

Chapter 2 Affected Environment, Environmental Consequences, and Avoidance, Minimization, and/or Mitigation Measures

This Chapter explains the impacts that the project would have on the human, physical, and biological environments in the project area. It describes the existing environment that could be affected by the project and potential impacts from each of the alternatives.

As part of the scoping and environmental analysis conducted for the project, the following environmental factors were considered, but no adverse impacts were identified. Consequently, there is no further discussion regarding these issues in this document: Noise, Growth Inducement, Population and Housing, Public Services, Agriculture, and Geology.

2.1 Cultural Resources

“Cultural Resources” as used in this document refers to all historical and archaeological resources, regardless of significance. Laws and regulations dealing with cultural resources include:

The National Historic Preservation Act of 1966, as amended, (NHPA) sets national policy and procedures regarding historic properties, defined as districts, sites, buildings, structures, and objects included in or eligible for the National Register of Historic Places (National Register). Section 106 of NHPA requires federal agencies to take into account the effects of their undertakings on such properties and to allow the Advisory Council on Historic Preservation the opportunity to comment on those undertakings, following regulations issued by the Advisory Council on Historic Preservation (36 CFR 800). On January 1, 2004, a Section 106 Programmatic Agreement (PA) among the Advisory Council, FHWA, State Historic Preservation Officer (SHPO), and Caltrans went into effect for Caltrans projects, both state and local, with FHWA involvement. The PA implements the Advisory Council’s regulations, 36 CFR 800, streamlining the Section 106 process and delegating certain responsibilities to Caltrans. The FHWA’s responsibilities under the PA have been assigned to Caltrans as part of the Surface Transportation Project Delivery Pilot Program (23 CFR 773) (July 1, 2007).

Historic properties may also be covered under Section 4(f) of the U.S. Department of Transportation Act, which regulates the “use” of land from historic properties. See Appendix B of this document for specific information regarding Section 4(f).

Historical resources are considered under the CEQA, as well as California Public Resources Code (PRC) Section 5024.1, which established the California Register of Historical Resources. PRC Section 5024 requires state agencies to identify and protect state-owned resources that meet National Register of Historic Places listing criteria. It further specifically requires Caltrans to inventory state-owned structures in its rights-of-way. Sections 5024(f) and 5024.5 require state agencies to provide notice to and consult with the SHPO before altering, transferring, relocating, or demolishing state-owned historical resources that are listed on or are eligible for inclusion in the National Register or are registered or eligible for registration as California Historical Landmarks.

The Feather River Highway Historic District, a section of SR 70, was determined eligible for the National Register through the consensus process on April 16, 1987 under Criteria A and C. The district comprises the width of the highway right-of-way over a distance of some 48 miles between Jarbo Gap in Butte County and Keddie in Plumas County. Contributing elements include the overall length and width of the highway, cuts and fills, bridges and tunnels, stone masonry walls and parapets, stone masonry drinking fountains, and culverts.

The Spanish Creek Bridge was determined individually eligible for the National Register on January 9, 1986, as one component of the Historic Truss Bridges of California Thematic Determination of Eligibility under Criterion A. The Spanish Creek Bridge (Brg. No. 09-0015) is a riveted steel deck truss carried on tall K-truss tower piers; its main spans are 142 feet long. Designed by the Bridge Department of the California Division of Highways and built in 1932, the bridge carries SR 70 highway above Spanish Creek. This bridge is significant primarily as a historical transportation link, serving one of the major crossings on SR 70. It also is a contributive element of the Feather River Highway Historic District.

Portions of a historic water ditch and wagon road are also located within the project limits. The Maxwell Ditch is a water conveyance system associated with a hydraulic gold mine. The Utah Construction Road is a wagon road constructed by the Western Pacific Railroad to support construction of the railroad. The Maxwell Ditch stretches miles beyond the project limits, as does the Utah Construction Road, portions of which may also exist in Nevada and Utah. Due to the length of these resources in relation to the segments present within the limits of the bridge project, formal evaluation for eligibility to the National Register is beyond the scope of the bridge project. Therefore, for purposes of the bridge project, Caltrans has assumed that

both resources are eligible for the National Register and that they will be adversely affected by the project. SHPO and ACHP correspondence and an approved Memorandum of Agreement to resolve adverse effects are included in Appendix G.

2.1.1 Impacts

Alternatives A and B propose construction of a new bridge immediately west of and parallel to the existing structure. A portion of SR 70 adjoining each end of the bridge would be realigned to conform to the new bridge alignment. Alternative A proposes seismically retrofitting the existing bridge and preserving it for pedestrian and bicycle use. Alternative B proposes demolition of the existing bridge. Both alternatives would result in a finding of adverse effect to the Spanish Creek Bridge, Feather River Highway Historic District, Maxwell Ditch segment, and Utah Construction Road segment. Implementation of either alternative would also result in a “use” of these historic properties per Section 4(f) guidelines. The Section 4(f) Evaluation is contained in Appendix B.

If cultural materials are discovered during construction, all earth-moving activity within and around the immediate discovery area will be diverted until a qualified archaeologist can assess the nature and significance of the find.

If human remains are discovered, State Health and Safety Code Section 7050.5 states that further disturbances and activities shall cease in any area or nearby area suspected to overlie remains, and the County Coroner contacted. Pursuant to Public Resources Code Section 5097.98, if the remains are thought to be Native American, the coroner will notify the Native American Heritage Commission (NAHC) who will then notify the Most Likely Descendent (MLD). At this time, the person who discovered the remains will contact Caltrans’ District 2 Environmental Branch so that they may work with the MLD on the respectful treatment and disposition of the remains. Further provisions of PRC 5097.98 are to be followed as applicable.

2.1.2 Avoidance, Minimization, and/or Mitigation Measures

Avoidance of adverse effects upon historical resources is attainable only with Alternative D, the No Build Alternative. Even then, over time, deterioration would have detrimental effects upon the bridge and the highway historic district. Impacts to the bridge and highway historic district would be minimized with the implementation of Alternative A since the bridge would not be removed.

Caltrans has entered into an MOA with the SHPO, which takes into account the project’s effects on historic properties and specifies mitigation to be completed by Caltrans. Caltrans will prepare a permanent record of the Spanish Creek Bridge in

accordance with Historic American Engineering Record (HAER) procedures and guidelines. In addition, interpretive panels will be installed within the entrance to the Spanish Creek Campground adjacent to SR 70 depicting the history of the Feather River Highway Historic District and the Spanish Creek Bridge as they reflect the transportation history of the Feather River Canyon. Other similarly mounted panels shall depict the history of other historic properties within and near the APE, including the Maxwell Ditch, the former Western Pacific Railroad, and the Utah Construction Road and other abandoned roadways.

2.2 Land Use and Planning

2.2.1 Existing and Future Land Use

SR 70 in the project vicinity is a two-lane highway located by easement within the PNF, Mount Hough Ranger District. Surrounding land use is designated as multi-use recreational, which allows public access for various recreational activities and permitted activities such as hiking, fishing, boating, camping, gold mining and timber harvesting. The Spanish Creek Campground is located at the northwest quadrant of the Spanish Creek Bridge.

A Pacific Gas & Electric substation is located near the northeast quadrant of the bridge. Union Pacific Railroad facilities are located adjacent to the eastern and southern limits of the project site.

2.2.1.1 Impacts

Implementation of Alternatives A and B would place a new bridge approximately 40 feet west, measured centerline to centerline, of the existing bridge, which would require shifting the adjoining sections of the highway westerly. The campground entrance would be shifted westerly also. A total of approximately 3.04 acres of new highway right-of-way would be required, comprised of 2.98 acres from PNF and 0.06 acre from the Union Pacific Railroad. Union Pacific Railroad infrastructure and operations would not be affected by the potential right of way acquisition.

2.2.1.2 Avoidance, Minimization, and/or Mitigation Measures

Alternative D, the No Build alternative, would avoid impacting the Spanish Creek Campground entrance and the need to acquire new highway right of way from PNF and the Union Pacific Railroad. If Alternative A or B were implemented, the Spanish Creek Campground entrance would be completely reconstructed on the new highway alignment. Caltrans would ensure that the campground entrance is constructed in accordance with modern highway design standards and that it meets the needs of PNF.

2.2.2 Parks and Recreation

SR 70 within the project limits traverses PNF Land. The Spanish Creek Campground and surrounding recreation land, which is administered by PNF, is located on the west side of the Spanish Creek Bridge. The entrance to the campground is located at the northwest quadrant of the bridge. The campground accepts reservations and is in operation from Memorial Day weekend to Labor Day weekend. The campground has 20 campsites, vault toilets, potable water, day-use parking, and a campground host.

Spanish Creek is popular for swimming, boating and trout fishing. Several contiguous placer gold mining claims are located within the project limits on Spanish Creek.

2.2.2.1 Impacts

The build alternatives would require use of the Spanish Creek Campground access road and adjacent public recreation land to gain access to the area beneath the existing and proposed bridges. For safety reasons, the campground would be closed for the estimated three-year period required for major bridge construction activities. A Section 4(f) Evaluation is included in Appendix B. This document evaluates potential impacts to the recreation land, including the Spanish Creek Campground, measures to avoid and minimize impacts, and proposed mitigation for unavoidable impacts to the public recreation land.

Access to certain areas within gold mining claims would be restricted during construction. In addition, removal or displacement of materials and placement of permanent structures could occur within the boundaries of the claims.

A section of Spanish Creek, from the bridge to the proposed temporary trestle location downstream, would be closed to recreational activities during construction.

2.2.2.2 Avoidance, Minimization, and/or Mitigation Measures

- If excavations or placement of a permanent structure were required within a mining claim, Caltrans would obtain a Quit Claim Deed for the area needed from the claim holder(s).
- The campground will be closed during construction to protect the safety of the public.
- Within the limits of the campground, construction vehicles and equipment will be confined to the paved roadway unless otherwise directed by the project plans or Caltrans Resident Engineer.

- Construction storage and staging will occur only within those areas designated on the project plans.
- Removal of vegetation will be limited to the extent possible. Mature trees near the campground entrance, as delineated on the project plans, will be preserved.
- Following construction, all disturbed areas within the recreation area will be stabilized with erosion control seeding. Pavement and infrastructure damaged as a result of Caltrans' project will be repaired.
- Boaters would be notified of any stream closures through press releases and signage on the creek, upstream of the work area. A designated portage detour will be provided for boaters passing through the work area. Contractor personnel will guide boaters through the detour. Boaters may experience delays in passing through the work area depending on the work in process.

2.3 Utilities

A pair of Pacific Gas & Electric overhead transmission lines (60KV and 12KV) runs parallel to the west side of SR 70 within the project limits. The utility lines cross SR 70 near the entrance to the Spanish Creek Campground to the west side of the highway and then run parallel to the highway in each direction. An electrical substation is located on the west side of SR 70 opposite the Spanish Creek Campground entrance. Telephone service may also be located on the same utility poles.

Public Utilities Commission (PUC) General Order 131-D, dated August 11, 1995, requires special review and permitting for relocations of privately owned power lines operating at voltages in excess of 50kV. The relocation of the 60kV overhead lines within the limits of the Spanish Creek Bridge project qualifies for an exemption pursuant to Section III.B.1(c) of PUC General Order 131-D because the relocation is less than 2,000 linear feet.

In addition to the electrical utility, a domestic water well for the Spanish Creek Campground is located adjacent to SR 70 and the campground entrance. The well head will be protected during construction.

2.3.1 Impacts

Bridge construction and demolition operations would require a large crane operating from each end of the existing and new bridges. The crane's boom would require a 300 foot radius operating clearance at each end of the existing and new bridges. This would require relocation of approximately 1,200 feet of existing overhead utility lines that cross SR 70 from the substation and run parallel to the west side of the highway near the campground entrance and the existing bridge. Potential sensitive receptors in the project area include the Spanish Creek Campground. However, the utility lines would be relocated to the opposite side of SR 70, further away from the campground. There are no residences or other sensitive receptors within the project area. The relocation corridor is mostly steep terrain on PNF land. Therefore, the proposed relocation will have no effect on sensitive receptors.

The utility relocation will entail installation of seven new poles and approximately 1,860 feet of transmission line. A forty foot wide swath of vegetation will be cleared beneath the pole line, twenty feet each side of pole centerline. In addition, approximately 18 hazard trees outside of the forty foot corridor will need to be removed. These trees have been identified as hazard trees that could potentially fall on the overhead line. Vegetation removed from the pole line corridor will be chipped except for those areas that are too steep for equipment access, in which case the vegetation will be left on the ground. The seven poles on the former utility alignment will be cut off as close as possible to ground level and the pole butts will remain in place at a depth of approximately eight feet below the ground surface.

2.3.2 Avoidance, Minimization, and/or Mitigation Measures

Any required utility relocation would be performed prior to the beginning of bridge construction. The Spanish Creek Campground water supply well head would be delineated on the plans and protected during construction.

2.4 Visual/Aesthetics

The National Environmental Policy Act of 1969, as amended, establishes that the federal government use all practicable means to ensure all Americans safe, healthful, productive, and aesthetically and culturally pleasing surroundings [42 United States Code 4331(b)(2)].

Likewise, the California Environmental Quality Act establishes that it is the policy of the state to take all action necessary to provide the people of the state "with...enjoyment of aesthetic, natural, scenic, and historic environmental qualities." [California Public Resources Code Section 21001(b)]

SR 70 is a designated National Scenic Byway from 10 miles north of Oroville to its terminus at U.S. Route 395 in Lassen County. The project is located in mountainous terrain, heavily forested with conifers and oaks. Views are confined to the immediate hills and steep terrain surrounding Spanish Creek. The highway is approximately 140 feet above the creek. Two separate sections of Union Pacific Railroad tracks are visible at the southeast and southwest limits of the project. A public campground and recreation area administered by PNF abuts the northwest end of the Spanish Creek Bridge.

Due to the steep forested terrain and the straight alignment of the bridge, motorists do not have a view of the bridge's steel superstructure, which is painted green. As previously discussed, the bridge is determined eligible for the National Register of Historic Places. Vantage points for viewing the superstructure are accessible from the adjacent campground.

2.4.1 Impacts

Implementation of any of the build alternatives would result in the disturbance of approximately 10.1 acres, which includes temporary staging areas, access roads, and realignment of the highway. Large conifers would be removed from the area southwest of the bridge to make a temporary construction access road parallel to Spanish Creek. This land is prescribed for public recreation by PNF and is partially visible from within the Spanish Creek Campground. Additional conifers and oaks would be removed from PNF land adjacent to the west side of SR 70 due to the necessary shift in the highway alignment. If Alternative B is selected, the project would result in the removal of the historic bridge.

2.4.2 Avoidance, Minimization, and/or Mitigation Measures

Selected trees within proposed temporary staging areas and upon access roads would be marked for preservation by avoidance. The selection of trees would be based upon factors such as aesthetics, ability to avoid (constructability), and age of tree. Woody vegetation would be replaced on PNF lands either by Caltrans or by PNF with funding provided by Caltrans. A new road connection and signage would be installed at the entrance to the Spanish Creek Campground.

Abandoned sections of highway would be obliterated, graded, and restored with native vegetation. Planting of woody vegetation would not occur within the clear recovery zone of the highway, which is 20 feet from the edge of the traveled way.

The proposed bridge type for the build alternatives is an open-spandrel arch concrete box girder bridge. This type of bridge, reminiscent of early bridges in the

region, is an aesthetically pleasing structure that fits the scenic and historic character of the Feather River highway corridor.

2.5 Water Quality and Storm Water Runoff

The project is located on Spanish Creek, within the Feather River watershed, in the Sacramento River Drainage Basin. The project is approximately 3.3 miles upstream of the confluence of Indian Creek and the East Branch of the North Fork Feather River.

The primary federal law regulating water quality is the Clean Water Act. Section 401 of the Act requires a water quality certification from the State Water Resources Control Board (SWRCB) or the Regional Water Quality Control Board (RWQCB) when a project: 1) requires a federal license or permit (a Section 404 permit from the U.S. Army Corps of Engineers is the most common federal permit for Caltrans projects), and 2) will result in a discharge to waters of the United States.

Section 402 of the Act establishes the National Pollutant Discharge Elimination System (NPDES) permit system for the discharge of any pollutant (except dredge or fill material) into waters of the United States. To ensure compliance with Clean Water Act Section 402 the SWRCB has issued a NPDES Statewide Storm Water Permit to regulate storm water discharges from Caltrans facilities both during and after construction, as well as from existing facilities and operations. The Statewide Storm Water Permit requires Caltrans to comply with the requirements of the General Construction Permit issued by the SWRCB to regulate discharges from construction activities which includes clearing, grading, disturbance to the ground, such as stockpiling or excavation, that results in soil disturbances of at least one acre of total land area. Construction activity that results in soil disturbances of less than one acre is subject to the General Construction Permit if the construction activity is part of a larger common plan of development that encompasses one or more acres of soil disturbance, or if there is significant water quality impairment resulting from the activity. The Statewide Storm Water Permit requires development of a Storm Water Pollution Prevention Plan (SWPPP) to address water pollution control. The SWPPP is prepared by the contractor and is subject to Caltrans' approval. The SWPPP identifies construction activities that may cause pollutants in storm water and the temporary best management practices (BMPs) that will be utilized to control these pollutants.

Additional laws regulating water quality include the Porter-Cologne Water Quality Act, Safe Drinking Water Act and Pollution Prevention Act. State water quality laws

are codified in the California Water Code, Health and Safety Code, and Fish and Game Code Sections 5650-5656.

2.5.1 Impacts

The primary constituent of concern for the build alternatives would be sediment, both during and after construction. During construction there could be temporary adverse impacts due to increased erosion that could eventually be transported into storm drains and receiving waters. After construction, newly planted cut and fill slopes would have the potential for sediment transport from slope rills and slumps if not properly maintained.

The proposed work would disturb a total of approximately 10.1 acres. Earth disturbing activities would include realignment of a section of SR 70 to conform with the new bridge, reconstruction of a portion of the campground entrance road, excavations for bridge foundations, creation of temporary construction staging/storage areas in upland areas, and construction of temporary access roads for construction, including construction of multiple temporary stream crossings. These activities would have the potential to create areas of unstable soils, which are subject to erosion. Soil erosion can result in the transport of sediment into surface waters and turbidity.

Construction of a new bridge and demolition of the existing bridge (Alternative B) would result in temporary impacts within Spanish Creek. Temporary impacts would result from the removal of riparian vegetation, stream bank modifications for access into the stream channel, stream diversions and/or dewatering of the work area, construction of temporary stream crossing structures, and the placement of fill within the stream channel to create a temporary work pad. These impacts could result in increases in turbidity and suspension of solids. Additionally, the existing bridge is known to contain lead paint. Demolition of the existing bridge could introduce lead containing paint chips into Spanish Creek.

Downstream on Spanish Creek within the lower reach of the Spanish Creek Campground, a temporary trestle would be installed to provide access to the opposite side of the creek. It is likely that the trestle would be supported by steel piles.

Upstream beneath the bridge, stream diversions and a work pad consisting of clean cobbles would be necessary for bridge construction and demolition. It is likely that culverts would be placed beneath the cobble pad to maintain the stream flow. In addition to providing a level work platform, the cobble work pads would provide a foundation for falsework erection and an area upon which to collapse the old bridge.

Falsework is a temporary structure comprised of wood and/or steel which supports the bridge while it is under construction. The vertical support members of the falsework system would be driven into the streambed. Construction of the temporary work pad would result in the placement of fill temporarily upon approximately 0.3 acre of stream channel. All construction materials would be removed from the streambed following construction except for the bottom layer of the cobble pad that would likely be spread evenly throughout the channel.

The new bridge drainage system would be similar to that of the existing bridge. The bridge would have scuppers or down drains to remove storm water from the traveled way to prevent accumulations and/or freezing of water. The storm water would be discharged beneath the bridge directly to upland areas or within the creek channel. The volume of storm water would be increased slightly due to an increase in bridge width. As with the existing bridge, highway storm water runoff from the bridge may contain traction sand, de-icing agents and other contaminants typically found on the highway.

Realignment of the adjoining sections of highway to conform with a new bridge alignment would require reconstruction of the highway drainage system. The slight increase in impervious pavement and new cut and fill slopes would result in concentrated water flows.

The “no build” alternative would result in increased potential for the introduction of lead containing paint into the environment due to the aging paint system and the increasing need for maintenance on the structure.

2.5.2 Avoidance, Minimization, and/or Mitigation Measures

The contractor would be required to prepare a SWPPP, which would identify potential sources of pollution related to construction and temporary BMPs that would be implemented to protect water quality. The SWPPP must be approved by the Resident Engineer and would include appropriate temporary construction BMPs to address soil stabilization, sediment control, wind erosion control, tracking control, non-storm water management, and waste management.

It is proposed to include the following BMPs in the project plans if one of the build alternatives is approved:

- Cut and fill slopes shall receive a hydro-seed application of mulch, stabilizing emulsion, fertilizer, and seed and tree planting to provide a vegetated surface to a minimum of 70 percent background native vegetation or equivalent;

- Asphalt dikes and overside drains with rock energy dissipaters will be installed in areas of concentrated flows near fill slopes;
- Drainage conveyance systems will be designed with consideration of downstream effects;
- Drainage culverts will be designed with flared end sections and outlet protection/velocity dissipation devices;
- Traction sand devices will be installed where feasible to collect traction sand;
- Where feasible, storm water runoff will be designed to sheet flow over vegetated fill slopes for bio-filtration.

The contractor would be required to adhere to Caltrans' standard specifications and special provisions pertaining to water quality. The standard specifications pertaining to water quality include dust control, clearing and grubbing, earthwork, erosion control, and water pollution. In addition, the contractor would be required to comply with the terms and conditions of regulatory permits issued by the Department of Fish & Game, the Regional Water Quality Control Board, and the Army Corps of Engineers. Appropriate regulatory guidelines would be followed for any dewatering, and if required, siphoning operations within live streams.

Implementation of the above BMPs and adherence to Caltrans' contract plans, specifications and special provisions, including regulatory permit conditions, would minimize the potential for water quality impacts. The BMPs referred to in this section were erroneously referred to in the Draft EIR/EA as "mitigation measures", which upon implementation and adherence to contract specifications and regulatory permits, would "ensure that water quality impacts were reduced to a level below significance with respect to CEQA". This error was carried forward to the California Environmental Quality Act Evaluation checklist in Appendix A, Hydrology and Water Quality Section (a), and Appendix B, Summary of Avoidance, Minimization, and/or Mitigation Measures. A Water Quality Assessment Report, which substantiates that potential water quality impacts resulting from the project would be less than significant, was prepared on August 21, 2006. Based on the Water Quality Assessment Report, the respective sections of the Final EIR/EA have been updated to correct the erroneous information.

2.6 Hazardous Waste

Hazardous materials and hazardous wastes are regulated by many state and federal laws. These include not only specific statutes governing hazardous waste, but also a variety of laws regulating air and water quality, human health, and land use.

The primary federal laws regulating hazardous wastes/materials are the Resource Conservation and Recovery Act of 1976 (RCRA) and the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA). The purpose of CERCLA, often referred to as Superfund, is to clean up contaminated sites so that public health and welfare are not compromised. RCRA provides for “cradle to grave” regulation of hazardous wastes. Other federal laws include:

- Community Environmental Response Facilitation Act (CERFA) of 1992
- Clean Water Act
- Clean Air Act
- Safe Drinking Water Act
- Occupational Safety & Health Act (OSHA)
- Atomic Energy Act
- Toxic Substances Control Act (TSCA)
- Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA)

In addition to the acts listed above, Executive Order 12088, Federal Compliance with Pollution Control, mandates that necessary actions be taken to prevent and control environmental pollution when federal activities or federal facilities are involved.

Hazardous waste in California is regulated primarily under the authority of the federal Resource Conservation and Recovery Act of 1976, and the California Health and Safety Code. Other California laws that affect hazardous waste are specific to handling, storage, transportation, disposal, treatment, reduction, cleanup and emergency planning.

Worker health and safety and public safety are key issues when dealing with hazardous materials that may affect human health and the environment. Proper management of hazardous material is vital if it is disturbed during project construction

2.6.1 Impacts

An Initial Site Assessment (ISA) was performed to determine if potential sources of hazardous waste exist within the project limits. The ISA entailed a review of hazardous waste databases, as-built plan sheets, and a site visit. It was determined that the project site is not listed on the April 1998 State List of Hazardous Waste Sites, also referred to as the “Cortese List.” The following potential hazardous waste issues were identified during the ISA:

- Lead Containing Paint (LCP)
- Asbestos Containing Materials (ACM)

Lead Containing Paint

Lead was a common ingredient of paints manufactured before 1978 and is still an ingredient of some industrial paints. Caltrans Structures Maintenance personnel reported that the original paint system on the Spanish Creek Bridge was lead based primer and paint. Paint samples taken from the bridge truss and girder system during a site investigation confirmed the presence of lead containing paint. Soils beneath the bridge were also sampled for lead, to a maximum depth of two feet, due to historical bridge maintenance activities including sandblasting and repainting operations. Test results indicate lead levels above regulatory hazardous waste thresholds in the area beneath and adjacent to the existing bridge, including proposed highway Alignment 2.

Traffic striping paint and thermoplastic striping present on the road surface may contain heavy metals, including lead. When the striping is removed exclusive of the asphalt concrete by grinding or abrasive blasting, the residue may contain high concentrations of heavy metals.

Asbestos Containing Material

ACM has been commonly used in bearing pads and joint filler material for bridge abutment and expansion joints. A site investigation detected no ACM on the bridge. However, not all areas of the bridge may be accessible for sampling and therefore the investigation cannot conclusively report an absence of ACM.

2.6.2 Avoidance, Minimization, and/or Mitigation Measures

All paints on the bridge should be treated as lead-containing for purposes of determining the applicability of the Cal/OSHA lead standard during any bridge maintenance, renovation or demolition activity.

The contractor shall prepare a project specific lead compliance plan in accordance with the Cal/OSHA lead standard (CCR Title 8, Section 1532.1) to prevent or minimize worker exposure to lead. The plan should include protocols for environmental and personnel monitoring, requirements for personal protective equipment, and other health and safety protocols and procedures for the handling of lead containing materials. In addition, the contractor is responsible for characterizing and segregating wastes prior to disposal.

Excavated soils in the vicinity of the existing bridge should either be 1) managed and disposed of as a California hazardous waste or, 2) stockpiled separately and re-sampled to confirm total and soluble lead concentrations for disposal and/or reuse evaluation.

Traffic striping paint and/or thermoplastic striping removed from the road surface, exclusive of the asphalt concrete, by grinding or abrasive blasting shall be managed and disposed of as a California hazardous waste.

Written notification to U.S. Environmental Protection Agency, Region 9, and the California Air Resources Board is required ten working days prior to commencement of any bridge renovation or demolition activity regardless of whether or not ACM is present. If previously undetected ACM is discovered during construction, compliance with Cal/OSHA regulations pertaining to ACM must be followed.

2.7 Air Quality

The Clean Air Act as amended in 1990 is the federal law that governs air quality. Its state counterpart is the California Clean Air Act of 1988. These laws set standards for the quantity of pollutants that can be in the air. At the federal level, these standards are called National Ambient Air Quality Standards (NAAQS). Standards have been established for six criteria pollutants that have been linked to potential health concerns; the criteria pollutants are: carbon monoxide (CO), nitrogen dioxide (NO₂), ozone (O₃), particulate matter (PM), lead (Pb), and sulfur dioxide (SO₂).

Under the 1990 Clean Air Act Amendments, the U.S. Department of Transportation cannot fund, authorize, or approve Federal actions to support programs or projects that are not first found to conform to the State Implementation Plan for achieving the goals of the Clean Air Act requirements. Conformity with the Clean Air Act takes place on two levels – first, at the regional level and second, at the project level. The proposed project must conform at both levels to be approved.

Regional level conformity in California is concerned with how well the region is meeting the standards set for carbon monoxide (CO), nitrogen Dioxide (NO₂), ozone

(O₃), and particulate matter (PM). California is in attainment for the other criteria pollutants. At the regional level, Regional Transportation Plans (RTP) are developed that include all of the transportation projects planned for a region over a period of years, usually at least 20. Based on the projects included in the RTP, an air quality model is run to determine whether or not the implementation of those projects would conform to emission budgets or other tests showing that attainment requirements of the Clean Air Act are met. If the conformity analysis is successful, the appropriate regional planning organization and federal agencies make the determination that the RTP is in conformity with the State Implementation Plan for achieving the goals of the Clean Air Act. Otherwise, the project in the RTP must be modified until conformity is attained. If the design and scope of the proposed transportation project are the same as described in the RTP, then the proposed project is deemed to meet regional conformity requirements for purposes of project-level analysis.

Conformity at the project-level also requires “hot spot” analysis if an area is “non-attainment” or “maintenance” for carbon monoxide (CO) and/or particulate matter. A region is a “non-attainment” area if one or more monitoring stations in the region fail to attain the relevant standard. Areas that were previously designated as non-attainment areas but have recently met the standard are called “maintenance” areas. “Hot spot” analysis is essentially the same, for technical purposes, as CO or particulate matter analysis performed for NEPA and CEQA purposes. Conformity does include some specific standards for projects that require a hot spot analysis. In general, projects must not cause the CO standard to be violated, and in “non-attainment” areas the project must not cause any increase in the number and severity of violations. If a known CO or particulate matter violation is located in the project vicinity, the project must include measures to reduce or eliminate the existing violation(s) as well.

2.7.1 Impacts

The proposed project is exempt from all air quality conformity analysis requirements per Table 2 of 40 Code of Federal Regulations (CFR) §93.126, Subsection “Safety, widening narrow pavements or reconstructing bridges (no additional lanes).”

The project may result in the generation of short-term construction related air emissions, including fugitive dust and exhaust emissions from construction equipment. Fugitive dust, sometimes referred to as PM₁₀, would be the primary short-term construction impact. Fugitive dust may be generated during excavation and grading, hauling, and demolition activities. Both fugitive dust and construction equipment exhaust emissions would be temporary and transitory in nature.

2.7.2 Avoidance, Minimization, and/or Mitigation Measures

The contractor is required to comply with Caltrans' Standard Specifications, which include Section 7-1.01F "Air Pollution Control" and Section 10 "Dust Control." In addition, the U.S. Environmental Protection Agency's National Emissions Standards for Hazardous Air Pollutants (NESHAP) and the California Air Resources Control Board (CARB) rules require the contractor to notify the CARB in writing prior to the demolition or renovation of a bridge.

2.8 Wetlands and Other Waters

Wetlands and other waters are protected under a number of laws and regulations. At the federal level, the Clean Water Act (33 U.S.C. 1344) is the primary law regulating wetlands and waters. The Clean Water Act regulates the discharge of dredged or fill material into waters of the United States, including wetlands. Waters of the United States include navigable waters, interstate waters, territorial seas and other waters that may be used in interstate or foreign commerce. To classify wetlands for the purposes of the Clean Water Act, a three-parameter approach is used that includes the presence of hydrophytic (water-loving) vegetation, wetland hydrology, and hydric soils (soils subject to saturation/inundation). All three parameters must be present, under normal circumstances, for an area to be designated as a jurisdictional wetland under the Clean Water Act.

Section 404 of the Clean Water Act establishes a regulatory program that provides that no discharge of dredged or fill material can be permitted if a practicable alternative exists that is less damaging to the aquatic environment or if the nation's waters would be significantly degraded. The Section 404 permit program is run by the U.S. Army Corps of Engineers (ACOE) with oversight by the Environmental Protection Agency (EPA).

The Executive Order for the Protection of Wetlands (E.O. 11990) also regulates the activities of federal agencies with regard to wetlands. Essentially, this executive order states that a federal agency, such as the Federal Highway Administration, cannot undertake or provide assistance for new construction located in wetlands unless the head of the agency finds: 1) that there is no practicable alternative to the construction and 2) the proposed project includes all practicable measures to minimize harm.

At the state level, wetlands and waters are regulated primarily by the Department of Fish and Game (CDFG) and the Regional Water Quality Control Boards (RWQCB). In certain circumstances, the Coastal Commission (or Bay Conservation and Development Commission) may also be involved. Sections 1600-1607 of the Fish

and Game Code require any agency that proposes a project that will substantially divert or obstruct the natural flow of or substantially change the bed or bank of a river, stream, or lake to notify CDFG before beginning construction. If CDFG determines that the project may substantially and adversely affect fish or wildlife resources, a Lake or Streambed Alteration Agreement will be required. CDFG jurisdictional limits are usually defined by the tops of the stream or lake banks, or the outer edge of riparian vegetation, whichever is wider. Wetlands under jurisdiction of the ACOE may or may not be included in the area covered by a Streambed Alteration Agreement obtained from the CDFG.

The Regional Water Quality Control Boards were established under the Porter-Cologne Water Quality Control Act to oversee water quality. The RWQCB also issues water quality certifications in compliance with Section 401 of the Clean Water Act. Please see the Water Quality section for additional details.

2.8.1 Impacts

Spanish Creek, a perennial stream, is the primary surface water within the project study limits. The proposed project will not result in the placement of permanent structures or fill within the banks of Spanish Creek. However, temporary stream diversions and crossings will be necessary to facilitate construction access and staging operations. A description of these anticipated impacts are described in Section 2.5.1 of this document. Implementation of any of the project alternatives, except the “No Build” alternative, would require the removal of approximately 0.7 acre of riparian vegetation from the banks of Spanish Creek to facilitate construction access and staging.

In addition to Spanish Creek, there is a total of approximately 0.1 acre of palustrine emergent wetlands within the project study limits. The wetlands are situated on the north and south banks of Spanish Creek. The majority of wetlands are located outside of the proposed work area. Approximately 0.05 acre of wetlands are located in the vicinity of the proposed temporary trestle that will be used to cross Spanish Creek from within the Spanish Creek Campground. There is a wetland on the northern bank of Spanish Creek that is 2,067 square feet and a wetland on the southern bank that is 178 square feet. The trestle will span both of these wetlands in order to avoid an impact. No direct or indirect effects to wetlands will occur as a result of the proposed project.

2.8.2 Avoidance, Minimization, and/or Mitigation Measures

Measures to avoid and minimize impacts to riparian vegetation on the banks of Spanish Creek are discussed in Section 2.9.2 of this document.

All wetlands identified within the limits of the project will be avoided. The proposed temporary stream crossing trestle will be strategically designed and placed to avoid direct or indirect effects to wetlands. Temporary ESA fencing will be installed at each location where wetlands are present to avoid inadvertent impacts during construction. The contractor will be required to install the temporary ESA fencing as the first order of work.

2.9 Fish and Wildlife

Wildlife surveys within Spanish Creek indicate the presence of various fish species including rainbow and brown trout, Sacramento sucker, and Sacramento pike minnow. Crayfish, bullfrogs and freshwater mussels were also noted. The creek corridor also provides nesting and foraging habitat for a variety of birds and terrestrial animals. No listed sensitive, threatened, or endangered species were identified within the project limits.

2.9.1 Impacts

With the implementation of any of the build alternatives, temporary stream encroachments would include pile driving, water diversions, and placement of temporary structures to facilitate bridge construction. Temporary diversions and placement of fill would be necessary in the vicinity of the bridge to create a temporary work pad. Riparian vegetation would be removed from the stream bank at this location. Construction of the temporary trestle downstream would require pile driving to install the vertical supports for the trestle deck.

2.9.2 Avoidance, Minimization, and/or Mitigation Measures

Any stream diversion, dewatering, or siphoning operation would be performed in accordance with all regulatory permit conditions and applicable resource agency guidelines. During work within the creek channel, aquatic passage and stream continuity would be maintained at all times.

The removal of trees and riparian vegetation would be restricted to the period of September 15 through March 30 to avoid impacts to nesting migratory birds. If vegetation removal were required outside of this period, a qualified biologist would conduct a nesting survey prior to the removal.

2.10 Vegetation

The natural plant community in the project area is Sierran mixed conifer forest and montane riparian. Species observed within the project limits include Douglas fir, black oak, incense cedar, alder, deerbrush, manzanita, dogwood, western poison oak, sword fern, mountain mule ears, lupine, and California wild grape.

2.10.1 Impacts

Vegetation removal would be necessary to facilitate construction of any of the build alternatives. Vegetation would be removed within the footprint of the new bridge alignment, new sections of adjoining roadway, construction access roads, and the construction staging and storage areas. The total estimated area of vegetation removal required for construction would be approximately 10.1 acres, which includes 0.7 acre of riparian vegetation.

2.10.2 Avoidance, Minimization, and/or Mitigation Measures

The removal of vegetation would be limited to the minimum necessary to accomplish the work. Temporary ESA fencing would be installed at strategic locations to protect upland and riparian vegetation immediately adjacent to the work area from inadvertent impacts. This includes upland trees within staging areas and trees near access roads marked for preservation for aesthetic purposes. Where practicable, riparian vegetation that must be removed temporarily for construction purposes would be trimmed to ground level and covered with gravel to preserve the root system. The root system would provide soil stability and enable the plants to regenerate when they are uncovered following construction. Following construction, willow cuttings and alder seedlings would be replanted within the riparian zone.

Woody vegetation would be replaced on PNF lands either by Caltrans or by PNF with funding provided by Caltrans. Planting of woody vegetation would not occur within the clear recovery zone of the highway, which is approximately 20 feet from the edge of the traveled way.

All disturbed areas would be hydro-seeded with an appropriate erosion control seed mixture upon completion of final grading. In addition, woody vegetation removed during clearing operations would be chipped, stockpiled, and applied to disturbed areas as appropriate.

2.11 Energy

The CEQA Guidelines, Appendix F, Energy Conservation, state that EIRs are required to include a discussion of the potential energy impacts of proposed projects with particular emphasis on avoiding or reducing inefficient, wasteful, and unnecessary consumption of energy.

NEPA (42 USC Part 4332) requires the identification of all potentially significant impacts to the environment, including energy impacts.

2.11.1 Impacts

The energy expended to construct the new bridge will be offset by energy savings realized as a result of lower maintenance requirements of the new concrete bridge. The existing steel bridge requires routine structural inspections and painting. Additional energy savings will be realized during construction because of the ability to utilize the existing Spanish Creek Campground road during construction. The campground road will serve as the main access road to the construction site. This will eliminate the need to construct additional access roads solely for the project. Construction, maintenance, and decommissioning of additional access roads would require considerable energy expenditures.

2.11.2 Avoidance, Minimization, and/or Mitigation Measures

The existing bridge cannot accommodate some large permit loads due to lane width and structural limitations for weight loading. Therefore, large permit loads are required to take an alternate route, which increases the distance of the trip. Replacement of the existing bridge with a modern structure will eliminate the need for large trucks with oversize permit loads to travel longer distances due to deficiencies in the transportation system.

2.12 Cumulative Effects

Cumulative impacts are those that result from past, present, and reasonably foreseeable future actions, combined with the potential impacts of this project. A cumulative effects assessment looks at the collective impacts posed by individual land use plans and projects. Cumulative impacts can result from individually minor, but collectively substantial impacts taking place over a period of time.

Cumulative impacts to resources in the project area may result from residential, commercial, industrial, and highway development, as well as from agricultural development and the conversion to more intensive types of agricultural cultivation.

These land use activities can degrade habitat and species diversity through consequences such as displacement and fragmentation of habitats and populations, alteration of hydrology, contamination, erosion, sedimentation, disruption of migration corridors, changes in water quality, and introduction or promotion of predators. They can also contribute to potential community impacts identified for the project, such as changes in community character, traffic patterns, housing availability, and employment.

CEQA Guidelines, Section 15130, describes when a cumulative impact analysis is warranted and what elements are necessary for an adequate discussion of cumulative impacts. The definition of cumulative impacts, under CEQA, can be found in Section 15355 of the CEQA Guidelines. A definition of cumulative impacts, under NEPA, can be found in 40 CFR, Section 1508.7 of the CEQ Regulations.

Following are recently constructed and reasonably foreseen future projects in the vicinity of the Spanish Creek Bridge and within the Feather River Highway Historic District that may affect like environmental factors.

Previous transportation projects include the rehabilitation and seismic retrofit of the Pulga, Rock Creek, Storrie, Tobin, and Howells bridges on SR 70 in Butte and Plumas counties. This project was completed in 2006. These bridges are contributing elements of the Feather River Highway Historic District. The bridges are also eligible for inclusion in the National Register of Historic Places on their own merit. None of the bridges were adversely affected as a result of the project.

Proposed future transportation projects include 1) the rehabilitation and seismic retrofit or replacement of the Yellow Creek Bridge, and 2) a major project to reconstruct metal beam guardrail (MBGR) and associated earth retaining structures on SR 70 in Plumas County from post mile 0.0 to 33.0.

The Yellow Creek Bridge is seismically deficient, has scour problems at the pier foundation, and has a nonstandard wooden bridge rail with a lead paint finish. A project is being developed to correct these problems. Alternatives may include bridge rehabilitation and seismic retrofit, bridge replacement, or the “no build” alternative, in which case, only bridge maintenance will be performed. The Yellow Creek Bridge is a contributing element of the Feather River Highway Historic District and is eligible for inclusion in the National Register of Historic Places on its own merit. In the immediate vicinity of the Yellow Creek Bridge is the PG&E roadside rest area, the Belden Town Bridge, and the PG&E power generation facility on Yellow Creek. In addition to the bridge work, it is proposed to widen the highway in the vicinity of the bridge to improve highway operations and safety. The widening will

accommodate paved shoulders and turn lanes that meet modern highway design standards.

The MBGR reconstruction project involves replacing worn and defective MBGR and maintenance or new installation of earth retaining structures on a 33 mile section of SR 70. In most cases, the MBGR will be replaced within the footprint of the existing MBGR posts. Additional work being considered to improve safety and operations on SR 70 includes paving between the existing edge of pavement and guardrail when the guardrail is within approximately four feet of the edge of pavement to improve motorist safety and reduce maintenance. In addition, it is proposed to place crumb-crete, a concrete product made with recycled tires, along the base of the MBGR to prevent vegetation growth. This is both a maintenance and fire prevention measure.

Routine highway maintenance work within the Feather River Highway Historic District is ongoing. Due to the rugged terrain and narrow canyon, periodic events such as wild fires, flooding, and landslides cause considerable damage to the highway corridor, as well as the adjacent railroad facilities and Pacific Gas and Electric Company hydro-electric generation facilities. Repairs often result in minor alterations of the environment. For example, flooding in 1997 resulted in the erosion of highway embankments along the banks of the North Fork Feather River. The highway embankments were reconstructed with grouted rock slope protection (RSP) to prevent subsequent erosion and scour problems. Grouted RSP was not present at these locations prior to the storm event. The introduction of grout resulted in a noticeable visual alteration within the highway corridor.

The effects of the proposed project, with implementation of any of the project alternatives, are not cumulatively considerable when viewed in connection with other past, present, and future projects, and land use plans within the Feather River Highway Historic District based on the following:

- Bridge projects are assessed on a case-by-case basis. The previous major bridge rehabilitation and seismic retrofit project included measures to avoid the replacement of any of the structures;
- Proposed mitigation associated with the implementation of Alternative A or B would include preparation of a permanent record of the Spanish Creek Bridge in accordance with Historic American Engineering Record (HAER) procedures and guidelines. In addition, historical resource interpretive panels would be installed at the entrance to the Spanish Creek Campground adjacent to SR 70. The panels would include photographs and information pertaining to the historic bridge, the Feather River Highway Historic District, the Maxwell Ditch, the Utah Construction Road, and the railroad;

- Physical constraints within the Feather River Canyon preclude major alterations or expansion of the highway system.