construction.

The following permits are expected to be obtained prior to construction: a Clean Water Act Section 404 Nationwide Permit from the USACE; a Clean Water Act Section 401 Water Quality Certification Waiver from the Regional Water Quality Control Board; and a California Fish and Game Code 1600-1602 Streambed Alteration Agreement (SAA) from the CDFG. All permit requirements will be implemented to mitigate for loss of waters of the U.S. and reduce impacts to water quality during construction; therefore, this impact is considered less-than-significant.

d) Rancheria Creek is an intermittent drainage that flows west through the center of the PIA. Rancheria Creek goes dry for a short duration during fall, though likely retains perennial pools. The creek allows common aquatic and terrestrial wildlife species to safely disperse back and forth between suitable habitats to the east and west. Highways and roads can present an impassable barrier to many wildlife species and are hazardous for wildlife to cross. Relatively unimpeded waterways such as Rancheria Creek provide important movement corridors that allow dispersal and subsequent gene flow between wildlife populations separated by roads and populated areas. The proposed project would not remove, degrade, or otherwise interfere substantially with the structure or function of this wildlife movement corridor, though some temporary disruption of wildlife movement would occur during the construction period, this impact is considered less-than-significant.

e) As discussed above, a total of 0.05 acres of Fremont cottonwood forest will be temporarily disturbed due to project construction. The proposed project will result in the permanent loss of
0.07 acre of Fremont cottonwood forest in the PIA. Fremont cottonwood forest cannot be avoided during construction of the new bridge.

The project proposes to revegetate areas of temporary disturbance within the PIA footprint with native riparian vegetation to minimized impacts to the Fremont cottonwood forest. After the project is approved, the County will apply for any necessary permits from CDFG. Impacts will be mitigated in accordance with agency requirements. A conceptual Replanting Plan is in Appendix B; therefore, this impact is considered less-than-significant.

f) Under the Magnuson-Stevens Fishery Conservation and Management Act, the Pacific Fishery Management Council (PFMC) manages salmon fisheries through the designation of EFH and monitoring of threats to that habitat from both fishing and non-fishing activities. Salmon EFH includes all those streams, lakes, ponds, wetlands, and other water bodies currently or historically accessible to salmon in Washington, Oregon, Idaho, and California. Salmon EFH excludes areas upstream of longstanding naturally impassible barriers (i.e. natural waterfalls in existence for several hundred years), but includes aquatic areas above all artificial barriers except specifically named impassible dams. Essential habitat types identified by NMFS for salmon include juvenile rearing areas, juvenile migration corridors, areas for growth and development into adulthood, adult migration corridors, and spawning areas (65 FR 7773).

In a letter dated 9 October 2009, the National Marine Fisheries Service (NMFS) stated that the proposed project may affect essential fish habitat (EFH) for Pacific salmon as described in Amendment 14 of the Pacific Salmon Fishery Management Plan pursuant to the Magnuson-Stevens Fishery Conservation and Management Act. Rancheria Creek and the PIA are not located within a watershed designated as EFH for Pacific salmon; therefore, the proposed project will not affect designated EFH for Chinook salmon; therefore, this impact is considered less-than-significant.

Mitigation Measures

Mitigation Measure VELB-1: Establish Environmentally Sensitive Areas (ESA). The County will establish an Environmentally Sensitive Areas (ESA) from the dripline of the elderberry shrub to the project impact area. The ESA will be fenced, flagged, and signed to alert the construction crew to avoid the areas beyond the PIA boundary. The fence may consist of either the existing pasture fence or orange construction fencing. The signs will be placed every 50 feet along the edge of the ESA and will state: “This area is habitat of the Valley elderberry longhorn beetle, a threatened species, and must not be disturbed. This species is protected by the Endangered Species Act of 1973, as amended. Violators are subject to prosecution, fines, and imprisonment.” The signs will be readable from a distance of 20 feet and will be maintained for the duration of construction.

Mitigation Measure VELB-2: Knowledge of Valley Elderberry Longhorn Beetle. Construction personnel shall participate in a USFWS-approved worker environmental awareness program prior to the onset of construction activities. Contractors will be briefed on the need to avoid damaging the elderberry shrub
and the possible penalties for not complying with these requirements. Work crews will be given instruction about the status of the beetle and the need to protect its elderberry host plant. Upon completion of training, employees will sign a form stating that they attended the training and understand all the conservation and protection measures.

**Mitigation Measure VELB-3: Revegetation.** Ground that is disturbed during construction and within 100 feet of the elderberry shrub will be restored (revegetated) after completion of construction in accordance with the Revegetation Planting and Erosion Control Specifications in Appendix A.

**Mitigation Measure CRLF-1: Avoidance and Minimization Efforts for CRLF.** Implementation of the following avoidance and minimization efforts will ensure that no take of CRLF occurs as a result of the project:

- The project proponent shall use a Service-approved biologist for preconstruction surveys and construction monitoring. The project proponent shall submit the name and credentials of the project’s biologist(s) to the Service for review at least 15 days prior to the onset of construction activities.

- Environmental awareness training will be conducted by a Service-approved biologist prior to the onset of project work for construction personnel to brief them on how to recognize CRLF. Construction personnel should also be informed that if a CRLF is encountered in the work area, construction should stop and the Service contacted for guidance. The crew foreman will be responsible for ensuring that crew members adhere to the guidelines and restrictions. Education programs will be conducted for appropriate new personnel as they are brought on the job during the construction period. Upon completion of training, employees will sign a form stating that they attended the training and understand all the conservation and protection measures.

- Within 48 hours prior to the onset of vegetation removal in the riparian habitat and Rancheria Creek, a Service-approved biologist will survey the project area for CRLF.

- All vegetation scheduled for removal in the riparian habitat and Rancheria Creek will be removed by hand or with hand tools. Mechanized vehicles will not be used to clear the brush. A Service-approved biologist will be present during grubbing and clearing activities in the riparian habitat and Rancheria Creek to monitor for CRLF.

- Temporary orange construction barrier fencing (or sedimentation fencing where required by permits) shall be installed at the upstream and downstream limits of the PIA to prevent the encroachment of construction personnel and equipment into any sensitive areas during project work. The fencing shall be installed after initial clearing of vegetation but prior to any further work on the Project.

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

- Staging areas as well as fueling and maintenance activities shall be a minimum of 100 feet from the riparian habitat and Rancheria Creek. A toxic materials control and spill-response plan will be developed and implemented for the proposed project.

- The County and/or contractor will administer BMPs to protect water quality and control erosion.
• Water diversion and stream crossing structures should be based on the California Stormwater Quality Association’s Construction Handbook (2003, as amended) which identifies BMPs. Water diversion and stream crossing structures may include the use of clean removable materials, such as, sand bags, Port-a-dams, water bladder dams, K-rails, driven sheet metal coffer dams, and trestles. Temporary culvert(s) and/or temporary bridge(s) must be sized to handle reasonably anticipated flows from unanticipated storm events. All water diversion structures shall be removed from the stream zone by October 15, or consistent with the Streambed Alteration Agreement.

• Dewatering activities should be based on the California Stormwater Quality Association’s Construction Handbook (2003, as amended) which identifies BMPs.

• To ensure compliance with the project’s avoidance and minimization measures, a County inspector will be on-site whenever in-water work in Rancheria Creek occurs. The County construction inspector will make recommendations to the construction personnel, as needed, to comply with all project implementation restrictions and guidelines. The County construction inspector will be responsible for ensuring that the contractor maintains the staked and flagged perimeters of the construction area and staging areas adjacent to sensitive biological resources. A Service-approved biologist will be available during the construction period to assist the County construction inspector if CRLF are found and to answer questions and make recommendations regarding implementation of CRLF avoidance and minimization measures.

• Upon completion of construction activities, any barriers to flow shall be removed to allow flow to resume with the least disturbance to the substrate.

Mitigation Measure MBTA-1: Avoidance and Minimization Measures for Swallows. Swallows arrive in mid-February, increase in numbers until late March, and remain until October. Nesting begins in April, peaks in June, and continues into August. Measures shall be taken to prevent establishment of swallow nests on the existing bridge structure prior to construction. Techniques to prevent nest establishment include the following:

• The contractor shall visit the site weekly and remove partially completed nests using either hand tools or high pressure water; or

• Hang, monitor and maintain netting from the bridge before nesting begins. If this technique is used, netting should be in place from late February until bridge demolition occurs.

Mitigation Measure MBTA-2: Avoidance and Minimization Measures for Birds of Prey and Birds Protected by the Migratory Bird Treaty Act. If construction begins outside the 1 February to 31 August breeding season, there will be no need to conduct a preconstruction survey for active nests.

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

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

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

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

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

- If an active nest is found after the completion of pre-construction surveys and after construction begins, all construction activities will stop until a qualified biologist has evaluated the nest and erected the appropriate buffer around the nest. If establishment of the buffer is not feasible, CDFW will be contacted for further avoidance and minimization guidelines.

**Mitigation Measure BATS-1: Pre-Construction Surveys for Bats and Avoid Maternity Roosting Sites.** A bat survey shall be conducted by a qualified biologist in suitable habitat prior to May 1st. In the event that exclusionary measures are required prior to the active season of this species, no exclusionary efforts should be conducted during May 1st to August 31st of the construction year. If no roosting bats are found, no further mitigation would be necessary.

**Mitigation Measure BATS-2: Exclusion Efforts.** If pallid bats or other bat species are detected within roosts at the time of the survey, exclusionary measures will be implemented by a qualified biologist to exclude bats from roosts if the roost location is determined to potentially be impacted by construction activities. The timing and other methods of exclusionary measures will be developed by the qualified biologist in order to reduce stress on the bats to the amount feasible while taking into account project schedule. Exclusionary devices, such as plastic sheeting, and plastic or wire mesh, can be used to allow for bats to exit but not re-enter any occupied roosts. Expanding foam and plywood sheets can be used to prevent bats from entering unoccupied roosts.

**Mitigation Measure PLANTS-1: Pre-Construction Surveys for Special-Status Plant Species.** A qualified biologist shall conduct a pre-construction survey for special-status plant species (including Red Hills soaproot, Brandegee’s clarkia, Tuolumne button-celery and Parry’s horkelia) within 30 days prior to construction. If special-status plant species are not found, then no further measures are necessary. If special-status plant species are found in the PIA, CDFW will be notified at least 10 days prior to construction impacts in the vicinity of special-status plant species in accordance with the California Native Plant Protection Act of 1977 (CDFG Code Section 1900-1913) to allow sufficient time to transplant the individuals to a suitable location or develop other mitigation measures in coordination with CDFW.

**References**


Cultural Resources

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<th>Issues (and Supporting Information Sources):</th>
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<th>Less Than Significant with Mitigation Incorporation</th>
<th>Less Than Significant Impact</th>
<th>No Impact</th>
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<td>a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?</td>
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<td>b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?</td>
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<td>c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?</td>
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<td>d) Disturb any human remains, including those interred outside of formal cemeteries?</td>
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Setting

A record search was conducted for the project at the North Central Information Center of the California Historical Resources Information System at California State University Sacramento on March 23, 2009 (File #AMA-09-09). The purpose of the records search was to (1) determine whether known cultural resources have been recorded within or adjacent to the Area of Potential Effects (APE); (2) assess the likelihood for unrecorded cultural resources to be present based on historical references and the distribution of nearby sites; and (3) develop a context for the identification and preliminary evaluation of cultural resources. Furthermore, a sacred lands search request was submitted to the Native American Heritage Commission (NAHC) on March 4, 2009. A response was received on March 13, 2009. A records search of their sacred land file did not indicate the presence of Native American cultural resources in the APE.

An intensive survey of the APE was completed on June 2, 2009 and a Historic Property Survey Report (HPSR) was completed in June 2013. The APE for the proposed project includes the area occupied by the existing Bunker Hill Road Bridge, as well as a 10 foot buffer from all project improvements. The existing bridge was built in 1925 and was previously evaluated by Caltrans and determined to be ineligible for inclusion in the National Register of Historic Places (NRHP).

Discussion

a) The proposed project would not likely cause a significant impact to the eligibility of a historical resource. As discussed above, the existing bridge was built in 1925 and was previously evaluated by Caltrans and determined to be ineligible for inclusion in the NRHP. One resource, a rock wall was identified during the intensive pedestrian survey of the APE and recorded. An Environmentally Sensitive Area (ESA) Action Plan was developed in order to ensure no damage will occur to the rock wall in the proposed project APE boundary during construction activities related to realignment of North Amador Road (now a private driveway). The existing driveway would need to be modified to meet the horizontal and vertical realignment of the approach roadway caused by the bridge replacement.
Protective measures have been developed to avoid adverse effects to the recorded (historic) rock wall and include fencing, access restrictions, and specific contractual language to ensure that construction contractors comply with the ESA Action Plan and ensure no damage will occur to the rock wall. Therefore, with implementation of Mitigation Measure CUL-1 and CUL-2, this impact is considered less-than-significant.

b) According to the record search, only one cultural resources survey (related to a pipeline project) has been previously conducted within the 0.5-mile radius of the project area. Although bisecting the current project, none of the resources identified within that study fall within the APE or search radius of the proposed project. The records search also indicated no known prehistoric or historic cultural resources within the project APE and no known prehistoric or historic cultural resources present within a 0.5-mile radius of the APE. The NAHC was contacted on March 4, 2009 and was requested to search their Sacred Lands File. The NAHC's March 13, 2009 response stated that a record search of the sacred lands file failed to indicate the presence of Native American cultural resources within the APE. Although no archaeological remains have been identified within the project site, there is a chance that construction activities associated with the proposed project could result in accidentally discovering archaeological resources; however, with implementation of Mitigation Measure CUL-3 and CUL-4 listed below, the proposed project would result in a less-than-significant impact on archeological resources.

c) Paleontological resources are the fossilized evidence of past life found in the geologic record. Despite the tremendous volume of sedimentary rock deposits preserved worldwide, preservation of plant or animal remains as fossils is an extremely rare occurrence. Because of the infrequency of fossil preservation, fossils – particularly vertebrate fossils – are considered to be nonrenewable resources. Because of their rarity, and the scientific information they can provide, fossils are considered highly significant records of ancient life.

A search of the University of California Museum of Paleontology (UCMP) collections database identified a location in Amador County with 60 occurrences. Based on the database search, no paleontological resources have been identified in the project area. No known paleontological resources or unique geologic features exist within the project site, therefore, the proposed project is not likely to destroy, either directly or indirectly, a unique paleontological resource or site, or geological feature. As described in Mitigation Measure CUL-3 below, if such a resource should be encountered during construction, work would stop until the resource can be evaluated and a determination made of its significance and need for recovery, avoidance, and/or mitigation. Therefore, the proposed project would result in a less-than-significant impact on paleontological resources or unique geologic features.

d) Based upon a records search, no human remains are known to exist within the project site. In the unlikely event that human remains are discovered, work within the area will be stopped and the Amador County Coroner will be notified immediately. Work will only resume after the investigation and in accordance with any requirements and procedures imposed by the Amador County Coroner. In the event that the bone most likely represents a Native American interment, the Native American Heritage Commission will be notified so that the most likely descendents can be identified and appropriate treatment can be implemented. Therefore, with the incorporation of this measure, the proposed project would not result in any significant impacts with respect to disturbing any human remains, including those interred outside of formal cemeteries. To ensure a less-than-significant impact in the event of an accidental discovery, Mitigation Measure CUL-4 shall be implemented.
**Mitigation Measures**

**Mitigation Measure CUL-1: Pre-Construction ESA Measures.** The following action will be undertaken prior to construction to ensure complete success of the ESA Action Plan:

- County’s Archeological Consultant will work closely with the Resident Engineer (RE) and Construction Contractor to educate all involved about the elements of the action plan. Preconstruction field review of the plan will be implemented as well as training for construction personnel;
- The ESA will be included in the County’s RE’s Pending File and clearly marked on all project plans and contract specifications (PS&E) and special provisions for the ESA will appear on all project plans and in contract specifications; and
- ESA will remain in place until the construction activities are complete.

**Mitigation Measure CUL-2: ESA Construction Measures.** Construction specifications and engineering plans will include the following language:

- Contractor is responsible for protection of the historic rock wall;
- Contractor shall advise all construction workers of the location of the historic rock wall and they are required to protect the wall from inadvertent damage;
- A penalty clause shall specify that if the wall is damaged in any way during construction, the contractor will be responsible for the cost of restoring the wall to the satisfaction of the County under the direction of a qualified Archaeologist approved by and working for the County, but paid for by the contractor;
- Prior to construction activities, the County’s Archaeological Consultant will delineate the ESA through the installation of a three-foot-high orange temporary construction fence with two foot buffer around the wall; and
- No construction personnel or ride-on machinery shall be allowed within the ESA boundary.

**Mitigation Measure CUL-3: Discovery of Cultural Resources during Ground-Disturbing Activities.** If cultural resources are discovered during ground-disturbing activities, all activity in the vicinity shall cease until the discovery is evaluated by an archaeologist or paleontologist working under the direction of a Principal Investigator who meets the requirements of the Secretary of the Interior’s Qualification Standards. If the archaeologist/paleontologist determines that the resources may be significant, no further work in the vicinity of the resources shall take place until appropriate treatment is determined and implemented.

The need for archaeological and Native American monitoring during the remainder of the project will be re-evaluated by the archaeologist as part of the treatment determination. The archaeologist shall consult with appropriate Native American representatives in determining appropriate treatment for unearthed cultural resources if the resources are prehistoric or Native American in nature.

In considering any suggested mitigation proposed by the archaeologist in order to mitigate impacts to cultural resources, the project proponent will determine whether avoidance is necessary and feasible in light of factors such as the nature of the find, project design, costs, and other considerations. If avoidance is infeasible, other appropriate measures (e.g., data recovery) will be instituted.

**Mitigation Measure CUL-4: Halt Work if Human Skeletal Remains are Identified during Construction.** If human skeletal remains are uncovered during project construction, work must immediately halt and the
Amador County Coroner must be contacted to evaluate the remains; the procedures and protocols set forth in Section 15064.5 (e)(1) of the CEQA Guidelines must be followed. If the County Coroner determines that the remains are Native American, the project proponent will contact the NAHC, in accordance with Health and Safety Code Section 7050.5, subdivision (c), and Public Resources Code 5097.98 (as amended by AB 2641). Per Public Resources Code 5097.98, the landowner shall ensure that the immediate vicinity, according to generally accepted cultural or archaeological standards or practices, where the Native American human remains are located, is not damaged or disturbed by further development activity until the landowner has discussed and conferred, as prescribed in this section (PRC 5097.98), with the most likely descendents regarding their recommendations, if applicable, taking into account the possibility of multiple human remains.

**References**


## Geology, Soils, and Seismicity

<table>
<thead>
<tr>
<th>Issues (and Supporting Information Sources):</th>
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</thead>
<tbody>
<tr>
<td>Geology, Soils and Seismicity –Would the project:</td>
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<tr>
<td>a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:</td>
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<tr>
<td>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.)</td>
<td></td>
<td></td>
<td>✗</td>
<td></td>
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<tr>
<td>ii) Strong seismic ground shaking?</td>
<td></td>
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<tr>
<td>iii) Seismic-related ground failure, including liquefaction?</td>
<td></td>
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<tr>
<td>iv) Landslides?</td>
<td></td>
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</tr>
<tr>
<td>b) Result in substantial soil erosion or the loss of topsoil?</td>
<td></td>
<td></td>
<td>✗</td>
<td></td>
</tr>
<tr>
<td>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 on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?</td>
<td></td>
<td></td>
<td>✗</td>
<td></td>
</tr>
<tr>
<td>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?</td>
<td></td>
<td></td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?</td>
<td></td>
<td></td>
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</tbody>
</table>

### Discussion

a.i-a.iv) The major feature at the project site is Rancheria Creek, which is a tributary of Dry Creek. The area surrounding the project site is composed of rolling oak woodland within the Sierra Nevada foothills and is located in an area of low surface rupture or fault-related surface disturbance. According to the Department of Conservation, Division of Mines and Geology Special Publication 42, the project site is not located within a delineated Alquist-Priolo Earthquake Fault Zone (Bryant and Hart, 2007). No known active faults lie within or near the project site. The nearest known active faults are those located over 50 miles west of the site in the San Francisco Bay Area; however, several inactive faults occur 5-12 miles east of the site and are part of the north-south trending Bear Mountain fault system.

The seismic hazard most likely to impact the project site is ground shaking due to a large earthquake on one of the major active regional faults. Liquefaction of granular soils can be caused by strong vibratory motion due to earthquakes. Soils that are highly susceptible to liquefaction are medium- to fine-grained, loose, granular and saturated at depths of less than 50 feet below the ground surface. Liquefaction of soils causes surface distress, loss of bearing
capacity, and settlement of structures that are founded on the soils. The proposed project is located on The Exchequer soil series, which has an underlying shallow bedrock. The probability of soil liquefaction actually taking place on the project site is considered to be a low to moderate hazard as the soils on the project site consist of a rocky silty loam with shallow bedrock and do not include sandy soils.

The project site includes the gently sloping banks of Rancheria Creek. Strong seismic ground shaking could contribute to the potential landslide activities within the project site. The proposed project would comply with Amador County building regulations and the 2007 California Building Code, which would minimize the potential effects of ground shaking. This impact is considered less-than-significant.

b) The proposed project involves removing the existing bridge and constructing a new bridge. Construction activities will involve earth moving activities. Abutment construction areas will be dewatered prior to beginning construction activities within Rancheria Creek, which would help minimize transport of sediments during construction. The project site covers a relatively small area and will not result in substantial loss of topsoil. Proposed project operations will not result in significant increase in the potential for soil erosion over existing conditions. With adherence to Amador County Code Chapter 15.40, Erosion Control Ordinance, and Ordinance No. 1619, potential erosion impacts from construction activities will be less-than-significant.

c) The project site does not have loose sandy soil or a shallow water table. The project site does not contain soils that would be susceptible to lateral spreading, liquefaction, or collapse. The banks of Rancheria Creek are gently sloping and contain vegetation. The potential for landslides along the banks of Rancheria Creek within the project site is low. With adherence to all applicable codes and regulations, including the 2007 California Building Code, impacts associated with on-or off-site landslide would be minimized. The impact is considered to be less-than-significant.

d) Expansive soils are those possessing clay particles that react to moisture changes by shrinking (when dry) or swelling (when wet). The extent of shrinking and swelling is influenced by the environment, including the extent of wet or dry cycles, and by the amount of clay in the soil. This physical change in the soils can react unfavorably with building foundations, concrete walkways, swimming pools, roadways, and masonry walls. The project site consists a rocky silty loam with shallow bedrock and riverwash. These soils do not have a high shrink-swell potential. The impact is considered to be less-than-significant.

e) The proposed project does not involve the connection to sewer systems, septic tanks as part of the proposed project; therefore, there is no impact.

References

Greenhouse Gas Emissions

<table>
<thead>
<tr>
<th>Issues (and Supporting Information Sources):</th>
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<tbody>
<tr>
<td>Greenhouse Gas Emissions –Would the project:</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?</td>
<td>☐</td>
<td>☐</td>
<td>☑</td>
<td>☐</td>
</tr>
<tr>
<td>b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?</td>
<td>☐</td>
<td>☐</td>
<td>☑</td>
<td>☐</td>
</tr>
</tbody>
</table>

**Discussion**

a, b) The purpose of the proposed project is to replace the existing structurally deficient Bunker Hill Road Bridge over Rancheria Creek to provide safe access for vehicles and meet current design standards. Consequently, the proposed construction project is considered small, short-term in nature and would not generate substantial air quality (including greenhouse gas emission) pollutant concentrations as discussed under the Air Quality section. As the proposed project would not include additional through lanes, the proposed project would not increase roadway facilities or service capabilities that would induce unplanned growth or remove an existing obstacle to growth. The proposed project would not increase long-term traffic levels and there would be no operational impacts associated with greenhouse gas emissions. Impacts are considered less-than-significant.
Energy

<table>
<thead>
<tr>
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<th>No Impact</th>
</tr>
</thead>
</table>
| Energy –Would the project:  
  a) Result in a substantial increase in overall or per capita energy consumption? | ☐ | ☐ | ☒ | ☐ |
| b) Result in wasteful or unnecessary consumption of energy? | ☐ | ☐ | ☒ | ☐ |
| c) Require or result in the construction of new sources of energy supplies or additional energy infrastructure capacity the construction of which could cause significant environmental effects? | ☐ | ☐ | ☒ | ☐ |
| d) Conflict with applicable energy efficiency policies or standards? | ☐ | ☐ | ☒ | ☐ |

Discussion

a-d) The proposed project will result in temporary use of energy as fuels for construction equipment. Construction activities are estimated to last approximately eight months. The proposed project is required to provide safe vehicle access to the bridge and provide a new structure that will be wider and meet current design standards. The proposed project is not associated with the development of land uses (i.e., residential, commercial, etc.) that would increase the demand for local or regional sources of energy. The use of energy for the construction of the proposed project is minimal and would not require the construction of new sources of energy or energy infrastructure for implementation of the proposed project. The proposed project will also not conflict with any energy efficiency policies or standards. The impact to energy resources is considered less-than-significant.
### Hazards and Hazardous Materials

<table>
<thead>
<tr>
<th>Issues (and Supporting Information Sources):</th>
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<th>No Impact</th>
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</thead>
<tbody>
<tr>
<td><strong>Hazards and Hazardous Materials – Would the project:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?</td>
<td>❌</td>
<td>❌</td>
<td>❌</td>
<td>✔️</td>
</tr>
<tr>
<td>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?</td>
<td>❌</td>
<td>❌</td>
<td>❌</td>
<td>✔️</td>
</tr>
<tr>
<td>c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?</td>
<td>❌</td>
<td>❌</td>
<td>❌</td>
<td>✔️</td>
</tr>
<tr>
<td>d) Be located on a site which 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?</td>
<td>❌</td>
<td>❌</td>
<td>❌</td>
<td>✔️</td>
</tr>
<tr>
<td>e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?</td>
<td>❌</td>
<td>❌</td>
<td>❌</td>
<td>✔️</td>
</tr>
<tr>
<td>f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?</td>
<td>❌</td>
<td>❌</td>
<td>❌</td>
<td>✔️</td>
</tr>
<tr>
<td>g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?</td>
<td>❌</td>
<td>❌</td>
<td>❌</td>
<td>✔️</td>
</tr>
<tr>
<td>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?</td>
<td>❌</td>
<td>❌</td>
<td>❌</td>
<td>✔️</td>
</tr>
</tbody>
</table>

### Setting

An Initial Site Assessment (ISA) was prepared for the proposed project and completed in July 2013. The results of the ISA are incorporated into the discussion of the proposed project’s impacts below. The ISA was performed in general conformance with the scope and limitations of ASTM Practice E 1527-05. No RECs, as defined in ASTM Practice E 1527-05, were observed during a site visit or by the EDR record search in connection with the project site; however, as known through previous EIR/EA prepared for the Plymouth Pipeline project, the project site exceeds safe levels of arsenic.
Avoidance, minimization, and/or mitigation measures are proposed as part of the project. These strategies are intended to address potential impacts as follows:

- Impacts associated with the presence of lead-based paint (LBP) and/or asbestos containing materials (ACMs) due to the age and demolition of the existing bridge.
- Impacts associated with elevation concentrations of arsenic in the soil.

**Discussion**

a) Construction of the proposed project would potentially require the use of various types and quantities of hazardous materials. Hazardous materials that are typically used during construction include, but are not limited to, hydraulic oil, diesel fuel, grease, lubricants, solvents, and adhesives. Although equipment used during construction activities could contain various hazardous materials, these materials would be used in accordance with the manufacturers specifications and all applicable regulations. Operation of the proposed project would not involve the routine storage or use of hazardous materials. Impacts resulting from the transport, use or disposal of hazardous materials during construction and operation of the proposed project would be less-than-significant.

b) As stated above, if implemented, the proposed project has the potential to use a variety of hazardous materials. These materials would be stored, handled, and transported per federal, state, and local regulatory requirements. Additionally, an ISA was prepared to support this environmental document. Avoidance, minimization, and/or mitigation measures are proposed as part of the project for potential ACMs, LBP and arsenic containing soil that may be present at the proposed project site.

**Asbestos and Lead:** New uses of asbestos containing materials (ACM) were banned by the EPA in 1989. Revisions to regulations issued by the Occupational Safety & Health Administration (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 (PAC) and treated accordingly. In order to rebut the designation as PAC, OSHA requires that these materials be surveyed, sampled, and assessed in accordance with 40 CFR 763 (Asbestos Hazard Emergency Response Act [AHERA]). ACMs have also been documented in the rail shim sheet packing, bearing pads, support piers, and expansion joint material of bridges. The Caltrans Historic Bridge Inventory indicates that the Bunker Hill Road Bridge at Rancheria Creek was built in 1925.

Lead has been used in commercial, residential, roadway, and ceramic paint; in electric batteries and other devises; as a gasoline additive; for weighting; in gunshot; and other purposes. It is recognized as toxic to human health and the environment and is widely regulated in the United States. Structures constructed prior to 1978 are presumed to contain lead-based paint unless proven otherwise, although buildings constructed after 1978 may also contain lead-based paints. Due to the construction age of the existing structure, painted areas on the existing bridge structure may also be of concern due to the possible use of lead-based paint.

**Arsenic Containing Soil:** A portion of the alignment of the Plymouth Pipeline Project paralleled the existing bridge, and as discussed earlier, the EIR/EA previously prepared for the Plymouth Pipeline Project in March 2006 identified the presence of elevated levels of arsenic in the soil from mine tailings (Appendix C). Over 100 soil samples were taken at discrete locations along the pipeline alignment. Soils tested along the Bunker Hill Bridge site exceeded safe levels (Amador County designated clean up level of 22 mg/kg) of arsenic. The studies found that “shallow” samples (top 18
inches of soil) tested for arsenic along the proposed project area total threshold limit concentrations (TTLC) ranged from 8.3 mg/kg to 21 mg/kg, while “deep” samples TTLC ranged from 7.6 mg/kg to 690 mg/kg.

Additionally, five discrete soil samples to measure levels of arsenic, lead and mercury were taken for the proposed project in 2009. These samples found that for areas within the project vicinity arsenic TTLC ranged from 11 mg/kg to 1200 mg/kg, lead TTLC ranged from 9.4 mg/kg to 22 mg/kg and mercury TTLC ranged from 0.26 mg/kg to 0.83 mg/kg. Levels for lead and mercury are way below TTLC limits.

During construction, any existing hazardous soils that may be encountered would pose a hazard for construction workers and the environment. Construction workers typically are at the greatest risk for exposure to contaminated soil. Accidents or spills during transport of hazardous materials or wastes could have the potential to expose the public and the environment to these substances.

Implementation of Mitigation Measures HAZ-1 through HAZ-4 would be required to ensure there would not be 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 and reduce the impact to a less-than-significant level.

c) The project site is not located within ¼ mile of a school. The project site is located in a rural area primarily surrounded by grazing land and rural residences, and is not located within the vicinity of urban development. There is no impact.

d) An ISA prepared for the proposed project included an extensive database records search for the project site and properties within a 1-mile radius of the project site. The ISA concluded that the project site and adjacent sites were not identified in any of the databases searched and also did not identify any recognized environmental conditions that may result in a significant hazard to the public or the environment. However, as discussed in (b), avoidance, minimization, and/or mitigation measures are proposed as part of the project for potential ACMs, LBP and arsenic containing soil that may be present at the proposed project site. Implementation of Mitigation Measures HAZ-1 through HAZ-4 would be required to ensure there would not be 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 and reduce the impact to a less-than-significant level.

e) The nearest airport to the project site is Westover Field located over 4 miles south of the project site. Westover Field is a County owned and operated facility located in Martell, an unincorporated area of Amador County located between the cities of Jackson and Sutter Creek with a single runway (Amador County 1990). The project site is not located within an adopted airport land use plan. There is no impact.

f) The project site is not located within the vicinity of a private airstrip. There is no impact.

g) The proposed project will require removal of the existing bridge and construction of a new bridge. Bunker Hill Road will remain accessible during construction of the proposed project. However, during construction, the proposed project could temporarily interfere with emergency access or
response in the vicinity of the project site. With implementation of Mitigation Measure TRAF-1, discussed later in the document in the Transportation and Traffic section, this impact is less-than-significant.

h) The area surrounding the project site contains grazing lands with oak woodland forests that could provide a good source of fire fuels; however the proposed project is a bridge replacement that will not expose additional people or structures to the threat of fire. There is a less-than-significant impact associated with wildland fire threat.

Mitigations Measures

Mitigation Measure HAZ-1: ACM and LBP Testing. Based on the age of the structure, the existing bridge may contain ACMs, and shall be inspected by a CAC under separate assessment during the Plan, Specifications and Estimate (PS&E) process. Additionally, pavement striping and thermoplastic paint used on roadways often contain lead. The potential exists for the bridge and associated features to contain LBP, and they shall be addressed under separate assessment during the Plan, Specifications and Estimate (PS&E) process.

Mitigation Measure HAZ-2: Arsenic Containing Soil. In accordance with the California Department of Toxic Substances Control (DTSC) Proven Technologies and Remedies Guidance Remediation of Metals in Soil protocol, a Preliminary Endangerment Assessment (PEA) and Remediation Action Plan (RAP) will be prepared for this project and will include a discussion of exposure pathways and receptors, preparation of a conceptual site model, a human health risk assessment, an ecological risk assessment and would specify remedial measures for those on-site soils that contain hazardous levels of arsenic to minimize the exposure risk to construction workers and end-users. It is expected that the RAP will recommend pH stabilization of soil on the site and capping with impervious material to prevent surface water infiltration and mobilization of the arsenic to surface or groundwater, although other techniques will be evaluated to determine the most cost-effective remedial solution.

Mitigation Measure HAZ-3: Development of a Health and Safety Plan (HASP). A HASP shall be developed for the proposed project. The HASP shall describe appropriate procedures to follow in the event that any contaminated soil or groundwater is encountered during construction activities. Any unknown substances shall be tested, handled and disposed of in accordance with appropriate federal, state and local regulations.

Mitigation Measure HAZ-4: Contamination of Soil and/or Groundwater. During construction activities for the proposed project, if contaminated soil and/or groundwater are encountered or suspected contamination is encountered, work should be stopped in the suspected area of contamination and the type and extent of the contamination be identified. If necessary, a remediation plan shall be implemented in conjunction with continued construction of the proposed project.

Mitigation Measure TRAF-1: Please refer to the Transportation and Traffic section.

References

Hydrology and Water Quality

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<tbody>
<tr>
<td>Hydrology and Water Quality – Would the project:</td>
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<tr>
<td>a) Violate any water quality standards or waste discharge requirements?</td>
<td>☐</td>
<td>☐</td>
<td>☒</td>
<td>☐</td>
</tr>
<tr>
<td>b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be 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 which would not support existing land uses or planned uses for which permits have been granted)?</td>
<td>☐</td>
<td>☐</td>
<td>☒</td>
<td>☐</td>
</tr>
<tr>
<td>c) Substantially alter the existing drainage pattern of a site or area through the alteration of the course of a stream or river, or by other means, in a manner that would result in substantial erosion or siltation on- or off-site?</td>
<td>☐</td>
<td>☐</td>
<td>☒</td>
<td>☐</td>
</tr>
<tr>
<td>d) Substantially alter the existing drainage pattern of a site or area through the alteration of the course of a stream or river, or by other means, substantially increase the rate or amount of surface runoff in a manner that would result in flooding on- or off-site?</td>
<td>☐</td>
<td>☐</td>
<td>☒</td>
<td>☐</td>
</tr>
<tr>
<td>e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?</td>
<td>☐</td>
<td>☐</td>
<td>☒</td>
<td>☐</td>
</tr>
<tr>
<td>f) Otherwise substantially degrade water quality?</td>
<td>☐</td>
<td>☐</td>
<td>☒</td>
<td>☐</td>
</tr>
<tr>
<td>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?</td>
<td>☐</td>
<td>☐</td>
<td>☒</td>
<td>☐</td>
</tr>
<tr>
<td>h) Place within a 100-year flood hazard area structures that would impede or redirect flood flows?</td>
<td>☐</td>
<td>☐</td>
<td>☒</td>
<td>☐</td>
</tr>
<tr>
<td>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?</td>
<td>☐</td>
<td>☐</td>
<td>☒</td>
<td>☐</td>
</tr>
<tr>
<td>j) Expose people or structures to a significant risk of loss, injury or death involving inundation by seiche, tsunami, or mudflow?</td>
<td>☐</td>
<td>☐</td>
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</table>

Discussion

a,f) Rancheria Creek is the body of water within the project site. Rancheria Creek is a sixth-order intermittent stream located within Amador County. During periods of rainfall or runoff, Rancheria
Creek conveys flows to its confluence with Dry Creek. As is the case in all watersheds, land uses within the Rancheria Creek watershed heavily influence water quality in the creek. The Rancheria Creek watershed is largely undeveloped, and land use in the watershed is dominated by rural residential and some small agricultural operations. At the project site, Bunker Hill Road also influences water quality in Rancheria Creek. Pollutants associated with agriculture in the watershed include pesticides, herbicides, nutrients from fertilizers, salts leached from soils, and animal waste. Vehicles traveling on Bunker Hill Road are sources of oil, grease, gasoline, heavy metals, and combustion byproducts. Water pollutants associated with residential land uses include fertilizers, herbicides, and pesticides used in landscaping, pollutants from vehicles, animal waste, and improperly disposed of household chemicals.

Development of the proposed project site has the potential to expose bare soil and potentially generate other water quality pollutants that could be exposed to precipitation and subsequent entrainment in surface runoff to Rancheria Creek. Prior to in-channel construction activities, the area of the channel where construction activities will occur will be dewatered through a stream diversion. Construction activities involving soil disturbance, excavation, cutting/filling, and grading activities could result in increased erosion and sedimentation to Rancheria Creek and waters downstream. Construction materials such as asphalt, concrete, and equipment fluids could be exposed to precipitation and subsequent runoff. If precautions are not taken to contain contaminants, construction could produce contaminated stormwater runoff (nonpoint source pollution), a major contributor to the degradation of water quality.

Construction of the entire project is anticipated to take approximately eight months, with creek diversion work scheduled during the dry season between June 15 and October 15 when water temperatures are warmer and water levels are lower. The proposed project is subject to Construction General Permit (Final Order No.2012-011-DWQ, NPDES No.CAS000003) requirements, which requires preparation and implementation of a SWPPP. The proposed project would comply with the NPDES Construction General Permit including preparing and implementing a SWPPP that identifies project specific BMPs to protect water quality during project construction. Implementation of these measures would reduce this impact to less-than-significant.

b) The project site is not actively used for groundwater recharge. The proposed project would not construct a significant amount of new impervious surfaces that would impede surface water drainage into the soil. This impact is less-than-significant.

c-e) Implementation of the proposed bridge replacement would not substantially modify the character of the project site in terms of sources of water pollutants. Vehicles traveling on Bunker Hill Road and local rural residential and agricultural land uses would remain the primary sources of water pollutants at the project site. The project would not change the number of vehicles traveling on Bunker Hill Road or other nearby land uses in the Rancheria Creek watershed. Therefore, there would not be an increase in the load of vehicle-generated pollutants to Rancheria Creek.

Rock slope protection generally does not significantly alter water quality. Stream temperatures can increase slightly in areas with long reaches of continuous rock slope protection due to solar radiation. Nutrient loading can be somewhat diminished in reinforced bank areas because of the elimination of riparian vegetation. Large amounts of limestone rock slope protection can raise the pH of a stream very slightly (USACE, 2003). If rock slope protection is installed, it would cover what is considered a relatively small area of the channel and would be partially shaded by Bunker Hill
Road Bridge, and the potential to raise local water temperature, reduce nutrient loading, or raise pH is low. Potential impacts to water quality during project operation due to the presence of rock slope implementation are considered less than significant.

The project site includes the existing Bunker Hill Road Bridge, Rancheria Creek, the banks of Rancheria Creek, and the north and south approaches to the bridge. The proposed project would remove the existing bridge and replace it with a slightly wider structure that would result in a greater impervious surface area. Additionally, the proposed project would realign approach roads to the Bunker Hill Road Bridge. The proposed project would result in a slight increase in runoff over existing conditions from the increase in surface area of the new bridge. The new bridge and realigned approach roads would not result in a significant increase in drainage and erosion from the project site that would generate a substantial amount of runoff that would exceed the capacity of Rancheria Creek. This impact is less-than-significant.

g-i) The preferred bridge is located within a reach of channel that does have flood risk mapped by FEMA. As such, projects may encroach into the floodplain to the extent that it may result in a 1.0-foot increase in the water surface elevation of the most probable 100-year flood; however, the increase will not result in an increased risk of damage to structures or other negative impacts. The proposed project is modeled to result in a maximum 0.69-foot increase in water surface elevation during the most probable 100-year flood upstream. No structures are in or adjacent to the channel upstream of Bunker Hill Road; therefore, this increase in water surface elevation during the most probable 100-year flood does not reflect an increase in the risk of damage to structures. Additionally, the proposed project will not construct housing or other structures that would result in the exposure of people or structures to 100-year flood hazards. There is a less-than-significant impact.

j) The project site is not located near any tidally influenced water bodies nor is it near any large bodies of water that could be affected by a tsunami or seiche. Additionally, the project site is a bridge replacement and would not require any modification to nearby slopes limiting the possibility of a mudflow hazard to the project site. There is no impact.

References

Land Use and Land Use Planning

<table>
<thead>
<tr>
<th>Issues (and Supporting Information Sources):</th>
<th>Potentially Significant Impact</th>
<th>Less Than Significant Impact with Mitigation Incorporation</th>
<th>Less Than Significant Impact</th>
<th>No Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>Land Use and Land Use Planning – Would the project:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a) Physically divide an established community?</td>
<td>[ ]</td>
<td></td>
<td>[ ]</td>
<td>[ ]</td>
</tr>
<tr>
<td>b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
</tr>
<tr>
<td>c) Conflict with any applicable habitat conservation plan or natural community conservation plan?</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
</tr>
</tbody>
</table>

**Discussion**

a) The proposed project will consist of the replacement of an existing bridge structure and slight realignment of access roads. The proposed project will not divide an established community. There is **no impact**.

b) The new bridge and the realigned approach roads will not interfere with the activity associated with the surrounding rural residential parcels. The proposed project does not propose any new land uses for the project site and would result in operational activities similar to existing conditions. Additionally, the proposed project will not result in any land use conflicts. As discussed under (a) of the Air Quality section, the proposed project will not conflict with any applicable air quality plans. There are no other plans applicable to the proposed project. This impact is **less-than-significant**.

c) The project site is not located in an area covered by any habitat conservation plans or natural community conservation plans. There is **no impact**.
Mineral Resources

<table>
<thead>
<tr>
<th>Issues (and Supporting Information Sources):</th>
<th>Potentially Significant Impact</th>
<th>Less Than Significant with Mitigation Incorporation</th>
<th>Less Than Significant Impact</th>
<th>No Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mineral Resources – Would the project:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>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?</td>
<td>☐</td>
<td>☐</td>
<td>☑</td>
<td>☐</td>
</tr>
<tr>
<td>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?</td>
<td>☐</td>
<td>☐</td>
<td>☑</td>
<td>☐</td>
</tr>
</tbody>
</table>

Discussion

a, b) The proposed project is a bridge replacement project that will remove the existing bridge, construct a new bridge, and realign approach roads. Construction activities would be temporary and operation of the project would not conflict with or limit access to mineral resources. This is a less-than-significant impact.
Noise

<table>
<thead>
<tr>
<th>Issues (and Supporting Information Sources):</th>
<th>Potentially Significant Impact</th>
<th>Less Than Significant with Mitigation Incorporation</th>
<th>Less Than Significant Impact</th>
<th>No Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>Noise – Would the project:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a) Result in exposure of persons to, or generation of, noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?</td>
<td>No Impact</td>
<td>X</td>
<td>No Impact</td>
<td>No Impact</td>
</tr>
<tr>
<td>b) Result in exposure of persons to, or generation of, excessive groundborne vibration or groundborne noise levels?</td>
<td>No Impact</td>
<td>No Impact</td>
<td>X</td>
<td>No Impact</td>
</tr>
<tr>
<td>c) Result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?</td>
<td>No Impact</td>
<td>No Impact</td>
<td>No Impact</td>
<td>X</td>
</tr>
<tr>
<td>d) Result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?</td>
<td>No Impact</td>
<td>X</td>
<td>No Impact</td>
<td>No Impact</td>
</tr>
<tr>
<td>e) For a project located within an airport land use plan area, or, where such a plan has not been adopted, in an area within two miles of a public airport or public use airport, would the project expose people residing or working in the area to excessive noise levels?</td>
<td>No Impact</td>
<td>No Impact</td>
<td>No Impact</td>
<td>X</td>
</tr>
<tr>
<td>f) For a project located in the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?</td>
<td>No Impact</td>
<td>No Impact</td>
<td>No Impact</td>
<td>X</td>
</tr>
</tbody>
</table>

Setting

Noise is defined as unwanted sound, and thus is a subjective reaction to characteristics of a physical phenomenon. A frequency weighting measure that simulates human perception is commonly used to describe noise environments and to assess impacts on noise-sensitive areas. It has been found that A-weighting of sound levels best reflects the human ear's reduced sensitivity to low frequencies, and correlates well with human perceptions of the annoying aspects of noise. The A-weighted decibel scale (dBA) is cited in most noise criteria. The decibel notation used for sound levels describes a logarithmic relationship of acoustical energy, for example, a doubling of acoustical energy results in an increase of three dB, which is considered barely perceptible. A 10-fold increase in acoustical energy equals a ten dB change, which is subjectively like a doubling of loudness. Table 2, Typical Noise Levels, identifies decibel levels for common sounds heard in the environment.

Several time-averaged scales represent noise environments and consequences of human activities. The most commonly used noise descriptors are equivalent A-weighted sound level over a given time period (Leq); average day-night 24-hour average sound level (Ldn) with a nighttime increase of 10 dBA to account for sensitivity to noise during the nighttime; and community noise equivalent level (CNEL), also a 24-hour average that includes both an evening and a nighttime weighting. Noise levels are generally considered low when ambient levels are below 45 dBA, moderate in the 45 - 60 dBA range, and high
above 60 dBA. Although people often accept the higher levels associated with very noisy urban residential and residential-commercial zones, they nevertheless are considered to be adverse levels of noise with respect to public health because of sleep interference.

The proposed project is located in a rural area primarily surrounded by open grazing land. The existing bridge is two lanes and spans Rancheria Creek approximately 2.7 miles northwest of Amador City. The study area is unoccupied. Noise sources are limited to traffic along Bunker Hill Road and agricultural equipment.

Sensitive receptors that could be affected by noise from the proposed project would be two rural residences located approximately 0.2 miles north and south of the project site.

### Table 2. Typical Noise Levels

<table>
<thead>
<tr>
<th>Common Outdoor Activity</th>
<th>Noise Level (dBA)</th>
<th>Common Indoor Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jet flyover at 1,000 feet</td>
<td>110</td>
<td>Rock band</td>
</tr>
<tr>
<td>Gas lawnmower at 3 feet</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td>Diesel truck at 50 feet at 50 mph</td>
<td>90</td>
<td></td>
</tr>
<tr>
<td>Noisy urban area, daytime</td>
<td>80</td>
<td>Food blender at 3 feet</td>
</tr>
<tr>
<td>Gas lawnmower, 100 feet</td>
<td>70</td>
<td>Garbage disposal at 3 feet</td>
</tr>
<tr>
<td>Commercial area</td>
<td>60</td>
<td>Vacuum cleaner at 10 feet</td>
</tr>
<tr>
<td>Heavy traffic at 300 feet</td>
<td></td>
<td>Normal speech at 3 feet</td>
</tr>
<tr>
<td>Quiet urban daytime</td>
<td>50</td>
<td>Large business office</td>
</tr>
<tr>
<td>Quiet urban nighttime</td>
<td>40</td>
<td>Dishwasher next room</td>
</tr>
<tr>
<td>Quiet suburban nighttime</td>
<td>30</td>
<td>Theater, large conference room (background)</td>
</tr>
<tr>
<td>Quiet rural nighttime</td>
<td>20</td>
<td>Library</td>
</tr>
<tr>
<td>Lowest threshold of human hearing</td>
<td>10</td>
<td>Bedroom at night, concert hall (background)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Broadcast/recording studio</td>
</tr>
</tbody>
</table>


### Discussion

a) **Construction Noise Effects.** Construction activity noise levels at and near the proposed project construction areas would fluctuate depending on the particular type, number, and duration of uses of various pieces of construction equipment. Construction-related material haul trips would raise ambient noise levels along haul routes, depending on the number of haul trips made and types of vehicles used. Table 3 shows typical noise levels during different construction stages. Table 4 shows typical noise levels produced by various types of construction equipment.

### Table 3. Typical Construction Noise Levels

<table>
<thead>
<tr>
<th>Construction Phase</th>
<th>Noise Level* (dBA, Leq)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ground Clearing</td>
<td>84</td>
</tr>
<tr>
<td>Excavation</td>
<td>89</td>
</tr>
<tr>
<td>Foundations</td>
<td>78</td>
</tr>
<tr>
<td>Erection</td>
<td>85</td>
</tr>
</tbody>
</table>
Table 3. Typical Construction Noise Levels

<table>
<thead>
<tr>
<th>Construction Phase</th>
<th>Noise Level* (dBA, Leq)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Finishing</td>
<td>89</td>
</tr>
</tbody>
</table>

* Average noise levels correspond to a distance of 50 feet from the noisiest piece of equipment associated with a given phase of construction and 200 feet from the rest of the equipment associated with that phase.

Table 4. Typical Noise Levels from Construction Equipment

<table>
<thead>
<tr>
<th>Construction Equipment</th>
<th>Noise Level* (dBA, Leq at 50 feet)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dump truck</td>
<td>88</td>
</tr>
<tr>
<td>Portable air compressor</td>
<td>81</td>
</tr>
<tr>
<td>Concrete mixer (truck)</td>
<td>85</td>
</tr>
<tr>
<td>Scraper</td>
<td>88</td>
</tr>
<tr>
<td>Jackhammer</td>
<td>88</td>
</tr>
<tr>
<td>Dozer</td>
<td>87</td>
</tr>
<tr>
<td>Paver</td>
<td>89</td>
</tr>
<tr>
<td>Generator</td>
<td>76</td>
</tr>
<tr>
<td>Backhoe</td>
<td>85</td>
</tr>
</tbody>
</table>

* Average noise levels correspond to a distance of 50 feet from the noisiest piece of equipment associated with a given phase of construction and 200 feet from the rest of the equipment associated with that phase.

During construction of the proposed project, noise from construction activities may intermittently dominate the noise environment in the immediate area of construction. There are two rural residences within the project area. Noise generated by demolition, grading and finishing activities associated with short-term construction of the proposed project would result in an increase in noise at the nearest residences. This impact would be less-than-significant with implementation of the Mitigation Measure NO-1.

Operational Noise Effects. The proposed project would have no long-term effects on noise levels, since the proposed project would not increase capacity along the roadway. Once construction is completed noise levels would return to levels similar to the existing noise environment.

b) Equipment associated with high vibration levels (pile drivers) will not be used for the proposed project. There are several different methods that are used to quantify vibration. The peak particle velocity (PPV) is defined as the maximum instantaneous peak of the vibration signal. The PPV is most frequently used to describe vibration impacts to buildings. The root mean square (RMS) amplitude is most frequently used to describe the effect of vibration on the human body. The RMS amplitude is defined as the average of the squared amplitude of the signal. The Federal Transit Administration’s (FTA) threshold of architectural damage for conventional sensitive structures is 0.2 in/sec PPV and the FTA threshold of human annoyance to groundborne vibration is 80 RMS (FTA, 2006).

Project construction equipment could get as close as 300 feet from sensitive receptors and still be below the annoyance threshold of 80 RMS and 60 feet from a structure to be below the potential building damage threshold of 0.2 PPV. Project equipment would be approximately 1,100 feet from the closest sensitive receptor. The vibration impact of this proposed project would be less-than-significant without mitigation.

c) The proposed project would have no long-term effects on noise levels. Once construction is completed noise levels would return to levels similar to the existing noise environment. There is no impact to long-term noise levels.
d) The proposed project would temporarily increase ambient noise levels in the project vicinity. See the discussion regarding construction noise under a) above. This impact would be less-than-significant with implementation of Mitigation Measure NO-1.

e) There are no airports within two miles of the proposed project. There would be no impact from airports upon people residing or working in the vicinity of the proposed project.

f) There are no private airstrips within two miles of the proposed project. There would be no impact from airstrips upon people residing or working in the vicinity of the proposed project.

**Mitigation Measures**

**Mitigation Measure No-1: Elevated Noise Level during Construction.** During construction, the noise level may be temporarily elevated. To minimize the impact, all construction in or adjacent to residential areas shall follow the following procedures for noise control: Construction hours shall be limited to the daytime hours between seven a.m. and six p.m., and all construction equipment shall be properly muffled and maintained.

**References**


Population and Housing

<table>
<thead>
<tr>
<th>Issues (and Supporting Information Sources):</th>
<th>Potentially Significant Impact</th>
<th>Less Than Significant with Mitigation Incorporation</th>
<th>Less Than Significant Impact</th>
<th>No Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?</td>
<td>☐</td>
<td>☐</td>
<td>☒</td>
<td>☐</td>
</tr>
<tr>
<td>b) Displace substantial numbers of existing housing units, necessitating the construction of replacement housing elsewhere?</td>
<td>☐</td>
<td>☐</td>
<td>☒</td>
<td>☒</td>
</tr>
<tr>
<td>c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?</td>
<td>☐</td>
<td>☐</td>
<td>☒</td>
<td>☒</td>
</tr>
</tbody>
</table>

**Discussion**

a) The proposed project would provide temporary employment for several people for construction and demolition activities. The proposed project would not result in the permanent creation of new jobs that would induce substantial population growth. Additionally, the road will remain a two-lane road and will not encourage population growth within the surround communities are adjacent to the project site. This impact is **less-than-significant**.

b,c) The proposed project would be constructed in place of an existing bridge, although aligned slightly west of its current placement; however, the proposed project would not displace any housing or people. Consequently, replacement housing would not be required. There is **no impact**.
Public Services

<table>
<thead>
<tr>
<th>Issues (and Supporting Information Sources):</th>
<th>Potentially Significant Impact</th>
<th>Less Than Significant with Mitigation Incorporation</th>
<th>Less Than Significant Impact</th>
<th>No Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Public Services – Would the project:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a) Result in substantial adverse physical impacts associated with the provision of, or the 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:</td>
<td>![ ]</td>
<td>![ ]</td>
<td>![ ]</td>
<td>![ ]</td>
</tr>
<tr>
<td>i. Fire protection?</td>
<td>![ ]</td>
<td>![ ]</td>
<td>![ ]</td>
<td>![ ]</td>
</tr>
<tr>
<td>iii. Schools?</td>
<td>![ ]</td>
<td>![ ]</td>
<td>![ ]</td>
<td>![ ]</td>
</tr>
<tr>
<td>v. Other public facilities?</td>
<td>![ ]</td>
<td>![ ]</td>
<td>![ ]</td>
<td>![ ]</td>
</tr>
</tbody>
</table>

**Discussion**

ai) Fire service in the County is provided by CAL-Fire. CAL-Fire crews and equipment are a familiar sight throughout the State with responsibility for the protection of over 31 million acres of California's privately-owned wildlands. In addition, they provide emergency services of all kinds within 36 of California's 58 counties through local government contracts. The closest first station is Station 60-Sutter Hill located in Sutter Creek. Station 60 is the Headquarters for Battalion 4 and houses two frontline engines, a Type II Dozer Transport, the Unit Service Center, the South Division Automotive Shop and Resource Management Offices (CALFIRE 2012).

Construction of the proposed project could result in accident or emergency incidents that would require emergency response, such as fire services; however, construction activities will be short-term and minimal. The proposed project is a bridge improvement project that would not create additional demands on the local fire district during operations. There is a less-than-significant impact.

Emergency access to the vicinity of the project site may be temporarily inhibited during construction of the proposed project. Implementation of Mitigation Measure TRAF-1 would ensure that traffic disruption impacts are minimized to a less-than-significant level.

a[ii) The Amador County Sheriff’s Department provides enforcement services for unincorporated areas of Amador County. The California Highway Patrol (CHP) handles all traffic enforcement and automobile accident investigations for the unincorporated parts of Amador County.

Construction of the proposed project may result in accident or emergency incidents that would require police services; however, construction activities will be short-term and minimal. The proposed project is a bridge improvement project that would not create additional demands on the local police district during operations. There is a less-than-significant impact.
Emergency access to the vicinity of the project site may be temporarily inhibited during construction of the proposed project. Implementation of Mitigation Measure TRAF-1 would ensure that traffic disruption impacts are minimized to a less-than-significant level.

aiii) The proposed project is a bridge/roadway improvement project and would not generate any additional demand for schools. There is no impact.

aiv) See the Recreation section below. There is no impact.

av) The proposed project would have no impact on any other public services, such as Amador County administrative services.

References


Recreation

<table>
<thead>
<tr>
<th>Issues (and Supporting Information Sources):</th>
<th>Potentially Significant Impact</th>
<th>Less Than Significant with Mitigation Incorporation</th>
<th>Less Than Significant Impact</th>
<th>No Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recreation – Would the project:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a) Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facilities would occur or be accelerated?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☑</td>
</tr>
<tr>
<td>b) Include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☑</td>
</tr>
</tbody>
</table>

Discussion

a, b) The proposed project is a bridge replacement project; it would not contribute to an increase in the local population, nor would it increase demand on existing neighborhoods. No additional regional parks would be created. The proposed project would have no impact on the use of existing neighborhood and regional parks.
Transportation and Traffic

<table>
<thead>
<tr>
<th>Issues (and Supporting Information Sources):</th>
<th>Potentially Significant Impact</th>
<th>Less Than Significant Impact</th>
<th>Mitigation Incorporation</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?</td>
<td>☒</td>
<td>☒</td>
<td>☒</td>
</tr>
<tr>
<td>b) Conflict with an applicable congestion management program, including, but not limited to, level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?</td>
<td>☒</td>
<td>☒</td>
<td>☒</td>
</tr>
<tr>
<td>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?</td>
<td>☒</td>
<td>☒</td>
<td>☒</td>
</tr>
<tr>
<td>d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?</td>
<td>☒</td>
<td>☒</td>
<td>☒</td>
</tr>
<tr>
<td>e) Result in inadequate emergency access?</td>
<td>☒</td>
<td>☒</td>
<td>☒</td>
</tr>
<tr>
<td>f) Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?</td>
<td>☒</td>
<td>☒</td>
<td>☒</td>
</tr>
</tbody>
</table>

Discussion

a, b) The purpose of the project is to provide adequate and safe vehicle access and provide a structure that will meet current design standards for the traffic utilizing this bridge. The Average Daily Traffic Volume on Bunker Hill Road is approximately 118 vehicles per day, thereby classifying it as a Minor Collector Rural Roadway per Amador County standards.

No detour is proposed for the project. During construction, traffic would be allowed to use the existing bridge, and traffic would be rerouted to the new structure once construction is complete. Additionally, the construction contractor for the proposed project shall implement a standard traffic management plan to minimize traffic disruption and ensure adequate access is maintained to surrounding residences. Temporary disruptions to access for residences in the area shall be minimized by coordinating construction activities to provide alternative access points and by ensuring that all residences have at least one open driveway during the construction period.

As mentioned previously, the existing driveway on the northwest side of Bunker Hill Road, approximately 150 feet north of the bridge, would need to be modified to meet the horizontal and...
vertical realigned roadway approaches. In addition, improvements to the adjacent residential driveway will be required to accommodate both left and right turns onto Bunker Hill Road. Access to this driveway would be maintained during construction.

The proposed project will not conflict with any plan or policy established for measuring the performance of the circulation system. Additionally, the proposed project would not result in impacts to level of service along Bunker Hill Road. This is a **less-than-significant impact**.

c) The proposed project does not include structures or uses that would affect air traffic patterns, nor is an airport located in proximity to the project site. Therefore, the proposed project would not result in substantial safety risks related to air traffic and would have **no impact**.

d) One of the primary purposes of the proposed project is to improve safe access to the bridge for vehicles. Traffic hazards will not be increased as a result of the proposed project. This is a **less-than-significant impact**.

c) Traffic congestion and delays can occur during construction and can result in an adverse effect; however, these adverse effects can be avoided through standard construction period traffic management planning that includes timely notification of any road closures and detours to police and fire departments, and other emergency service providers. Implementation of **Mitigation Measure TRAF-1** would ensure that traffic disruption impacts are minimized to a **less-than-significant** level. As discussed in the description of the proposed project, construction of the proposed

f) The project site is located in a rural area. The proposed project will not conflict with adopted policies, plans, or programs supporting alternative transportation. There is **no impact**.

**Mitigation Measures**

**Mitigation Measure TRAF-1: Standard Traffic Management Plan.** The construction contractor for the proposed project shall implement a standard traffic management plan to minimize traffic disruption and ensure adequate access is maintained to surrounding residences. Temporary disruptions to access for residences in the area shall be minimized by coordinating construction activities to provide alternative access points and by ensuring that all residences have at least one open driveway during the construction period. Additionally, prior to the start of construction, the contractor shall coordinate with the Amador County Sheriff and Fire departments, California Highway Patrol, and local public and private ambulance and paramedic providers in the area to prepare a Construction Period Emergency Access Plan. The Emergency Access Plan shall identify phases of the project and construction scheduling and shall identify appropriate alternative emergency access routes.
Utilities and Service Systems

<table>
<thead>
<tr>
<th>Issues (and Supporting Information Sources):</th>
<th>Potentially Significant Impact</th>
<th>Less Than Significant with Mitigation Incorporation</th>
<th>Less Than Significant Impact</th>
<th>No Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>Utilities and Service Systems – Would the project:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a) Conflict with wastewater treatment requirements of the applicable Regional Water Quality Control Board?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>x</td>
</tr>
<tr>
<td>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?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>x</td>
</tr>
<tr>
<td>c) Require or result in the construction of new storm water drainage facilities, or expansion of existing facilities, the construction of which could cause significant environmental effects?</td>
<td>☐</td>
<td>☐</td>
<td>☒</td>
<td>☐</td>
</tr>
<tr>
<td>d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?</td>
<td>☐</td>
<td>☐</td>
<td>☒</td>
<td>☐</td>
</tr>
<tr>
<td>e) Result in a determination by the wastewater treatment provider that would serve the project that it has adequate capacity to serve the project’s projected demand in addition to the provider’s existing commitments?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☒</td>
</tr>
<tr>
<td>f) Be served by a landfill with sufficient permitted capacity to accommodate the project’s solid waste disposal needs?</td>
<td>☐</td>
<td>☐</td>
<td>☒</td>
<td>☐</td>
</tr>
<tr>
<td>g) Comply with federal, state, and local statutes and regulations related to solid waste?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☒</td>
</tr>
</tbody>
</table>

Discussion

a) The proposed project would not generate any wastewater. There is no impact.

b) The proposed project would not require the construction of additional wastewater or water treatment facilities. There would be no impact.

c) Drainage southeast of the bridge is collected in a roadside ditch, where it is conveyed into Rancheria Creek. Drainage from North Amador Road is also collected in a ditch and conveyed to a culvert, which also discharges to Rancheria Creek. Existing drainage facilities will remain in place for the proposed project and will continue to be able to convey stormwater runoff from the bridge and adjacent area. This is a less-than-significant impact.

d) The proposed project consists of demolition of an existing bridge and construction of a new bridge and would not require water supply. The proposed project would require some non-potable water during construction for dust control. This is a less-than-significant impact.
e) The proposed project does not require wastewater treatment services. There is **no impact** to wastewater treatment facilities.

f) Currently there are no active landfills in the County. Solid waste in unincorporated areas of the County are handled by ACES Waste Services, Inc and operates two transfer stations in Pine Grove and Buena Vista. The proposed project would generate waste from temporary construction activities and demolition of the Bunker Hill Road Bridge. The landfills used by the transfer stations have the capacity to accept waste generated by the proposed project. This is a **less-than-significant impact**.

g) The proposed project would comply with all federal, state, and local statues and regulations related to solid waste. There is **no impact**.
Mandatory Findings of Significance

Mandatory Findings of Significance – Would the project:

a) 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, 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) 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) Have environmental effects that would cause substantial adverse effects on human beings, either directly or indirectly?

Discussion

a) Per the impact discussions above, the potential of the proposed project to substantially degrade the environment is less-than-significant with incorporated mitigation measures.

b) The project site is located within a rural area in Amador County. The purpose of the proposed project is to provide safe vehicle access and meet current design standards for the Bunker Hill Road Bridge. The impacts of the proposed project are mitigated to a less-than-significant level, limited to the construction phase of the proposed project, and generally site specific. No other projects are proposed that would overlap or interact with the proposed project. The cumulative impact of the proposed project is less-than-significant.

c) The proposed project would not cause substantial adverse effects on human beings. Effects related to cultural resources, biological resources, hazardous materials, hydrology and water quality, geologic hazards, air quality, transportation and noise are discussed above, and would not result in any significant and unavoidable impacts. This impact is considered less-than-significant.
APPENDIX A: REVEGETATION PLANTING AND EROSION CONTROL SPECIFICATIONS
Appendix A  Revegetation Planting and Erosion Control Specifications

The Bunker Hill Road Bridge at Rancheria Creek Replacement Project (Project) involves the replacement of the existing bridge and improvements to the road approaches. Erosion control measures will be appropriate for the level of impact that will result from construction of the Project. The Project Engineer shall determine the appropriate erosion control measures to be implemented.

I. Highway Planting

A. General
The work performed in connection with highway planting shall conform to the provisions in Section 20-7, “Highway Planting,” of the Caltrans Standard Specifications 2010.

B. Highway Planting Materials - General
All native riparian trees removed from the Fremont cottonwood forest biological community will be replaced at a 3:1 ratio. The replacement native riparian trees shall be obtained from a local nursery and planted within the riparian corridor in the BSA or at other suitable locations near the BSA.

C. Preparing Planting Areas
Plants adjacent to drainage ditches shall be located so that after construction of the basins, all portions of the basin walls shall at least 2 ft from the flow line of graded ditches or at least 2.5 ft from the edge of ditches.

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

E. Plant Establishment Work
The plant establishment period shall conform to the provisions in Section 20-9 of the Caltrans Standard Specifications 2010, shall be Type 2, and shall be not less than 30 working days from completion of construction.

The Contractor shall determine the methods to be used to plant tree species including transporting, storing if required, planting, guying, and maintaining such trees.
Replacement trees shall be maintained from the time the trees are planted to the time of acceptance of the contract, provided that the contract will not be accepted unless the trees have been satisfactorily maintained for at least 30 working days after planting has been completed. The trees shall be watered and fertilized as necessary to maintain the trees in a healthy condition. Trash, debris, and weeds within basins, including the basin walls, shall be removed and disposed of outside the right-of-way as provided in Section 5-1.02B of the Caltrans Standard Specifications 2010. Weeds shall be removed before they exceed 2 inches in height.

The provisions specified in Section 20-7.03I(16), “Replacement,” of the Caltrans Standard Specifications for the replacement of unsuitable plants shall apply to planted trees. The replacement tree for each unsuitable plant shall be the same size and species as the tree being replaced. Said trees shall be planted in individual plant holes at the locations designated by the Engineer within the area of the tree being replaced. Removed unsuitable trees shall be disposed of outside the right-of-way as provided in Section 5-1.02B of the Caltrans Standard Specifications 2010.

**F. Environmentally Sensitive Areas**
The County will establish Environmentally Sensitive Areas (ESA) in the vicinity of the elderberry shrubs that occur in the BSA, as shown on Figure 3 of the NES. These ESAs will protect Valley elderberry longhorn beetle habitat (see Section 4.3.1.2 of the NES). In addition, the County will establish Environmentally Sensitive Areas (ESAs) around the dripline of native trees within the BSA that could be affected by Project construction, but which are not scheduled to be removed. Trucks and other vehicles shall not be allowed to park in, nor shall equipment be stored in, an ESA. No storage or dumping of oil, gasoline, or other substances that may be harmful to trees shall be permitted within an ESA. No burning shall be permitted within an ESA. All ESAs shall be clearly delimited with yellow caution tape or temporary fencing prior to commencement of construction activities. Equipment staging locations will be allowed in areas within the BSA that are not designated ESAs.

**II. Erosion Control**
Erosion control shall conform to the provisions in Section 21 “Erosion Control,” of the Caltrans Standard Specifications 2010 and the Contract special provisions.

Erosion control work shall consist of applying one application of erosion control materials to embankment slopes, excavation slopes, and other areas designated by the Engineer. The application shall consist of the following: fiber, straw, tackifier, seed, commercial fertilizer, and water.
A. Materials

Materials shall conform to Section 21-1, “Materials,” of the Caltrans Standard Specifications and the following:

1. Seed

Seed shall conform to the provisions in Section 21-1.02G “Seed,” of the Caltrans Standard Specifications. Individual seed species shall be measured and mixed in the presence of the Engineer.

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

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

Results from testing or retesting seed for purity and germination shall be furnished to the Engineer prior to applying seed.

The seed mixture shall consist of at least two species from Category A (grasses) and at least four species from Category B (legumes), and one from Category C (wildflowers). These species shall be selected from the following seed mixture table:

<table>
<thead>
<tr>
<th>Category</th>
<th>Scientific Name</th>
<th>Common Name</th>
<th>Type</th>
<th>Percentage Purity /&amp; Germination (Minimum)</th>
<th>Pounds per acre</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td><em>Bromus carinatus</em></td>
<td>California brome</td>
<td>Perennial grass</td>
<td>95/85</td>
<td>15</td>
</tr>
<tr>
<td>A</td>
<td><em>Elymus glaucus</em></td>
<td>Blue wild rye</td>
<td>Perennial grass</td>
<td>90/70</td>
<td>15</td>
</tr>
<tr>
<td>A</td>
<td><em>Festuca californica</em></td>
<td>California fescue</td>
<td>Perennial grass</td>
<td>90/70</td>
<td>15</td>
</tr>
<tr>
<td>A</td>
<td><em>Hordeum brachyantherum ssp. californicum</em></td>
<td>California barley</td>
<td>Perennial grass</td>
<td>90/70</td>
<td>15</td>
</tr>
<tr>
<td>A</td>
<td><em>Nassella pulchra</em></td>
<td>Valley needlegrass</td>
<td>Perennial grass</td>
<td>90/70</td>
<td>15</td>
</tr>
<tr>
<td>A</td>
<td><em>Poa secunda</em></td>
<td>Pine bluegrass</td>
<td>Perennial grass</td>
<td>90/70</td>
<td>15</td>
</tr>
<tr>
<td></td>
<td>Species</td>
<td>Description</td>
<td>Life Cycle</td>
<td>Start</td>
<td>End</td>
</tr>
<tr>
<td>---</td>
<td>----------------------------------------------</td>
<td>---------------------</td>
<td>------------</td>
<td>-------</td>
<td>-------</td>
</tr>
<tr>
<td>B</td>
<td>Lupinus bicolor</td>
<td>Miniature lupine</td>
<td>Flowering</td>
<td>Annual</td>
<td>90/70</td>
</tr>
<tr>
<td>B</td>
<td>Lupinus succulentus</td>
<td>Arroyo lupine</td>
<td>Flowering</td>
<td>Annual</td>
<td>90/70</td>
</tr>
<tr>
<td>B</td>
<td>Trifolium albopurpureum</td>
<td>Rancheria clover</td>
<td>Flowering</td>
<td>Annual</td>
<td>90/90</td>
</tr>
<tr>
<td>B</td>
<td>Trifolium microcephalum</td>
<td>Small-head clover</td>
<td>Flowering</td>
<td>Annual</td>
<td>90/90</td>
</tr>
<tr>
<td>B</td>
<td>Trifolium wilddenovii</td>
<td>Tomcat clover</td>
<td>Flowering</td>
<td>Annual</td>
<td>90/90</td>
</tr>
<tr>
<td>C</td>
<td>Clarkia purpurea</td>
<td>Clarkia</td>
<td>Flowering</td>
<td>Annual</td>
<td>90/70</td>
</tr>
<tr>
<td>C</td>
<td>Eschscholzia californica</td>
<td>California poppy</td>
<td>Flowering</td>
<td>Annual</td>
<td>90/80</td>
</tr>
</tbody>
</table>

2. **Fertilizer**

Fertilizer shall conform to the provisions in Section 20-7.02D, “Fertilizer,” of the Caltrans Standard Specifications. When required by site specific conditions, modification of the type, amount, and application method of fertilizer application may occur at the engineer’s discretion.

**A. Application**

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

<table>
<thead>
<tr>
<th>Material</th>
<th>Pounds Per Acre (Slope Measurement)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fiber</td>
<td>2,000</td>
</tr>
<tr>
<td>Seed</td>
<td>75</td>
</tr>
<tr>
<td>Commercial fertilizer</td>
<td>500</td>
</tr>
</tbody>
</table>

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

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

A. Water Quality and Erosion Control Goals
The goal of water quality and erosion control is to prevent the loss of soil, to prevent siltation, and to prevent adverse impacts on waterways, such as Rancheria Creek.

B. Water Quality and Erosion Control Specifications
The proposed Project will adhere to erosion control specifications of the appropriate regulatory and resource agencies including Caltrans, California DFW, and RWQCB.

The County will implement soil erosion control measures identified in the Best Management Practices of the California Stormwater Quality Association (2003). The BMPs used during the construction include revegetating the work zone at the conclusion of construction, establishing temporary water bars where necessary to reduce the potential for sheet erosion, and minimizing construction impacts in the BSA. Structural BMPs may include roadside bioswales, infiltration basins, and sediment vaults.

IV. Summary
Erosion control materials will be applied to the area affected by the Bunker Hill Road Bridge at Rancheria Creek Replacement Project. Specifications of the appropriate regulatory and resource agencies will be followed.
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Appendix B Conceptual Replanting Plan

I. Introduction

A. Purpose of this Plan

The purpose of this Plan is to describe the approach for restoring the sensitive natural communities that will be impacted by the replacement of Bunker Hill Road Bridge (26C0043) over Rancheria Creek. This Plan describes goals, methods of implementation, and monitoring requirements in accordance with guidance provided by the Corps (2004). This plan incorporates as background information from the NES for the Project, and all the other appendices of the NES.

B. Responsible Parties

1. Applicant:

   Amador County Department of Transportation and Public Works
   810 Court Street
   Jackson, CA 95642
   209/ 223-6429
   Contact: Chip Walker, RPF, REA

2. Preparer of restoration plan:

   Sycamore Environmental Consultants, Inc.
   6355 Riverside Boulevard, Suite C
   Sacramento, CA 95831
   Phone: 916/ 427-0703
   Fax: 916/ 427-2175
   Contact: R. John Little, Ph.D.

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

   Amador County Department of Transportation and Public Works (see contact information above).

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

   Amador County Department of Transportation and Public Works (see contact information above).
II. Project Requiring Restoration

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

A. Location

The Project is located on Bunker Hill Road at Rancheria Creek in the western foothills of the Sierra Nevada Mountains in Amador County. The Project is located north of Amador City and east of Highway 49.

B. Brief Summary of Overall Project

The Project will replace the structurally deficient existing bridge where Bunker Hill Road crosses Rancheria Creek. The proposed new bridge is a clear span, precast cored slab bridge that would be constructed adjacent to the western edge of the existing bridge. The approach roadway would be realigned for up to 270 feet on both sides of the bridge. The realigned segments of roadway would be 26 feet wide to allow two 11-foot-wide travel lanes with two-foot-wide shoulders. Construction of the new bridge is anticipated to take one season.

C. Site Characteristics

Biological communities at the Project site are mixed oak-gray pine forest, annual brome grassland, Fremont cottonwood forest, Rancheria Creek, and roads. Rancheria Creek is an intermittent channel that is a potential waters of the U.S. The Fremont cottonwood forest occurs along the margins of Rancheria Creek in the Project site.

III. Replanting Design

A. Location and Basis for Design

Most of the Project impacts are temporary and occur around the new bridge and road improvements. Permanent impacts to waters of the U.S. occur in Rancheria Creek (0.01 ac). The permanent impacts to Rancheria Creek occur at the new bridge abutments and wing walls due to placement of RSP. Temporary and permanent impacts will be minimized on the Project site with revegetation with native species.

B. Proposed Restoration Site

The proposed restoration will occur within the project limits. The temporarily impacted Fremont cottonwood forest will be revegetated with native species on both banks of the Rancheria Creek. Bare soil slopes will be hydroseeded with native grasses in accordance with the “Revegetation Planting and Erosion Control Specifications” in Appendix F. Tree planting locations are shown
in the Conceptual Planting Plan in Figure 1. Tree planting locations are subject to revisions based on the requirements of the Final Engineering Plans and CDFW.

C. Restored Habitats
The Project goal is to restore all creek and riparian areas impacted by the Project. The long-term goal is for the restored habitats to approximate the adjacent undisturbed habitats along the creek.

IV. Success Criteria and Monitoring

A. Success Criteria
After the project is approved, the Project Proponent will apply for any necessary permits from the USACE and CDFG. Success criteria will be developed in accordance with agency requirements. Typical success criteria involved the following measures:

- The mitigation goal is to achieve a 60 percent or greater establishment rate for replacement trees.
- The survival of 34 trees (proposed 3:1 replacement ratio) for three years from the time of planting in the temporarily impacted areas.

B. Monitoring
The proposed mitigation site will be monitored twice each year, once in spring and once in autumn, for a minimum of three years after planting, or until success criteria have been met. During each of the monitoring events (two monitoring events per year), the condition and number of surviving restoration plantings will be recorded. Natural recruitment of native species will also be recorded. The functioning of any erosion control materials, and any occurrences of nonnative or invasive plants will be noted. A general assessment of the condition of the mitigation site will be made.

V. Implementation Plan

A. Site Preparation
There will be no grading included in the site preparation. Site preparation and planting should occur in the fall. Planting at the beginning of the wet season will increase the probability of plant survival. If planting needs to occur in the summer, the revegetation contractor (or County) will need to ensure that the plants are adequately watered.

The site will be prepared pursuant to the “Revegetation Planting and Erosion Control Specifications” in Appendix F.
B. Planting

Figure 1 of this Replanting Plan contains the proposed number and location of plantings. The species and quantities of native riparian trees to be planted will be a proposed 3:1 ratio of native riparian tree species removed (Table 1). Trees will be planted from container grown stock of at least one-gallon size or equivalent.

The soil may be compacted and planting holes may need to be excavated with power machinery or picks. Planting holes will be excavated to at least the depth of planting containers and three times the width.

Table 1. Revegetation Plantings

<table>
<thead>
<tr>
<th>Removed Tree Species</th>
<th>Estimate Number of Trees Removed from Riparian Corridor</th>
<th>Proposed Replacement Plantings</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fremont Cottonwood *Populus fremontii*</td>
<td>15</td>
<td>45</td>
<td>1 gallon or equivalent</td>
</tr>
<tr>
<td>White alder *Alnus rhombifolia*</td>
<td>1</td>
<td>3</td>
<td>1 gallon or equivalent</td>
</tr>
<tr>
<td>Red willow *Salix laevigata*</td>
<td>3</td>
<td>9</td>
<td>1 gallon or equivalent</td>
</tr>
<tr>
<td><strong>Total:</strong></td>
<td><strong>19</strong></td>
<td><strong>57</strong></td>
<td></td>
</tr>
</tbody>
</table>

VI. Maintenance During Monitoring Period

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

VII. Monitoring Reports

A. As-Built Report

In accordance with the conditions of the Nationwide Permit and 1602 Streambed Alteration Agreement, the County will submit an As-Built Report to the Corps and CDFW after completion of planting. The as-built shall include a map of the plantings, a description of the methods and materials used, and establishment of photo-documentation points. This information will be used for future monitoring events to assess the success of the mitigation activities. The County will provide the As-Built map to the annual monitor in accordance with the conditions of the Nationwide Permit and 1602 Streambed Alteration Agreement.

A. Annual Reports
The annual report shall be prepared by 31 December each year. Each annual report shall include the results of the two monitoring events for that year, and a comparison of the results to the success criteria. The County will submit the annual report to the Corps and CDFW.

VIII. Potential Contingency Measures

If the monitoring report determines that the mitigation site is not meeting or is unlikely to meet the success criteria, then contingency measures shall be recommended by the monitoring report. These measures will be developed in cooperation with the Corps and CDFW. Contingency measures could include additional plantings, different species, different methods, invasive species control, or other measures designed with the goal of meeting the success criteria. It is the responsibility of Amador County Department of Transportation and Public Works to meet the success criteria, including implementation of any contingency measures towards that end.

IX. Completion of Restoration Responsibilities

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

X. Long-Term Management Plan

The restoration site will be managed the same as the surrounding habitat after the completion of restoration responsibilities.
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Bunker Hill Road at Ranchena Creek Bridge (26C-0043) Replacement Project
Amador County, CA
9 February 2012

Figure 1. Replanting Plan

- Riparian Replanting Areas
- Fremont Cottonwood Forest
- Proposed Rock Slope Protection (RSP)
-Permanent Impact
-Temporary Impact

Basemap: BUNKER HILL.dwg
(24March 2009),
Drake Reagan & Associates
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