Seven Bridges Scour Repair Project

BUTTE, COLUSA, AND GLENN COUNTIES, CALIFORNIA
Various Locations on State Routes 20, 32, 162, and Interstate-5,
03-4M200 (EFIS 03/0002/003/8) SCH: 2012072021

Initial Study
with
Mitigated Negative Declaration

Prepared by the
State of California Department of Transportation

November 2012

Caltrans

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SCH#_____
03-VAR-PM Various
03-4M200 / EFIS 03/0002/003/8

Repair Scour Damage at Seven Bridges
at the following locations in Colusa, Butte, and Glenn Counties:
03-COL-20 PM 20.21
03-COL-5 PM R7.99; PM R22.31; PM R22.32
03-BUT-32 PM 8.31
03-BUT-149 PM M3.96
03-GLE-162 PM 38.9

INITIAL STUDY with Proposed Mitigated Negative Declaration

Submitted Pursuant to: (State) Division 13, California Public Resources Code

THE STATE OF CALIFORNIA
Department of Transportation

25 June 2012
Date of Approval

John D. Webb, Chief
North Region Environmental Services
California Department of Transportation

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State of California
Department of Transportation

SCH: **2012072021**
03-Var-PM Var
03-4M200

MITIGATED NEGATIVE DECLARATION

Pursuant to: Division 13, Public Resources Code

Project Description

The California Department of Transportation (Caltrans) proposes to complete scour repairs at six bridges located in Colusa, Butte, and Glenn Counties. Location 6 has been removed from the project scope of work as explained on page 10 of the attached Initial Study, as amended. Generally, the scour repairs would involve regrading of the sites to restore the original contours, followed by protecting affected areas with the placement of rock slope protection (RSP) or, in one location, paving concrete. Additional material such as filter fabric under RSP, compacted structural soils, and slurry concrete may also be included in these repairs.

Determination

Caltrans has prepared an Initial Study for this project and, following public review, has determined from this study that the proposed project would not have a significant effect on the environment for the following reasons:

- The proposed project would have no effect on cultural resources, floodplains, geology and soils, land use and planning, traffic and transportation, mineral resources, public services, recreation, utilities, service systems, visual aesthetics, agricultural resources, air quality, noise, hazardous waste, population and housing, and growth.
- The proposed project would have no significant effect on biological resources, water quality / hydrology, or storm water treatment with the implementation of Best Management Practices, avoidance and minimization measures, and work windows.
- The proposed project would have no significant adverse effect on jurisdictional Waters of the U.S. because compensatory mitigation to Other Waters of the U.S., either on-site or off-site, would reduce potential impacts to less than significant.

Suzanne Melim for
John D. Webb, Chief
Caltrans North Region, District 3
Office of Environmental Services - South
California Department of Transportation

11-27-2012
Date

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Initial Study

Chapter 1 – Proposed Project

Project Title: **Seven Bridges Scour Repair Project**

This project is included as a special reservation in the 2012 State Highway Operation and Protection Program (SHOPP). The purpose of the SHOPP program is preservation of transportation facilities related to the state highway system, and include projects that preserve bridges, roadways, and roadsides, restore damaged roadways, reduce collision rates, and enhance mobility.

Purpose and Need

The purpose of the project is to preserve the useful life of the structures by repairing scour damage, and protecting the affected areas to prevent future scour. The project is needed because storm flows over a period of years have resulted in scour damage around the foundations of this group of bridges, washing away the earthen material surrounding the footings and/or abutments. The potential for future scour requires the installation of protection measures. Engineering analysis has set the current status of the bridges at "scour critical," meaning that in a significant hydraulic event such as a 100-year flood, there is a possibility that additional damage to the foundations of these bridges could be sustained that would put one or more of them out of service.

Project Description

Since this is a scour repair project, one build alternative has been proposed to repair the damage. The proposed work would first replace the lost soils at the bridge foundations, and then install protection measures to reduce future scour. Those measures, such as large rocks or a concrete slope, would protect both the channel and the foundations from high water velocities by dissipating its energy, particularly during storm events. The reduced velocity slows or eliminates the erosion associated with scour damage. The project description first discusses the design features common to all work locations, and then reviews the site-specific details.

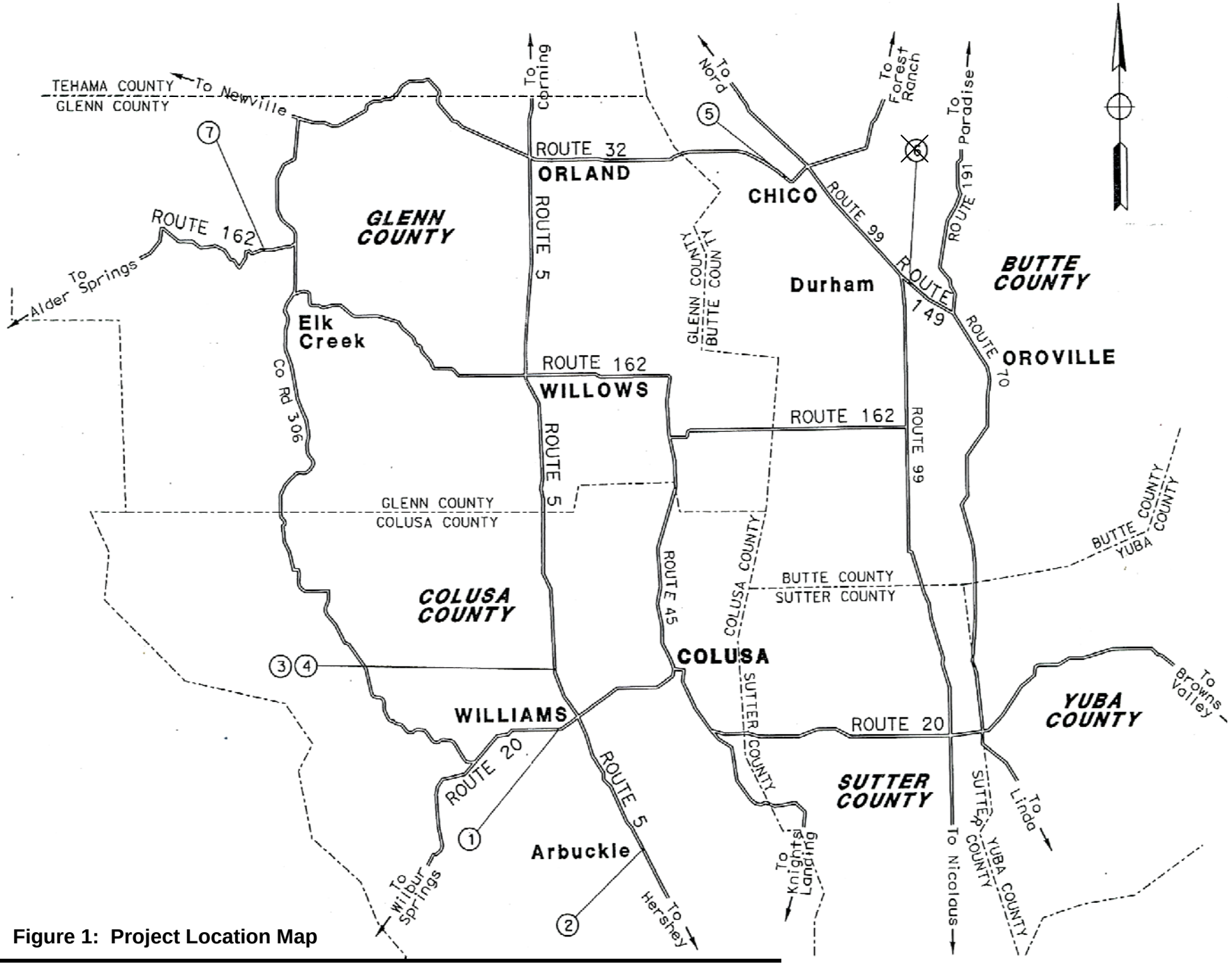


Figure 1: Project Location Map

Common Design Features of the Build Alternative:

The build alternative would prepare the sites by clearing vegetation, contour grade the affected area, install filter fabric and structural soils as required, and protect the affected areas with rock slope protection (RSP) or Portland concrete cement (PCC). Generally, all work would involve the following actions, constructed at each site pursuant to Caltrans standards for bridge design:

1. Site Preparation:
   - Non-native or ruderal vegetation would be cleared from work areas, as required
   - Eroded areas would be backfilled with compacted structural soils, or with such material as slurry concrete, as required
   - Each work site would be contour graded to optimize flows within that waterway, and banks would be restored to approximate original grades

2. Installation of Protection Measures:
   Protection from future erosion would likely be accomplished by placing RSP where required at all sites except Location 2, where affected areas would be protected with PCC. Varying methods of using RSP have been proposed for each location in this project to best meet the engineering objectives based on unique site characteristics. Some locations would include filter fabric underlying the RSP, which allows emergent vegetation to grow through the cloth, allowing the RSP, fabric, and plants to keep earthen material in place.

3. Work Windows and Timing:
   On creeks that are ephemeral and therefore dry in summer, work would be completed when the creek is not running. If the repair site is at a perennial creek with year-round flows, a cofferdam or other form of water diversion would be used to temporarily re-direct the flow to create a de-watered work site within the channel.

4. Staging and Storage:
   Each of the work locations has sites for staging or storage areas, as well as one or more access roads. Some sites would require temporary construction easements (TCE) due to topography, or in order to access waterways that require flow diversion, or to avoid environmental impacts.

5. Utilities:
   Utilities are present at the sites, although those installations would not be disturbed during project activities.

Site Specific Design Features of the Build Alternative:

The project would carry out the following site-specific work:

Colusa County

Location 1	Salt Creek	State Route 20	Postmile 20.21

This project site is Salt Creek Bridge (Caltrans Bridge Number 15-0022) on State Route (SR) 20, a conventional two-lane highway, crossing the ephemeral Salt Creek near the town of Williams in Colusa County. Work would install RSP over filter fabric. Before RSP has been installed, contour grading would excavate enough parent soil to result in the optimum streambed profile to maintain water conveyance. A tangle of vegetation would be removed from the northern, upstream portion of the work site. Utilities are present but would not require relocation. A staging area is available within the existing right of way, and access to the site may require a temporary construction easement in an adjacent parcel at the southeast quadrant of the site.

Location 2	Salt Creek	Interstate 5	Postmile R7.99

Near the town of Arbuckle, Location 2 is the Salt Creek Bridge at I-5 (Br. No 15-0005R) under the northbound lanes in a divided facility; there is no repair necessary under the southbound lanes toward Harrington. Work would be completed during summer months when the creekbed is dry. The southern embankment of Salt Creek under the bridge would receive concrete slope paving following removal of the existing broken PCC protection. The eroded area would be backfilled with compacted structural soils pursuant to Caltrans standards. Staging areas are within the existing right of way.

Location 3	Lurline Creek	Interstate 5	Postmile R22.31
Location 4	Lurline Creek	Interstate 5	Postmile R22.32

At Locations 3 and 4 in unincorporated Colusa County, Lurline Creek flows easterly and crosses under two adjacent bridges on I-5, a divided facility with two lanes in each direction. While the creek is naturally ephemeral, it may carry agricultural run-off requiring coordination to commence the work when the Creek is dry. Location 3 involves the left bridge (Br. No 15-0072L) for southbound traffic toward Williams, and Location 4 involves the right bridge (Br. No 15-0072R) for northbound traffic toward Willows. RSP would be placed along both banks of Lurline Creek under both structures between the existing edges of right of way, as required. In one place along the north bank under Location 4, RSP would be used to support the base of a slope constructed using sack concrete that had been damaged. Staging is within the right of way. A temporary construction easement would be needed for access on both the western and eastern sides of the project.

Butte County

Location 5	Big Chico Creek	State Route 32	Postmile 8.31

This bridge (Br. No 12-0043) crossing over Big Chico Creek is located on Nord Avenue near Bidwell Avenue within the City of Chico. To protect footings exposed by scour, the scour repair at Location 5 would be completed using smaller RSP in a "self-launching" installation. On the stream-side of piers 2 and 3, the installation would have a slope of 1.5:1, and on the upland-side of piers 2 and 3 the installation would match the original ground. Big Chico Creek flows westerly toward the Sacramento River, which discharges into the San Francisco Bay. Water flows year-round in Big Chico Creek and protected species of fish migrate through the creek at different times of the year. As a result, work windows would be used to avoid impacts to aquatic species, and a coffer dam or other form of water diversion would be used to maintain creek flow within the channel. Work would be performed on the pier within the de-watered side of the creek channel, and the process would be reversed so that work could be completed on the other bridge pier. Staging would be on paved areas adjacent to the work site, including temporary construction easements on surface streets and at an adjacent commercial site.

Location 6	Clear Creek	State Route 149	Postmile M3.96

The work proposed at this location has been removed from the project scope of work. Light RSP was placed at this site in 2002 to protect the site from scour, and subsequent engineering inspections of this bridge and similar sites recommended larger rock. However, ensuing reviews and inspections at Location 6 by engineering staff revealed that the light RSP installed in 2002 had been obscured by sedimentation and vegetation, but had not been washed downstream. The lack of downstream migration of the light RSP demonstrated site stability, and that, while obscured, it is in place and effectively protecting the bridge from scour. As a result, Caltrans believes that it would be prudent to continue monitoring the channel in its normal bridge inspection program rather than to remove the lighter RSP and replace it with a heavier installation. This differs from the No Build Alternative, discussed below, because the 2002 light RSP installation still protects the bridge foundation.

Glenn County

Location 7	Hunter Creek	State Route 162	Postmile 38.9

Hunter Creek flows northeasterly at the project site, crossing diagonally under SR 162, a conventional two-lane highway between Alder Springs to the west, and Elk Creek to the east. The creek has a perennial flow, requiring a coffer dam or other water diversion for work to be constructed. The structure is an arch culvert on the upstream side, matched to a box culvert at the downstream side, covered with non-bearing wingwalls on each side of the bridge (Br No. 11-0097). The facility has one lane in each direction, and staging requires a temporary construction easement on the northern side of the site. Scour has undermined the full width of the slab footing supporting the combined structure. The repair would inject slurry concrete in the area under the slab that has been scoured out on the downstream side. To prevent future scour, RSP would be situated downstream over fabric to slow water velocity.

No-Build Alternative

Environmental review must consider the effects of not implementing the proposed project. The no-build alternative provides a baseline for comparing the impacts associated with the build alternative. Since this project would correct scour and protect against future damage, the structural integrity of the bridges would continue to be undermined if left unattended. The useful lives of the structures would be shortened, and there may be closures of one or more of the subject bridges if large storm events weaken the structure to the point where it is no longer considered safe. It would be more expensive to repair each bridge as an individual project than to collectively repair them in a cohesive and timely fashion.

Permits and Approvals Needed

Table 1: The following permits, reviews, and approvals would be required for all project construction locations, unless otherwise noted:

Agency	Permit/Approval	Status
United States Fish and Wildlife Service (USFWS) ***(LOCATION 5 ONLY)***	• Section 7 Consultation for Threatened and Endangered Species • Review and Comment on USACE Section 404 Permit	Letter of Concurrence received from USFWS on May 11, 2012, for ***Not Likely to Adversely*** *Affect Determination* under Section 7.
National Oceanic & Atmospheric Administration (NOAA) Fisheries ***(LOCATION 5 ONLY)***	• Section 7 Consultation for Threatened and Endangered Species • Review and Comment on USACE Section 404 Permit	Letter of Concurrence received from NOAA Fisheries on August 6, 2012, for ***Not Likely to Adversely Affect Determination*** under Section 7.
United States Army Corps of Engineers (USACE)	Section 404 Permit for filling or dredging Waters of the United States. ***(ALL LOCATIONS Except Loc 6)***	Application for Section 404 permit anticipated after final ED distribution. ***(ALL LOCATIONS Except Loc 6)***
California Department of Fish and Game (CDFG)	Fish & Game Code Section 1602 Agreement for Streambed Alteration ***(ALL LOCATIONS Except Loc 6)***	Application for 1602 Agreements during Design Phase. ***(ALL LOCATIONS Except Loc 6)***
	Fish & Game Code Section 2080.1 Agreement for Threatened and Endangered Species ***(LOCATION 5 ONLY)***	Section 2080.1 Agreements coordination during Design Phase. ***(LOCATION 5 ONLY)***
California Water Resources Board (Regional Water Quality Control Board)	Water Discharge Permit	Section 401 permits application during Design Phase. ***(ALL LOCATIONS Except Loc 6)***
Central Valley Flood Protection Board (CVFPB)	Encroachment Permit ***(LOCATION 5 ONLY)***	Encroachment permits application during Design Phase.

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

This Chapter explains the impacts that the project may have on the human, physical, and natural environments in the project areas. It describes the existing environment that could be affected by the project, potential impacts, and proposed avoidance, minimization and mitigation measures.

Resources Without Impacts

As part of the scoping and environmental analysis for the project, the following environmental issues were evaluated by technical specialists, but no adverse impacts were identified. Consequently, there is no further discussion regarding these issues in this document:

Air Quality: This project is an action to repair bridge foundation scour; this type of work is exempt from all emission analysis per *Title 40 CFR Section 93.126, Table 2,* based on the Air Quality technical study completed on April 24, 2012.

Aesthetics/Visual Resources: There will be no visual impacts from the proposed work based on a Visual Impact Analysis completed June 7, 2012. The Caltrans Office of Landscape Architecture would assist in the preparation of an erosion control plan to address revegetation of the creek channels and adjacent areas.

Agricultural and Forest Resources: This project would not have any impacts on farmlands or timberlands as work will occur within creek channels.

Cultural Resources: No cultural resources or human remains are anticipated to be affected by the project based on the Cultural Resources technical studies completed September 28, 2011.

Geology/Soils/Seismic/Topography: Impacts from geological hazards are not anticipated from the action considered in this proposed project.

Growth: Due to the project scope, the proposed project would not result in growth impacts.

Hazards and Hazardous Materials: An Initial Site Assessment was prepared for the project on September 20, 2011. Based on the rural locations of the project sites and the nature of the project work-scope, the potential for contamination from petroleum hydrocarbons or from lead-contaminated soil is not expected within the project study limits.

Hydrology and Floodplains: There will be no impact to hydrology or floodplains because all efforts will be made to ensure that the project does not cause any rise in water surface elevations under these bridges. There would be no additional threat of flooding from the work being undertaken by the project.

Land Use / Planning: Since the project will not change any existing land use or zoning values, there are no land use or planning impacts anticipated from the project.

Mineral Resources: The grading and excavation activities as part of the project activities are considered minimal, and would not have any anticipated impacts on mineral resources.

Noise: There would be no noise impacts due to the nature of the project. Temporary noise impacts during construction would be addressed by requiring the contractor to be knowledgeable of, and adhere to, any local noise ordinance.

Population / Housing: There would be no impacts to communities from the proposed project, including population and housing. The project does not require relocations, nor would it affect any on-going business concerns or agricultural operations.

Public Services: There would be no impacts to public services, including emergency services as a result of the proposed action.

Recreation: There are no recreational resources that would be impacted by the project. Although SR 32 passes over Big Chico Creek and the western reaches of Bidwell Park at Location 5, there are no recreational activities that would be impacted.

Transportation / Traffic: There are no anticipated impacts to transportation or traffic as a result of the project.

Utilities / Service Systems: Utilities exist at the site but would not be disturbed as part of the work proposed by the project.

2.1 Biological Environment

2.1.1 Natural Communities

Regulatory Setting

This section of the document discusses natural communities of concern within the collective environmental study limits (ESL) for the project. The focus of this section is on biological communities, not individual species of plant or animal. The emphasis of the section should be on the ecological function of the natural communities within the area. This section also includes information on wildlife corridors and fish passage, as well as habitat fragmentation. Wildlife corridors are areas of habitat used by wildlife for seasonal or daily migration. Habitat fragmentation involves the potential for dividing sensitive habitat and thereby lessening its biological value.

Habitat areas that have been designated as critical habitat under the Federal Endangered Species Act are discussed in the Threatened and Endangered Species section, and includes a discussion of habitat for salmonids in Big Chico Creek. Aquatic habitat is also discussed in the section titled *Wetlands and Other Waters*.

Affected Environment

According to the Natural Environmental Study (NES) dated May 2012 and other communications prepared by a qualified Caltrans biologist, there are three natural communities that exist within the collective ESLs of all the proposed sites. These natural communities are: riverine, riparian, and seasonal wetlands. Riverine typically includes all open-water areas that occur within a defined channel of a stream as well as along perennial and intermittent stretches of streams and along some major dry washes. In some cases, riverine systems are bounded by seasonal wetlands that develop in the floodplain on either side of the defined channel. Seasonal wetland areas take on the characteristics of a wetland only during specific periods of the year or seasons, when they are inundated. The riverine system and the adjacent wetlands are often referred to collectively as riparian habitat. Riparian zones dissipate stream energy resulting in less soil erosion and a reduction in flood damage. The riparian zone also provides wildlife habitat, especially for birds; it provides corridors enabling aquatic and riparian animals to move along river systems without crossing roads or other obstacles.

These community-types exist at project locations as follows:

Riverine:

- Riverine community exists within the creek channel at all locations.

Riparian:

- At Location 5, Big Chico Creek has riparian habitat adjacent to the creekbed.

Seasonal Wetlands:

Seasonal wetlands occur within the stream margins at:

- Hunter Creek (Location 7)
- Salt Creek (Location 1)

Environmental Consequences
These community-types – riverine, riparian, and seasonal wetlands – are considered sensitive because, aside from inherent habitat values, they often support species of plants and animals that are listed as endangered, threatened, or special status. The effects of the project on such listed species are discussed in the following sections.

Based upon the Project Engineer's estimate, the project would result in a total of approximately 1.6 acres of disturbed surface area (DSA) at the six project locations. Since the DSA is greater than 1 acre, the project requires a Storm Water Pollution Prevention Plan (SWPPP) to meet water quality goals. That SWPPP would also serve to protect aquatic biological resources. At Big Chico Creek (Location 5) a couple of trees would be removed at the access point on the western side of the bridge. All other upland or riparian vegetation to be removed would be shrubs or understory herbaceous plants.

As a result of avoidance and minimization efforts, as well as site restoration via mitigation, there would be no net loss of riparian function.

Avoidance, Minimization, and/or Mitigation
Impacts to the riparian corridor at Big Chico Creek would be minimized by maintaining staging and storage on adjacent paved areas that have been previously disturbed. Erosion control will be applied to disturbed soil areas. Caltrans is required by the National Oceanic and Atmospheric Administration [National Marine Fisheries Service] (NOAA Fisheries) to avoid impacting the fish species by following work windows and work restrictions, as discussed below, and NOAA Fisheries would also request that Caltrans avoid impacting the natural riparian habitat present at the site. The choice of plant species used to restore sites would replace non-native plants with native species.

2.1.2 Wetlands and Other Waters

Regulatory Setting

Wetlands and other waters are protected under a number of laws and regulations. At the federal level, the Federal Water Pollution Control Act, more commonly referred to as the Clean Water Act [CWA(33 USC 1344)] is the primary law regulating wetlands and surface waters. The CWA regulates the discharge of dredged or fill material into waters of the United States (U.S.), including wetlands. Waters of the U.S. 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 CWA, a three-parameter approach is used that includes the presence of hydrophytic (water-loving) vegetation, wetland hydrology, and hydric soils (soils formed during saturation/inundation). All three parameters must be present under normal circumstances for an area to be designated as a jurisdictional wetland under the CWA.

Section 404 of the CWA establishes a regulatory program that provides that discharge of dredged or fill material cannot 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 (USACE) with oversight by the United States Environmental Protection Agency (U.S. EPA).

USACE issues two types of 404 permits: Standard and General Permits. Nationwide permits, a type of General permit, are issued to authorize a variety of minor project activities with no more than minimal effects. Ordinarily, projects that do not meet the criteria for a Nationwide Permit may be permitted under one of the USACE's Standard permits. For Standard permits, the USACE decision to approve is based on compliance with U.S. EPA's Section 404(b)(1) Guidelines (U.S. EPA 40 CFR Part 230), and whether permit approval is in the public interest. The Section 404 (b)(1) Guidelines were developed by the U.S. EPA in conjunction with the USACE, and allow the discharge of dredged or fill material into the aquatic system (waters of the U.S.) only if there is no practicable alternative which would have less adverse effects. The Guidelines state that the USACE may not issue a permit if there is a least environmentally damaging practicable alternative (LEDPA) to the proposed discharge that would have lesser effects on waters of the U.S., and not have any other significant adverse environmental consequences.

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 (FHWA) and/or Caltrans, as assigned, 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 California Department of Fish and Game (CDFG), the State Water Resources Control Board (SWRCB) and the Regional Water Quality Control Boards (RWQCB). In certain circumstances, the California Coastal Commission (or Bay Conservation and Development Commission or Tahoe Regional Planning Agency) may also be involved. Sections 1600-1607 of the California 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 USACE may or may not be included in the area covered by a Streambed Alteration Agreement obtained from the CDFG.

The RWQCBs were established under the Porter-Cologne Water Quality Control Act to oversee water quality. The RWQCB also issues water quality certifications for impacts to wetlands and waters in compliance with Section 401 of the CWA. Please see the *Water Quality* section for additional details.

Affected Environment

Location 1 Salt Creek Bridge

Salt Creek is largely channelized for agricultural use in this location. It does support large amounts of seasonal wetland and riparian vegetation adjacent to the project area though much of the vegetation consists of highly invasive arundo (*Arundo donax*) plants. It appears this creek has potential to convey water periodically throughout the year as a result of agricultural uses, including effluent from rice fields.

Location 2 Salt Creek Bridge

Salt Creek is an ephemeral stream that forms in the foothills west of the Sacramento Valley. It is a highly ephemeral stream, with a substrate at the stream bottom consisting almost entirely of sand. It would be generally considered a wash because it only conveys water during times of extreme rain events, and has very little vegetation or natural cover for fish or wildlife. The land surrounding this creek is entirely agricultural. There is potential for burrowing mammals and reptiles to utilize the stream bank as well as potential for nesting birds upon the bridge structure.

Location 3 & 4 Lurline Creek Bridge

Lurline Creek is a highly ephemeral stream which flows from west to east toward the Sacramento River. Under the I-5 crossing, vegetation within the stream channel is sparse, although thick stands of non-native arundo occur downstream from the bridge. This creek is naturally ephemeral but may contain water at different times of the year due to agricultural run-off. The substrate of the stream bottom consists almost entirely of sand. The land surrounding this creek is entirely agricultural. There is potential for burrowing mammals and reptiles to utilize the stream bank as well as potential for nesting birds upon the bridge structure.

Location 5 Big Chico Creek

Big Chico Creek is a perennial stream which forms near the Tehama/Butte County line and conveys water from east to west through the foothills. Big Chico Creek Watershed crosses SR 32 within the City of Chico. The creek forms a confluence with the Sacramento River approximately 8 miles west of Chico. The creek supports a riparian corridor with a dense overstory of sycamore and oak trees and an understory of Himalayan blackberry, blue elderberry and other shrubs. Populations of spring-run and fall-run Chinook salmon, as well as Central Valley steelhead, are supported within Big Chico Creek, as well as numerous species of native and non-native warm water fish. Due to the nesting habitat within the riparian corridor, the potential for migratory birds in the project area is high.

Location 6 Clear Creek Bridge

As discussed above, Clear Creek at SR 149 is no longer part of the project scope of work.

Location 7 Hunter Creek Bridge

Hunter Creek is a perennial stream that forms in the Coastal Mountain range west of the Sacramento Valley. Hunter Creek flows from west to east through grasslands and oak woodlands in Glenn County before entering the Sacramento Valley and merging with the Sacramento River. Seasonal wetlands occur downstream from the bridge, though these wetlands will not be impacted by any part of the proposed project. There are a large number of cliff swallow nests within the box culvert associated with this bridge.

Environmental Consequences

Wetlands and Other Waters of the U.S., including riparian areas, were observed at all project locations. Consultation with the U.S. Army Corps of Engineers (USACE) will occur due to project impacts to Other Waters of the U.S. under Section 404 of the Clean Water Act. The installation of RSP and/or PCC within creek channels is considered fill by the USACE, and the project would result in permanent impacts totaling 0.46 acres to Other Waters of the U.S. within the combined project sites. There will be no impacts to wetlands. Temporary impacts would be calculated during the Design Phase of the project during coordination with USACE when more precise information is known, such as access roads, staging areas, and other project requirements.

Impacts to seasonal wetlands may be avoidable with the establishment of environmentally sensitive areas (ESA), which would be reviewed and confirmed during the permit process with the USACE. Table 2 below indicates the project impacts to Other Waters of the U.S., and the collective impacts for the entire project.

Table 2: Permanent Impacts to Other Waters of the U.S.

Loc 1: Salt Creek	0.06 acres (ac)
Loc 2: Salt Creek	0.05 ac
Loc 3&4: Lurline Creek	0.19 ac
Loc 5: Big Chico Creek	0.05 ac
Loc 7: Hunters Creek	0.01 ac
Project Total	**0.36 ac**

Consultation with the Regional Water Quality Control Board will occur due to project impacts to Waters of the State, under Section 401 of the Clean Water Act. The amount of impacts will also be calculated once design plans have been further developed. Caltrans will also consult with the CDFG under the Lake and Streambed Alteration Program, Section 1602 of the Fish and Game Code. Considering the ESLs at each bridge in the project, all represent Waters of the U.S., and Other Waters of the U.S.

Avoidance, Minimization, and Mitigation Efforts

To offset unavoidable impacts to Other Waters of the U.S., proposed mitigation may include one or more of the following: onsite creation of Other Waters of the U.S.; creation of onsite vegetated buffers; onsite and offsite restoration; revegetation and enhancement; and, if available, purchase of credits from an approved wetland mitigation bank. These potential mitigations are only examples, since mitigation to offset impacts to Other Waters of the U.S. would be subject to review and approval during on-going coordination with the USACE and the CVRWQCB.

The following measures would be incorporated into the project to minimize impacts to wetlands and Other Waters of the U.S. during construction:

- Work windows would be established to restrict construction in Other Waters of the U.S. to dry season or low-flow season based on the natural history of each creek.
- Standard water quality Best Management Practices (BMPs) would be implemented to minimize erosion control into waterbodies.

- Following construction, if Other Waters of the U.S. are temporarily impacted they would be restored to pre-construction conditions.

2.1.3 Threatened and Endangered Species

Regulatory Setting

The primary federal law protecting threatened and endangered species is the Federal Endangered Species Act (FESA): 16 USC Section 1531, et seq. See also 50 CFR Part 402. This act and subsequent amendments provide for the conservation of endangered and threatened species and the ecosystems upon which they depend. Under Section 7 of this act, federal agencies, such as the Federal Highway Administration (FHWA), are required to consult with the U.S. Fish and Wildlife Service (USFWS) and the National Oceanic and Atmospheric Administration's National Marine Fisheries Service (NOAA Fisheries) to ensure that they are not undertaking, funding, permitting or authorizing actions likely to jeopardize the continued existence of listed species or destroy or adversely modify designated critical habitat. Critical habitat is defined as geographic locations critical to the existence of a threatened or endangered species. The outcome of consultation under Section 7 is a Biological Opinion or an Incidental Take statement. Section 3 of FESA defines take as "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect or any attempt at such conduct."

California has enacted a similar law at the state level, the California Endangered Species Act (CESA), California Fish and Game Code, Section 2050, et seq. CESA emphasizes early consultation to avoid potential impacts to rare, endangered, and threatened species and to develop appropriate planning to offset losses of listed species populations and their essential habitats caused by the project. The California Department of Fish and Game (CDFG) is the agency responsible for implementing CESA. Section 2081 of the Fish and Game Code prohibits "take" of any species determined to be an endangered species or a threatened species. Take is defined in Section 86 of the Fish and Game Code as "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill." CESA allows for take incidental to otherwise lawful development projects; for these actions an incidental take permit is issued by CDFG. For species listed under both FESA and CESA requiring a Biological Opinion under Section 7 of the FESA, CDFG may also authorize impacts to CESA species by issuing a Consistency Determination under Section 2080.1 of the California Fish and Game Code.

Another federal law, the Magnuson-Stevens Fishery Conservation and Management Act of 1976, was established to conserve and manage fishery resources found off the coast, as well as anadromous species and Continental Shelf fishery resources of the United States, by exercising: (A) sovereign rights for the purposes of exploring, exploiting, conserving, and managing all fish within the exclusive economic zone established by Presidential Proclamation 5030, dated March 10, 1983; and (B) exclusive fishery management authority beyond the exclusive economic zone over such anadromous species, Continental Shelf fishery resources, and fishery resources in special areas.

Affected Environment

Biological studies for the proposed project included a search of threatened and/or endangered species lists that cover the project work locations. The Natural Environment Study (NES) includes a listing of species and/or critical habitat that could potentially occur in the project areas. As a result of field reviews and further research, the following threatened and/or endangered species have the potential to be affected by the proposed project: Central Valley steelhead, Central Valley spring-run Chinook salmon, Valley Elderberry Longhorn Beetle, and Giant Garter Snake. Those same biological studies determined that there was no habitat within project limits for one listed plant species, Butte County meadowfoam (BCM) (*Limnanthes floccosa* ssp. *Californica*); that habitat type, grasslands associated with vernal pool complexes, is not present within the project areas, and the project locations are not within the known range of BCM.

Salmonids

Surveys for salmon and steelhead were not conducted as their presence is assumed at Big Chico Creek (Location 5), a known migratory corridor for Central Valley steelhead (*Oncorhynchus mykiss, federally threatened)* and Central Valley spring-run Chinook salmon (*Oncorhynchus tshawytscha, federally threatened)*. Salmon can be found returning to the creek in April, May and June and then spawning in September and October, while steelhead tend to enter the stream in the winter months. Adult steelhead occur in Big Chico Creek during winter months. These fish likely migrate from the Pacific Ocean through the Sacramento River and enter Big Chico Creek between December and March, during high flow events. Spawning habitat does not occur in the project area though potential spawning areas occur upstream from SR 32 in the foothill region of eastern Butte County. Juvenile steelhead migrate back to the Sacramento River prior to the summer dry season.

Valley Elderberry Longhorn Beetle (VELB)

At Big Chico Creek, Location 5, there is potential habitat for the valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*). The valley elderberry longhorn beetle (VELB), is listed as a federally threatened species, and is fully protected under the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 et seq.). It is not, however, a State-listed species. VELB is completely dependent on its host plant, elderberry (*Sambucus* sp.), which is a common component of the remaining riparian forests and adjacent upland habitats of California's Central Valley. Over 90% of California's riparian forests have been cleared in the past century for agriculture, as well as urban and suburban development. Elderberry shrubs (Sambucus sp.), the sole host plant for the VELB, occurs in the project area though no shrubs will be directly impacted as a result of the project. Consultation would be required with the USFWS when elderberry plants with one or more stems measuring 1.0 inch or greater in diameter at ground level occur within 100 feet of the proposed project site, or are otherwise located where they may be adversely affected by the proposed action.

Giant Garter Snake (GGS)

Potential habitat for the state and federally threatened giant garter snake *(Thamnophis gigas*) (GGS) have potential to occur at Salt Creek and Lurline Creek. These streams and the surrounding agricultural land may support GGS when water is present. GGS are highly dependent on aquatic habitat in summer months, but seek upland refuge to overwinter, normally between October 1 and March 1. Because of the seasonal nature of these streams, aquatic habitat does not exist during the periods when work will be occurring. Work will occur in the summer months when water is not present and will be completed prior to October 1, when GGS seek upland habitat for shelter. As such, there will be no impacts to

GGS. The Big Chico Creek site is outside of the known range, and potential habitat present lacks necessary elements to support GGS, mainly emergent vegetation or basking areas.

Environmental Consequences

Salmonids

The project is not likely to adversely affect federally threatened Central Valley spring-run Chinook salmon (*Oncorhynchus tshawytscha*), or federally threatened Central Valley steelhead (*Oncorhynchus mykiss*) at Big Chico Creek (Location 5) with the use of work windows, and avoidance and minimization measures. Concurrence with this determination was requested from NOAA Fisheries as part of the endangered species consultation process, and a letter of concurrence was received on August 6, 2012.

VELB

Project construction could result in indirect impacts to VELB as a result of construction work adjacent to elderberry shrubs located within/adjacent to project work areas at Big Chico Creek (Location 5). Consultation with the UFSWS would be necessary prior to construction.

GGS

A survey of all project sites determined that no aquatic habitat occurs at either site capable of supporting GGS throughout the year. This would be confirmed during ongoing consultation with USFWS and DFG. Due to the potential for surrounding agricultural land use to influence the aquatic regime at various times during the year, and thereby provide potential GGS aquatic habitat, particular emphasis was placed on that review at Salt Creek (Locations 1 and 2) and Lurline Creek (Locations 3 and 4). Due to the lack of seasonal or fresh emergent vegetation and because of the ephemeral status of these streams, their potential to support GGS for the duration of the summer is limited. These creeks only have water present in winter months when GGS are not active. Rice fields, which could support GGS, are not present within the project area. These creeks may serve as migration corridors for GGS when water is present though these creeks are dry during the summer and therefore only serve as marginal habitat.

Avoidance, Minimization, and/or Mitigation

Salmonids

Consultation with NOAA Fisheries resulted in a requirement to avoid impacting the fish species by following work windows and work restrictions. Work windows are periods with specific dates for each affected species where work activities would result in the least amount of project-related effects. Activities conducted in the active channel of the creek would be limited to between August 15 and October 1. Erosion control would be applied to disturbed soil areas prior to October 1. It is likely that NOAA Fisheries will require Caltrans to avoid impacting the natural riparian habitat as much as possible. Best Management Practices used by Caltrans to protect water quality would also serve to protect listed salmonids.

VELB

Conservation Guidelines for the Valley Elderberry Longhorn Beetle (July 9, 1999) would be followed in order to avoid or minimize indirect impacts to VELB. Caltrans would continue consultation with USFWS and, prior to construction, will implement protection measures that may include:

- Temporary construction fencing and flagging installed at least 100 feet outside the edge of the driplines of the elderberry plants. In areas where encroachment on the 100-foot buffer has been approved by USFWS, providing a minimum setback of at least 20 feet from the dripline of each elderberry plant and providing documentation of USFWS approval of the reduced setback.
- Briefing contractors on the need to avoid damaging the elderberry plants and the possible penalties for not complying with these requirements.
- Erecting of signs every 50 feet along the edge of the avoidance area with the following information: "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 should be clearly readable from a distance of 20 feet and must be maintained for the duration of construction.
- Instructing work crews about the status of the beetle and the need to protect its elderberry host plant.

GGS

Work within Big Chico Creek would require water diversion to access the work area, but this work would occur only during the summer months to take advantage of low water levels, as required by consultation with DFG, the USFWS and the NOAA Fisheries. That step, initiated to limit any potential fisheries impacts, would also serve to reduce direct impacts to GGS since there is only an extremely small potential for these creeks to support GGS during low-flow summer conditions. All work areas would be surveyed by a qualified biologist prior to construction activities and construction personnel would be informed of conservation requirements to insure that there would be no direct impacts to GGS.

2.1.4 Plant Species

Regulatory Setting

The U.S. Fish and Wildlife Service (USFWS) and California Department of Fish and Game (CDFG) have regulatory responsibility for the protection of special-status plant species. "Special-status" species are selected for protection because they are rare and/or subject to population and habitat declines. Special status is a general term for species that are afforded varying levels of regulatory protection. The highest level of protection is given to threatened and endangered species; these are species that are formally listed or proposed for listing as endangered or threatened under the Federal Endangered Species Act (FESA) and/or the California Endangered Species Act (CESA). Please see the Threatened and Endangered Species Section 2.1.3 in this document for detailed information regarding these species.

This section of the document discusses all the other special-status plant species, including CDFG species of special concern, USFWS candidate species, and California Native Plant Society (CNPS) rare and endangered plants.

The regulatory requirements for the FESA can be found at United States Code 16 (USC), Section 1531, et seq. See also 50 CFR Part 402. The regulatory requirements for the CESA can be found at California Fish and Game Code, Section 2050, et seq. Department projects are also subject to the Native Plant Protection Act, found at California Fish and Game Code, Section 1900-1913, and the California Environmental Quality Act (CEQA), Public Resources Code, Sections 2100-21177.

Affected Environment
An evaluation of the habitat present at each work location by a qualified biologist concluded that the potential for special status or sensitive plant species to occur was extremely small.

Environmental Consequences
Areas being impacted by the proposed projects consist mostly of disturbed roadside areas which support large amounts of non-native or ruderal vegetation, including invasive species such as star thistle, arundo, and certain grasses. Small populations of seasonal wetland vegetation occur within the stream margins at Locations 1 and 7, although these would be protected by establishment of Environmentally Sensitive Areas, and therefore not impacted. Big Chico Creek (Location 5) supports a riparian corridor within the project area; however, much of that area has also been heavily impacted by the influence of non-native vegetation. Developed during coordination with resource and permitting agencies, the project will implement measures to restore impacted areas with native plants beneficial to the stream and its riparian area, and especially suited for conditions at specific project locations. The sources to develop that list of native plants would be the USFWS online species list database, the CDFG California Natural Diversity Database (CNDDB), and the California Native Plant Survey (CNPS) Inventory of Rare and Endangered Vascular Plants.

Avoidance, Minimization, and/or Mitigation Efforts
It is not anticipated that the project would result in impacts on sensitive plant species.

2.1.5 Animal Species

Regulatory Setting

Many state and federal laws regulate impacts to wildlife. The US Fish and Wildlife Service (USFWS), the National Oceanic and Atmospheric Administration's National Marine Fisheries Service (NOAA Fisheries) and the California Department of Fish and Game (CDFG) are responsible for implementing these laws. This section discusses potential impacts and permit requirements associated with animals not listed or proposed for listing under the state or federal Endangered Species Act. Species listed or proposed for listing as threatened or endangered are discussed in Section 2.1.3. All other special-status animal species are discussed here, including CDFG fully protected species and species of special concern, and USFWS or NOAA Fisheries candidate species.

Federal laws and regulations pertaining to wildlife include the following:

- National Environmental Policy Act
- Migratory Bird Treaty Act
- Fish and Wildlife Coordination Act

State laws and regulations pertaining to wildlife include the following:

- California Environmental Quality Act
- Sections 1600 – 1603 of the Fish and Game Code
- Section 4150 and 4152 of the Fish and Game Code

Affected Environment

Common Wildlife

In addition to special status species discussed in this document, there is potential for more common mammals, reptiles and amphibians to occur within the project area at all locations. These animals, which may not have any special protection under federal or state endangered species acts, are nonetheless protected by statute under the California Fish and Game Code. These animals are commonly found and have broad ranges, exploiting differing types of ecological conditions. Mammals would include deer, coyotes, raccoon, bats, and rodents such as ground squirrels, moles, shrews, gophers, and voles. Less commonly observed, but with ranges within project limits, would be larger mammals such as bears or pumas. There would be insects, amphibians such as frogs, and reptiles including snakes and lizards. Some animals seek seasonal protection by aestivating or hibernating in winter, while others burrow underground in the summer.

Avian species might vary between turkey, a non-migratory species, to migratory species such as yellow warblers, black-headed grosbeak, flycatchers, warbling vireo, and Bullock's oriole. Migratory birds range in size from hummingbirds to cranes, and include birds of prey. As migratory species stop over on long migrations, some birds are present only during one season, while other species have a longer presence. Migratory birds are protected by the federal Migratory Bird Treaty Act, and may nest in vegetation within or adjacent to project work areas.

Environmental Consequences

The project is not expected to result in impacts to common animal species, as most would leave the work areas when construction activities begin. Avoidance and/or minimization measures would be included to address potential impacts to birds and/or bats that might be found within the work locations.

Avoidance, Minimization, and/or Mitigation Measures

In order to avoid impacts to nesting migratory birds, any vegetation required to be cleared would be removed outside of the nesting season. If that is not feasible, a pre-construction survey for active bird nests would be conducted by a qualified biologist. If an active bird nest is found, construction would not begin at that site until after the chicks have fledged.

There was no evidence of bat roosts at the bridges; this would be confirmed during pre-construction surveys. If needed, ESAs and/or other protective measures would be evaluated to protect an active roost.

2.1.6 Invasive Species

Regulatory Setting

On February 3, 1999, President Clinton signed Executive Order 13112 requiring federal agencies to combat the introduction or spread of invasive species in the United States (U.S.). The order defines invasive species as "any species, including its seeds, eggs, spores, or other biological material capable of propagating that species, that is not native to that ecosystem whose introduction does or is likely to cause economic or environmental harm or harm to human health." Guidance issued August 10, 1999 by the Federal Highway Administration directs the use of the State's invasive species list currently maintained by the California Invasive Species Council to define the invasive species that must be considered as part of the analysis for a proposed project.

Affected Environment

In the NES dated May 2012, there were noted infestations or large stands of existing invasive species within the project work areas, including arundo (*Arundo donax*) in aquatic habitat and star thistle (*Centaurea solstitialis*) in upland areas. Disturbed soils are the perfect medium for the establishment of noxious weeds. The clearing, grading, and soil moving operations associated with roadway construction provide an opportunity for noxious weeds to become established.

The proposed revegetation measures for all disturbed soils, including the use of native species, soil amendments, and "weed free" mulch, reduces the risk of introducing noxious weeds. The contract specifications for permanent erosion control would require the use of California native shrubs and grass species, from the same elevation and geographic area as the project site. All areas disturbed by construction would be treated with a seed mix comprised of local native grasses and shrubs. Soils would be amended with compost containing long-term soil nutrients and slow-release organic fertilizers to provide nutrients over the first year. Mulches used on the project would be from source materials that would not introduce exotic species. No wheat or barley straw would be used on the project because of the potential to introduce weeds.

Environmental Consequences

The NES noted that disturbed soils are the ideal medium for establishment of weedy exotic plants, and if not addressed, the project activities have the potential to promote the spread of invasive species. The clearing, grading, and soil moving operations associated with roadway construction provide an opportunity for noxious weeds to become established. Since invasive species would not be used in any landscaping needed for the project, project activities also have the opportunity to inhibit weedy species. None of the species on the

California list of invasive species is currently used by Caltrans for erosion control or landscaping, and all equipment and materials would be inspected for the presence of invasive species.

Avoidance, Minimization, and/or Mitigation Measures
Landscaping and erosion control included in the project would not use species listed as invasive. In areas of particular sensitivity, extra precautions would be taken if invasive species are found in or adjacent to the construction areas. These include the inspection and cleaning of construction equipment and eradication strategies to be implemented should an invasion occur.

The proposed revegetation measures for all disturbed soils, including the use of native species, soil amendments, and "weed free" mulch, reduces the risk of introducing noxious weeds. The contract specifications for permanent erosion control would require the use of California native shrubs and grass species, from the same elevation and geographic area as the project site. All areas disturbed by construction would be treated with a seed mix comprised of local native grasses and shrubs. Soils would be amended with compost containing long-term soil nutrients and slow-release organic fertilizers to provide nutrients over the first year. Mulches used on the project would be from source materials that would not introduce exotic species. No wheat or barley straw would be used on the project because of the potential to introduce weeds.

2.1.7 Cumulative Biological Impacts

There are no cumulative biological impacts expected to occur as a result of the proposed project.

Salmonids
Cumulative biological impacts to salmonids are not expected to occur as a result of the proposed project. The primary concern would be at Big Chico Creek (Location 5) since it has presence of listed anadromous fish species with associated ecological requirements: a riverine habitat with perennial flow and connectivity to the ocean, a mature riparian zone including a canopy layer of sycamores, willows, and valley oaks, and the soils of the creek bank secured by an understory with blackberry and elderberry bushes, and an herbaceous layer of grasses and forbes.

The work site at Big Chico Creek, and areas both upstream and down, have experienced disturbance by means of previous alteration and on-going public use over a period of many years. Project construction would not substantively contribute to permanent cumulative impacts on biological resources within or immediately adjacent to the project area because scour repair and the protection installed serve to reduce sedimentation rates. Additionally, the avoidance and minimization efforts would address temporary impacts since construction would commence with a water diversion plan at times when a low-flow condition existed at the creek and migratory species are not present.

Other Waters of the U.S.
Immediately to the west of the Big Chico Creek work site, the Butte County Department of Development Services sponsored in 2008 the *Bidwell Reach Restoration Project* (Bidwell Reach). That undertaking began at the SR 32 Bridge to approximately one-third of a mile downstream to the west. The purpose of that project was to create a viable floodplain and restore native vegetation in order to: (1) arrest further bank erosion, and streambed incision,

improve riparian habitat and discourage human intrusion; (2) improve habitat for anadromous fish, including federally-threatened spring-run Chinook salmon; and (3) provide potential habitat for the federally-threatened VELB by protecting the indigenous elderberry shrub, its host plant. The avoidance, minimization, and mitigation actions taken by the Seven Bridges Scour Repair Project would avoid impacts to the Bidwell Reach Restoration Project (Bidwell Reach) work to the extent possible, and would make upstream improvements that would also reduce erosion, and therefore lessen sedimentation rates that affect salmonids. Any loss of vegetation installed by Bidwell Reach would be addressed through replacement planting to achieve pre-construction conditions or better. Preparation for this scour repair project included coordination with representatives from Butte County, the City of Chico and consulting staff associated with Bidwell Reach so that the combined work would be environmentally compatible.

The anticipated mitigation to offset impacts to Other Waters of the U.S., including onsite restoration, revegetation and enhancement, and/or the purchase of credits at an approved mitigation bank, would offset the impacts so that there is no net loss and no contribution to cumulative impacts.

VELB

The greatest threats to the persistence of VELB are habitat loss and fragmentation, flood management, pesticide and herbicide use, and exotic species invasion. Urban and agricultural development, aggregate mining, and flood control practices (e.g., damming and channel maintenance) have damaged or eliminated a large percentage of the upland riparian forests that once occurred in California, reducing and fragmenting the available habitat for VELB. The project would not result in cumulative impacts to VELB, since its host plant would be protected with ESAs where found within project limits.

GGS

Project impacts are anticipated to be minor and temporary, with no direct or cumulative impacts to GGS or its habitat. Potential habitat for GGS at Salt Creek and Lurline Creek would not be sufficient for this species year-round due to the seasonal nature of these streams, and aquatic habitat does not exist during the periods when work will be occurring. The project would not affect that ecological system, or the influence of the surrounding agricultural land, and would not impact potential habitat during other seasons. Big Chico Creek is outside of their known range and habitat within the project area lacks necessary elements, mainly emergent vegetation or basking sites.

2.2 WATER QUALITY AND STORM WATER RUNOFF

Regulatory Setting

Federal Requirements: Clean Water Act

In 1972, Congress amended the Federal Water Pollution Control Act, making the addition of pollutants to the waters of the United States (U.S.) from any point source unlawful unless the discharge is in compliance with a National Pollutant Discharge Elimination System (NPDES) permit. Known today as the Clean Water Act (CWA), Congress has amended it several times. In the 1987 amendments, Congress directed dischargers of storm water from municipal and industrial/construction point sources to comply with the NPDES permit scheme. Important CWA sections are:

- Sections 303 and 304 require states to promulgate water quality standards, criteria, and guidelines.

- Section 401 requires an applicant for a federal license or permit to conduct any activity which may result in a discharge to waters of the U.S. to obtain certification from the State that the discharge will comply with other provisions of the act. (Most frequently required in tandem with a Section 404 permit request. See below.)

- Section 402 establishes the NPDES, a permitting system for the discharges (except for dredge or fill material) of any pollutant into waters of the U.S. Regional Water Quality Control Boards (RWQCB) administer this permitting program in California. Section 402(p) requires permits for discharges of storm water from industrial/construction and municipal separate storm sewer systems (MS4s).

- Section 404 establishes a permit program for the discharge of dredge or fill material into Waters of the U.S. This permit program is administered by the U.S. Army Corps of Engineers (USACE).

The objective of the CWA is "to restore and maintain the chemical, physical, and biological integrity of the Nation's waters."

USACE issues two types of 404 permits: Standard and General permits. There are two types of General permits, Regional permits and Nationwide permits. Regional permits are issued for a general category of activities when they are similar in nature and cause minimal environmental effect. Nationwide permits are issued to authorize a variety of minor project activities with no more than minimal effects.

There are two types of Standard permits: Individual permits and Letters of Permission. Ordinarily, projects that do not meet the criteria for a Nationwide Permit may be permitted under one of USACE's Standard permits. For Standard permits, the USACE decision to approve is based on compliance with U.S. EPA's Section 404 (b)(1) Guidelines (U.S. EPA CFR 40 Part 230), and whether permit approval is in the public interest. The Section 404(b)(1) Guidelines were developed by the U.S. EPA in conjunction with USACE, and allow the discharge of dredged or fill material into the aquatic system (Waters of the U.S.) only if there is no practicable alternative which would have less adverse effects. The Guidelines state that USACE may not issue a permit if there is a least environmentally damaging practicable alternative (LEDPA), to the proposed discharge that would have

lesser effects on waters of the U.S., and not have any other significant adverse environmental consequences. Per the Guidelines, documentation is needed that a sequence of avoidance, minimization, and compensation measures has been followed, in that order. The Guidelines also restrict permitting activities that violate water quality or toxic effluent standards, jeopardize the continued existence of listed species, violate marine sanctuary protections, or cause "significant degradation" to waters of the U.S. In addition, every permit from the USACE, even if not subject to the Section 404(b)(1) Guidelines, must meet general requirements. See 33 CFR 320.4. A discussion of the LEDPA determination, if any, for the document is included in the *Wetlands and Other Waters* section.

State Requirements: Porter-Cologne Water Quality Control Act

California's Porter-Cologne Act, enacted in 1969, provides the legal basis for water quality regulation within California. This Act requires a "Report of Waste Discharge" for any discharge of waste (liquid, solid, or gaseous) to land or surface waters that may impair beneficial uses for surface and/or groundwater of the State. It predates the CWA and regulates discharges to waters of the State. Waters of the State include more than just Waters of the U.S., like groundwater and surface waters not considered Waters of the U.S. Additionally, it prohibits discharges of "waste" as defined and this definition is broader than the CWA definition of "pollutant". Discharges under the Porter-Cologne Act are permitted by Waste Discharge Requirements (WDRs) and may be required even when the discharge is already permitted or exempt under the CWA.

The State Water Resources Control Board (SWRCB) and RWQCBs are responsible for establishing the water quality standards (objectives and beneficial uses) required by the CWA, and regulating discharges to ensure compliance with the water quality standards. Details regarding water quality standards in a project area are contained in the applicable RWQCB Basin Plan. States designate beneficial uses for all water body segments, and then set criteria necessary to protect these uses. Consequently, the water quality standards developed for particular water segments are based on the designated use and vary depending on such use. In addition, each state identifies waters failing to meet standards for specific pollutants, which are then state-listed in accordance with CWA Section 303(d). If a state determines that waters are impaired for one or more constituents and the standards cannot be met through point source controls, the CWA requires the establishment of Total Maximum Daily Loads (TMDLs). TMDLs specify allowable pollutant loads from all sources (point, non-point, and natural) for a given watershed.

State Water Resources Control Board and Regional Water Quality Control Boards

The SWRCB administers water rights, water pollution control, and water quality functions throughout the state. RWCQBs are responsible for protecting beneficial uses of water resources within their regional jurisdiction using planning, permitting, and enforcement authorities to meet this responsibility.

- **National Pollution Discharge Elimination System (NPDES) Program**

  Municipal Separate Storm Sewer Systems

  Section 402(p) of the CWA requires the issuance of NPDES permits for five categories of storm water dischargers, including Municipal Separate Storm Sewer Systems (MS4s). The U.S. EPA defines an MS4 as any conveyance or system of conveyances (roads with drainage systems, municipal streets, catch basins, curbs,

gutters, ditches, human-made channels, and storm drains) owned or operated by a state, city, town, county, or other public body having jurisdiction over storm water, that are designed or used for collecting or conveying storm water. The SWRCB has identified Caltrans as an owner/operator of an MS4. That permit covers all Caltrans rights-of-way, properties, facilities, and activities in the state. The SWRCB or the RWQCB issues NPDES permits for five years, and permit requirements remain active until a new permit has been adopted.

Caltrans' MS4 Permit, under revision at the time of the release of this document, contains three basic requirements:

1. Caltrans must comply with the requirements of the Construction General Permit (see below);

2. Caltrans must implement a year-round program in all parts of the State to effectively control storm water and non-storm water discharges; and

3. Caltrans storm water discharges must meet water quality standards through implementation of permanent and temporary (construction) Best Management Practices (BMPs) and other measures.

To comply with the permit, Caltrans developed the Statewide Storm Water Management Plan (SWMP) to address storm water pollution controls related to highway planning, design, construction, and maintenance activities throughout California. The SWMP assigns responsibilities within Caltrans for implementing storm water management procedures and practices as well as training, public education and participation, monitoring and research, program evaluation, and reporting activities. The SWMP describes the minimum procedures and practices Caltrans uses to reduce pollutants in storm water and non-storm water discharges. It outlines procedures and responsibilities for protecting water quality, including the selection and implementation of Best Management Practices (BMPs). The proposed Project will be programmed to follow the guidelines and procedures outlined in the latest SWMP to address storm water runoff.

Part of and appended to the SWMP is the Storm Water Data Report (SWDR) and its associated checklists. The SWDR documents the relevant storm water design decisions made regarding project compliance with the MS4 NPDES permit. The preliminary information in the SWDR prepared during the Project Initiation Document (PID) phase will be reviewed, updated, confirmed, and if required, revised in the SWDR prepared for the later phases of the project. The information contained in the SWDR may be used to make more informed decisions regarding the selection of BMPs and/or recommended avoidance, minimization, or mitigation measures to address water quality impacts.

Construction General Permit

Construction General Permit (Order No. 2009-009-DWQ), adopted on September 2, 2009, became effective on July 1, 2010. The permit regulates storm water discharges from construction sites which result in a Disturbed Soil Area (DSA) of one acre or greater, and/or are smaller sites that are part of a larger common plan of development. By law, all storm water discharges associated with construction activity where clearing, grading, and excavation results in soil disturbance of at least

one acre must comply with the provisions of the General Construction Permit. Construction activity that results in soil disturbances of less than one acre is subject to this Construction General Permit if there is potential for significant water quality impairment resulting from the activity as determined by the RWQCB. Operators of regulated construction sites are required to develop storm water pollution prevention plans; to implement sediment, erosion, and pollution prevention control measures; and to obtain coverage under the Construction General Permit.

The 2009 Construction General Permit separates projects into Risk Levels 1, 2, or 3. Risk levels are determined during the planning and design phases, and are based on potential erosion and transport to receiving waters. Requirements apply according to the Risk Level determined. For example, a Risk Level 3 (highest risk) project would require compulsory storm water runoff pH and turbidity monitoring, and before construction and after construction aquatic biological assessments during specified seasonal windows. For all projects subject to the permit, applicants are required to develop and implement an effective Storm Water Pollution Prevention Plan (SWPPP). In accordance with Caltrans Standard Specifications, a Water Pollution Control Plan (WPCP) is necessary for projects with DSA less than one acre.

Affected Environment

1. The project lies within the Central Valley Regional Water Quality Control Board (RWQCB) territory.

   a. Location 1 & Location 2: The Hydrological Area is Glenn Colusa and the Hydrologic Sub-Area is Colusa Trough (No. 520.21). The nearest receiving water body (to proposed construction operations) is Salt Creek. Salt Creek originates at an elevation of 2,000 feet southwest of the city of Williams near the Cortina Ridge. Eventually it makes it way down to the Colusa Trough and down to a drainage canal that leads to the Sacramento River next to Knights Landing. Salt Creek is not listed as a 303(d) listed water body.

   b. Location 3 & Location 4: The Hydrological Area is Glenn Colusa and the Hydrologic Sub-Area is Colusa Trough (No. 520.21). The nearest receiving water body (to proposed construction operations) is Lurline Creek. Lurline Creek originates at an elevation of 700 feet just northwest of Antelope Valley. It meanders through the Colusa Basin and to the Colusa Trough, and drains to a drainage canal that leads to the Sacramento River next to the community of Knights Landing. Lurline Creek is not listed as a 303(d) listed water body.

   c. Location 5: The Hydrological Area is Butte Basin and the Hydrologic Sub-Area is Colusa Basin (No. 520.40). The nearest receiving water body (to proposed construction operations) is Big Chico Creek. Big Chico Creek originates at an elevation of 5,000 feet northeast of the city of Chico near Butte Meadows and Colby Mountain. Eventually it makes it way down to the Sacramento River through Chico. The Creek is listed as an impaired waterbody on the 303(d) list for the following: Mercury from Resource Extraction, with an estimated TMDL completion date of 2021. Mercury is not listed as one of Caltrans' Targeted Design Constituents within the Project Planning and Design Guide (PPDG). As a result, there are no requirements for any Caltrans-approved Treatment BMP's for the Targeted Design Constituents.

d. Location 6: The Hydrological Area is Butte Basin and the Hydrologic Sub-Area is Colusa Basin (No. 520.40). The nearest receiving water body (to proposed construction operations) is Clear Creek. Clear Creek originates at an elevation of 1,800 feet in the city of Paradise and eventually merges with Dry Creek, which eventually flows to the Butte Sink Wildlife Management Area. This is an 18,000 acre wildlife conservation area, owned by the U.S. Fish and Wildlife Service. Clear Creek is not listed as a 303(d) listed water body.

e. Location 7: The Hydrological Area is Western Glenn and the Hydrologic Sub-Area is Grindstone Creek (No. 522.23). The nearest receiving water body (to proposed construction operations) is Hunter Creek. Hunter Creek is not listed as a 303(d) impaired water body.

2. Receiving water risk is (in part) based on whether a project drains to a sediment-sensitive water body. A sediment-sensitive water body is either listed on the CWA 303(d) List for sedimentation, has a USEPA-approved Total Maximum Daily Load Implementation Plan for sediment, or has existing beneficial uses of COLD, SPAWN, and MIGRATORY. Location 5, Big Chico Creek, is the only Location that fits one or more of these categories. The beneficial use for Big Chico Creek is Cold Freshwater Habitat, Commercial and Recreational collection of fish, shellfish, or organisms and is used as migration for salmon and central valley steelhead. Big Chico Creek also has two TMDL listed for Diazinon and Mercury by the State Water Resource Control Board. Therefore, Location 5, Big Chico Creek, may be considered to have a "high" receiving water risk. The rest of the locations do not fit under any of the sediment-sensitive categories. Therefore, Locations 1-4 & 6-7 may be considered to have a "low" receiving water risk.

3. The Caltrans 2009 Construction General Permit Information website indicates that Location 5, Big Chico Creek, lies within an area that is regulated by a separate urban Municipal Separate Storm Sewer System (MS4) Phase II permit. The City of Chico Storm Water Management Program was submitted to the California Regional Water Quality Control Board (Central Valley Region) and has been approved. The permit can be found in the following link:

   http://www.waterboards.ca.gov/water_issues/programs/stormwater/swmp/chico_swmp.pdf

   The Caltrans 2009 Construction General Permit Information website indicates that the rest of the Locations for the proposed project area are not within the limits of any urban Municipal Separate Storm Sewer System (MS4) Phase I or Phase II permit.

4. There does not appear to be "Drinking Water Reservoirs and Recharge Facilities" where spills from the Caltrans' owned right of way, activities, or facilities could discharge directly to municipal or domestic water supply reservoirs or ground water percolation facilities (Caltrans Stormwater Management Plan, D03 Work Plan, 2011-2012).

Environmental Consequences

No permanent water quality impacts are expected as a result of the project. The primary pollutant of concern is sediment and siltation from the disturbed areas of construction and

the permanent disposal site. Temporary Construction Site BMPs would protect water bodies within or near the project limits from potential water pollution runoff as a result of construction activities. To address potential temporary water quality impacts, the contractor will implement Temporary Construction Site BMPs, identified in the Stormwater Pollution Prevention Plan (SWPPP), or included as line item BMPs. Based on the preliminary conclusion that the receiving water risk for this project area is "high" at Location 5, it appears that permanent treatment BMPs may be considered; this conclusion is subject to change, pending further analysis by Caltrans Stormwater staff, which includes a final receiving water risk level determination and/or project specific stormwater quality recommendations.

Disturbed Soil Area (DSA): The expected construction activities, based on the project description, would disturb approximately 1.6 acres of soil, including staging areas and access roads.

Avoidance, Minimization, and Mitigation

The land immediately adjacent to streams is key to protecting water quality. Repairing and protecting the sites would assist the surrounding area withstand erosive forces and prevent substantial amounts of sediment from being transported to downstream waters. The project would comply with Caltrans Statewide NPDES Permit CAS No. 000003 (Order No. 99-06-DWQ) issued by the State Water Resource Control Board. Construction site BMPs would be selected to protect Big Chico Creek, Salt Creek, Lurline Creek, and Hunter Creek from potential pollution from construction activities. Since the Total Disturbed Surface Area is expected to be approximately 1.6 acres in total, a Caltrans-approved Stormwater Pollution Prevention Plan (SWPPP) would be required pursuant to the requirements of NPDES Construction General Permit CAS No. 000002 (Order No. 2009-0009-DWQ) for General Construction Activities. If dewatering a site is necessary, a site-specific dewatering plan would be required. The Caltrans NPDES office will participate in early project design consultation with the Central Valley RWQCB since the project would result in greater than one acre of total soil disturbance.

In addition, the Caltrans Office of Landscape Architecture, in conjunction with water quality engineers, require use of erosion control minimization measures to address ground disturbance from vegetation removal and construction and use of access roads, as well as issues with ground disturbance at equipment staging areas. Project impacts would be reduced or eliminated by implementing the following measures:

- If any areas are disturbed or used for staging of vehicles and equipment, erosion control measures will need to be applied. This can best be accomplished by re-contouring the landscape and applying a hydro-seed (consisting of native seed). This will help to restore the area to its natural condition upon completion of the project.
- Access roads and areas of vegetation removal will require restoration through the use of erosion control and/or other soil stabilization methods necessary.
- Plans during the Design Phase of the project would provide an allowance for the application of BMPs and permanent erosion control and soil stabilization applications to be provided by the Landscape Architecture division.

Treatment Best Management Practices (BMPs)

Incorporating treatment BMPs as part of the project design would be determined by Caltrans Office of Environmental Engineering. The State Water Resource Board has increasingly focused on implementing Low Impact Development (LID) measures to manage storm water.

LID aims to maintain or restore the natural hydrologic site functions by detaining water onsite, filtering out pollutants, and facilitating infiltration of storm water.

Temporary Construction BMPs
The project would be constructed with all the necessary erosion and water quality control measures to minimize the potential for sedimentation through the use of construction BMPs identified in Caltrans *Water Quality Handbook* and *Construction Site BMPs Manual*. The Caltrans-approved construction BMPs applicable to this project include measures for temporary sediment control.

2.3 CLIMATE CHANGE

Climate change refers to long-term changes in temperature, precipitation, wind patterns, and other elements of the earth's climate system. An ever-increasing body of scientific research attributes these climatological changes to greenhouse gases (GHGs), particularly those generated from the production and use of fossil fuels.

While climate change has been a concern for several decades, the establishment of the Intergovernmental Panel on Climate Change (IPCC) by the United Nations and World Meteorological Organization's in 1988, has led to increased efforts devoted to greenhouse gas (GHG) emissions reduction and climate change research and policy. These efforts are primarily concerned with the emissions of GHGs related to human activity that include carbon dioxide (CO_2), methane, nitrous oxide, tetrafluoromethane, hexafluoroethane, sulfur hexafluoride, HFC-23 (fluoroform), HFC-134a (s, s, s, 2 –tetrafluoroethane), and HFC-152a (difluoroethane).

There are typically two terms used when discussing the impacts of climate change. "Greenhouse Gas (GHG) Mitigation" is a term for reducing GHG emissions in order to reduce or "mitigate" the impacts of climate change. "Adaptation," refers to the effort of planning for and adapting to impacts due to climate change (such as adjusting transportation design standards to withstand more intense storms and higher sea levels)[1].

Transportation sources (passenger cars, light duty trucks, other trucks, buses and motorcycles) in the state of California make up the largest source (second to electricity generation) of greenhouse gas emitting sources. Conversely, the main source of GHG emissions in the United States (U.S.) is electricity generation followed by transportation. The dominant GHG emitted is CO_2, mostly from fossil fuel combustion.

There are four primary strategies for reducing GHG emissions from transportation sources: 1) improve system and operation efficiencies, 2) reduce growth of vehicle miles traveled (VMT) 3) transition to lower GHG fuels and 4) improve vehicle technologies. To be most effective all four should be pursued collectively. The following regulatory setting section outlines state and federal efforts to comprehensively reduce GHG emissions from transportation sources.

Regulatory Setting

State

With the passage of several pieces of legislation including State Senate and Assembly Bills and Executive Orders, California launched an innovative and pro-active approach to dealing with greenhouse gas emissions and climate change at the state level.

Assembly Bill 1493 (AB 1493), Pavley. Vehicular Emissions: Greenhouse Gases (AB 1493), 2002: requires the California Air Resources Board (ARB) to develop and implement regulations to reduce automobile and light truck greenhouse gas emissions. These stricter emissions standards were designed to apply to automobiles and light trucks beginning with the 2009-model year. In June 2009, the U.S. Environmental Protection Agency (U.S. EPA) Administrator granted a Clean Air Act waiver of preemption to California. This waiver

[1] http://climatechange.transportation.org/ghg_mitigation/

allowed California to implement its own GHG emission standards for motor vehicles beginning with model year 2009. California agencies will be working with Federal agencies to conduct joint rulemaking to reduce GHG emissions for passenger cars model years 2017-2025.
Executive Order S-3-05: (signed on June 1, 2005, by Governor Arnold Schwarzenegger) the goal of this Executive Order is to reduce California's GHG emissions to: 1) 2000 levels by 2010, 2) 1990 levels by the 2020 and 3) 80 percent below the 1990 levels by the year 2050. In 2006, this goal was further reinforced with the passage of Assembly Bill 32.

AB32 (AB 32), the Global Warming Solutions Act of 2006: AB 32 sets the same overall GHG emissions reduction goals as outlined in Executive Order S-3-05, while further mandating that CARB create a plan, which includes market mechanisms, and implement rules to achieve "real, quantifiable, cost-effective reductions of greenhouse gases." Executive Order S-20-06 further directs state agencies to begin implementing AB 32, including the recommendations made by the State's Climate Action Team.

Executive Order S-01-07: Governor Schwarzenegger set forth the low carbon fuel standard for California. Under this Executive Order, the carbon intensity of California's transportation fuels is to be reduced by at least ten percent by 2020.

Senate Bill 97 (Chapter 185, 2007): required the Governor's Office of Planning and Research (OPR) to develop recommended amendments to the State CEQA Guidelines for addressing greenhouse gas emissions. The Amendments became effective on March 18, 2010.

Federal

Although climate change and GHG reduction is a concern at the federal level; currently there are, no regulations or legislation that have been enacted specifically addressing GHG emissions reductions and climate change at the project level. Neither the United States Environmental Protection Agency (U.S. EPA) nor Federal Highway Administration (FHWA) has promulgated explicit guidance or methodology to conduct project-level greenhouse gas analysis. As stated on FHWA's climate change website (http://www.fhwa.dot.gov/hep/climate/index.htm), climate change considerations should be integrated throughout the transportation decision-making process–from planning through project development and delivery. Addressing climate change mitigation and adaptation up front in the planning process will facilitate decision-making and improve efficiency at the program level, and will inform the analysis and stewardship needs of project level decision-making. Climate change considerations can easily be integrated into many planning factors, such as supporting economic vitality and global efficiency, increasing safety and mobility, enhancing the environment, promoting energy conservation, and improving the quality of life.

The four strategies set forth by FHWA to lessen climate change impacts do correlate with efforts that the State has undertaken and is undertaking to deal with transportation and climate change; the strategies include improved transportation system efficiency, cleaner fuels, cleaner vehicles, and reduction in the growth of vehicle hours travelled.

Climate change and its associated effects are also being addressed through various efforts at the federal level to improve fuel economy and energy efficiency, such as the "National Clean Car Program" and Executive Order 13514- *Federal Leadership in Environmental, Energy and Economic Performance*.

Executive Order 13514 is focused on reducing greenhouse gases internally in federal agency missions, programs and operations, but also direct federal agencies to participate in the interagency Climate Change Adaptation Task Force, which is engaged in developing a U.S. strategy for adaptation to climate change.

On April 2, 2007, in *Massachusetts v. EPA*, 549 U.S. 497 (2007), the Supreme Court found that greenhouse gases are air pollutants covered by the Clean Air Act and that the U.S. EPA has the authority to regulate GHG. The Court held that the U.S. EPA Administrator must determine whether or not emissions of greenhouse gases from new motor vehicles cause or contribute to air pollution which may reasonably be anticipated to endanger public health or welfare, or whether the science is too uncertain to make a reasoned decision.
On December 7, 2009, the U.S. EPA Administrator signed two distinct findings regarding greenhouse gases under section 202(a) of the Clean Air Act:

- **Endangerment Finding:** The Administrator found that the current and projected concentrations of the six key well-mixed greenhouse gases--carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF_6)--in the atmosphere threaten the public health and welfare of current and future generations.

- **Cause or Contribute Finding:** The Administrator found that the combined emissions of these well-mixed greenhouse gases from new motor vehicles and new motor vehicle engines contribute to the greenhouse gas pollution which threatens public health and welfare.

Although these findings did not themselves impose any requirements on industry or other entities, this action was a prerequisite to finalizing the U.S. EPA's *Proposed Greenhouse Gas Emission Standards for Light-Duty Vehicles*, which was published on September 15, 2009[2]. On May 7, 2010 the final *Light-Duty Vehicle Greenhouse Gas Emissions Standards and Corporate Average Fuel Economy Standards* was published in the Federal Register.

U.S. EPA and the National Highway Traffic Safety Administration (NHTSA) are taking coordinated steps to enable the production of a new generation of clean vehicles with reduced GHG emissions and improved fuel efficiency from on-road vehicles and engines. These next steps include developing the first-ever GHG regulations for heavy-duty engines and vehicles, as well as additional light-duty vehicle GHG regulations. These steps were outlined by President Obama in a memorandum on May 21, 2010.[3]

The final combined U.S. EPA and NHTSA standards that make up the first phase of this national program apply to passenger cars, light-duty trucks, and medium-duty passenger vehicles, covering model years 2012 through 2016. The standards require these vehicles to meet an estimated combined average emissions level of 250 grams of carbon dioxide per mile, equivalent to 35.5 miles per gallon (MPG) if the automobile industry were to meet this carbon dioxide level solely through fuel economy improvements. Together, these standards will cut GHG emissions by an estimated 960 million metric tons and 1.8 billion barrels of oil over the lifetime of the vehicles sold under the program (model years 2012-2016).

[2] http://www.epa.gov/climatechange/endangerment.html
[3] http://epa.gov/otaq/climate/regulations.htm

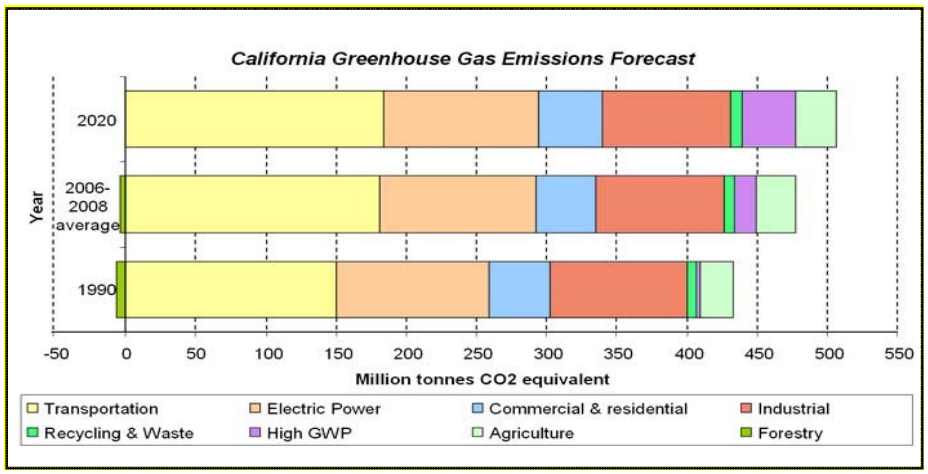
On January 24, 2011, the U.S. EPA along with the U.S. Department of Transportation and the State of California announced a single timeframe for proposing fuel economy and greenhouse gas standards for model years 2017-2025 cars and light-trucks. Proposing the new standards in the same timeframe (September 1, 2011) signals continued collaboration that could lead to an extension of the current National Clean Car Program.

Project Analysis

An individual project does not generate enough GHG emissions to significantly influence global climate change. Rather, global climate change is a cumulative impact. This means that a project may participate in a potential impact through its incremental contribution combined with the contributions of all other sources of GHG.[4] In assessing cumulative impacts, it must be determined if a project's incremental effect is "cumulatively considerable." See California Environmental Quality Act (CEQA) Guidelines sections 15064(h)(1) and 15130. To make this determination the incremental impacts of the project must be compared with the effects of past, current, and probable future projects. To gather sufficient information on a global scale of all past, current, and future projects in order to make this determination is a difficult if not impossible task.

The AB 32 Scoping Plan contains the main strategies California will use to reduce GHG. As part of its supporting documentation for the Draft Scoping Plan, ARB released the GHG inventory for California (Forecast last updated: 28 October 2010). The forecast is an estimate of the emissions expected to occur in the year 2020 if none of the foreseeable measures included in the Scoping Plan were implemented. The base year used for forecasting emissions is the average of statewide emissions in the GHG inventory for 2006, 2007, and 2008.

FIGURE 2. CALIFORNIA GREENHOUSE GAS FORECAST



Source: http://www.arb.ca.gov/cc/inventory/data/forecast.htm

Caltrans and its parent agency, the Business, Transportation, and Housing Agency, have taken an active role in addressing GHG emission reduction and climate change.

[4] This approach is supported by the AEP: *Recommendations by the Association of Environmental Professionals on How to Analyze GHG Emissions and Global Climate Change in CEQA Documents* (March 5, 2007), as well as the SCAQMD (Chapter 6: : The CEQA Guide, April 2011) and the US Forest Service (Climate Change Considerations in Project Level NEPA Analysis, July 13, 2009)

Recognizing that 98 percent of California's GHG emissions are from the burning of fossil fuels and 40 percent of all human made GHG emissions are from transportation, the Department has created and is implementing the Climate Action Program at Caltrans that was published in December 2006 (see Climate Action Program at Caltrans (December 2006).[5]

Environmental Consequences

The purpose of the proposed project is to complete scour repairs at these bridges located in Colusa, Butte, and Glenn Counties. Generally, the scour repairs would involve re-grading of the sites to restore the original contours, followed by protecting affected areas with the placement of rock slope protection (RSP) or, in one location, paving concrete. Additional material such as filter fabric under RSP, compacted structural soils, and slurry concrete may also be included in these repairs.

This type of scour repair project, by its nature, is expected to generate minimal or no increase in GHG emissions. The project is not capacity increasing, and would not increase operational CO_2 emissions. During construction there will be unavoidable emissions from equipment, and from staging activities such as hauling material or the energy required in the manufacture of materials such as PCC. However, this scour project preserves the useful life of several structures, and the GHG emissions produced during construction can be mitigated to some degree by longer intervals between more extensive bridge rehabilitation or reconstruction event required if scour repair was not completed.

Construction Emissions

Greenhouse gas emissions for transportation projects can be divided into those produced during construction and those produced during operations. Construction GHG emissions include emissions produced as a result of material processing, emissions produced by onsite construction equipment, and emissions arising from traffic delays due to construction. These emissions will be produced at different levels throughout the construction phase; their frequency and occurrence can be reduced through innovations in plans and specifications and by implementing better traffic management during construction phases.

CEQA Conclusion

While construction would result in a slight increase in greenhouse gas emissions during construction, Caltrans expects that there would be no operational increase in GHG emissions associated with this proposed project. However, it is Caltrans' determination that in the absence of further regulatory or scientific information related to greenhouse gas emissions and California Environmental Quality Act significance, it is too speculative to make a determination on the project's direct impact and its contribution on the cumulative scale to climate change. Nonetheless, Caltrans is taking further measures to help reduce energy consumption and greenhouse gas emissions. These measures are outlined in the following section.

[5] Caltrans Climate Action Program is located at the following web address: http://www.dot.ca.gov/hq/tpp/offices/ogm/key_reports_files/State_Wide_Strategy/Caltrans_Climate_Action_Program.pdf

Greenhouse Gas Reduction Strategies

AB 32 Compliance

The Department continues to be actively involved on the Governor's Climate Action Team as ARB works to implement the Executive Orders S-3-05 and S-01-07 and help achieve the targets set forth in AB 32. Many of the strategies Caltrans is using to help meet the targets in AB 32 come from the California Strategic Growth Plan, which is updated each year. Former Governor Arnold Schwarzenegger's Strategic Growth Plan calls for a $222 billion infrastructure improvement program to fortify the state's transportation system, education, housing, and waterways, including $100.7 billion in transportation funding during the next decade. The Strategic Growth Plan targets a significant decrease in traffic congestion below today's level and a corresponding reduction in GHG emissions. The Strategic Growth Plan proposes to do this while accommodating growth in population and the economy. A suite of investment options has been created that combined together are expected to reduce congestion. The Strategic Growth Plan relies on a complete systems approach to attain CO_2 reduction goals: system monitoring and evaluation, maintenance and preservation, smart land use and demand management, and operational improvements as depicted in Figure 3: The Mobility Pyramid.

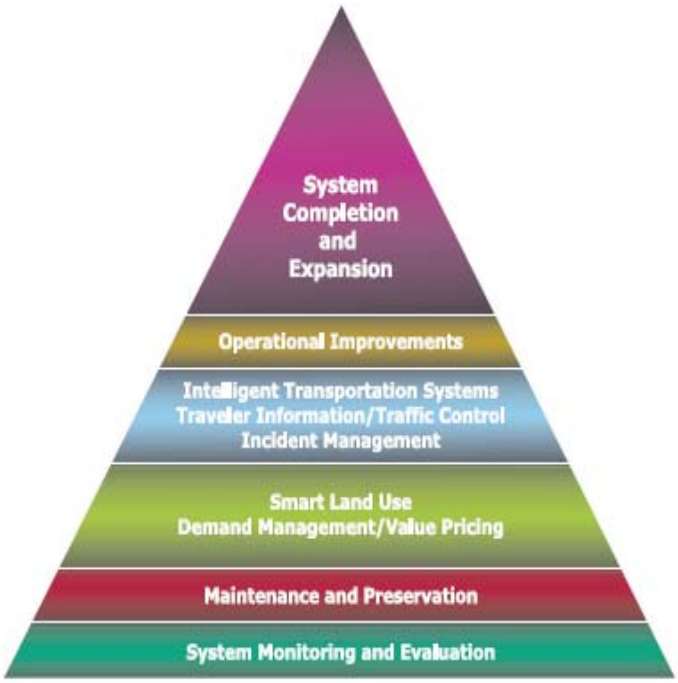


Figure 3: Mobility Pyramid

The Department is supporting efforts to reduce vehicle miles traveled by planning and implementing smart land use strategies: job/housing proximity, developing transit-oriented communities, and high density housing along transit corridors. The Department is working closely with local jurisdictions on planning activities; however, the Department does not have local land use planning authority. The Department is also supporting efforts to improve the energy efficiency of the transportation sector by increasing vehicle fuel economy in new cars, light and heavy-duty trucks; the Department is doing this by supporting on-going research efforts at universities, by supporting legislative efforts to increase fuel economy, and by its participation on the Climate Action Team. It is important to note, however, that the control of the fuel economy standards is held by U.S. EPA and ARB. Lastly, the use of alternative fuels is also being considered; the Department is participating in funding for alternative fuel research at the UC Davis.

Table 3 summarizes the Department and statewide efforts that the Department is implementing in order to reduce GHG emissions. More detailed information about each strategy is included in the Climate Action Program at Caltrans (December 2006).

Table 3: Climate Change/CO2 Reduction Strategies

Strategy	Program	Partnership		Method/Process	Estimated CO_2 Savings (MMT)	
		Lead	Agency		2010	2020
Smart Land Use	Intergovernmental Review (IGR)	Caltrans	Local Governments	Review and seek to mitigate development proposals	Not Estimated	Not Estimated
	Planning Grants	Caltrans	Local and regional agencies & other stakeholders	Competitive selection process	Not Estimated	Not Estimated
	Regional Plans and Blueprint Planning	Regional Agencies	Caltrans	Regional plans and application process	.975	7.8
Operational Improvements & Intelligent Trans. System (ITS) Deployment	Strategic Growth Plan	Caltrans	Regions	State ITS; Congestion Management Plan	.07	2.17
Mainstream Energy & GHG into Plans and Projects	Office of Policy Analysis & Research; Division of Environmental Analysis	Interdepartmental effort		Policy establishment, guidelines, technical assistance	Not Estimated	Not Estimated
Educational & Information Program	Office of Policy Analysis & Research	Interdepartmental, CalEPA, CARB, CEC		Analytical report, data collection, publication, workshops, outreach	Not Estimated	Not Estimated
Fleet Greening & Fuel Diversification	Division of Equipment	Department of General Services		Fleet Replacement B20 B100	.0045	.0065 .045 .0225
Non-vehicular Conservation Measures	Energy Conservation Program	Green Action Team		Energy Conservation Opportunities	.117	.34
Portland Cement	Office of Rigid Pavement	Cement and Construction Industries		2.5 % limestone cement mix 25% fly ash cement mix > 50% fly ash/slag mix	1.2 .36	4.2 3.6
Goods Movement	Office of Goods Movement	Cal EPA, CARB, BT&H, MPOs		Goods Movement Action Plan	Not Estimated	Not Estimated
Total					2.72	18.18

Adaptation Strategies

"Adaptation strategies" refer to how the Department and others can plan for the effects of climate change on the state's transportation infrastructure and strengthen or protect the facilities from damage. Climate change is expected to produce increased variability in precipitation, rising temperatures, rising sea levels, storm surges and intensity, and the frequency and intensity of wildfires. These changes may affect the transportation infrastructure in various ways, such as damaging roadbeds by longer periods of intense heat; increasing storm damage from flooding and erosion; and inundation from rising sea levels. These effects will vary by location and may, in the most extreme cases, require that a facility be relocated or redesigned. There may also be economic and strategic ramifications as a result of these types of impacts to the transportation infrastructure.

At the Federal level, the Climate Change Adaptation Task Force, co-chaired by the White House Council on Environmental Quality (CEQ), the Office of Science and Technology Policy (OSTP), and the National Oceanic and Atmospheric Administration (NOAA), released its interagency report October 14, 2010 outlining recommendations to President Obama for how Federal Agency policies and programs can better prepare the United States (U.S.) to respond to the impacts of climate change. The Progress Report of the Interagency Climate Change Adaptation Task Force recommends that the Federal Government implement actions to expand and strengthen the Nation's capacity to better understand, prepare for, and respond to climate change.

Climate change adaption must also involve the natural environment as well. Efforts are underway on a statewide-level to develop strategies to cope with impacts to habitat and biodiversity through planning and conservation. The results of these efforts will help California agencies plan and implement mitigation strategies for programs and projects.

On November 14, 2008, Governor Schwarzenegger signed Executive Order S-13-08 which directed a number of state agencies to address California's vulnerability to sea level rise caused by climate change. This Executive Order set in motion several agencies and actions to address the concern of sea level rise.

The California Natural Resources Agency (Resources Agency) was directed to coordinate with local, regional, state and federal public and private entities to develop. *The California Climate Adaptation Strategy* (Dec 2009)[6], which summarizes the best known science on climate change impacts to California, assesses California's vulnerability to the identified impacts, and then outlines solutions that can be implemented within and across state agencies to promote resiliency.

The strategy outline is in direct response to Executive Order S-13-08 that specifically asked the Resources Agency to identify how state agencies can respond to rising temperatures, changing precipitation patterns, sea level rise, and extreme natural events. Numerous other state agencies were involved in the creation of the Adaptation Strategy document, including Environmental Protection; Business, Transportation and Housing; Health and Human Services; and the Department of Agriculture. The document is broken down into strategies

[6] http://www.energy.ca.gov/2009publications/CNRA-1000-2009-027/CNRA-1000-2009-027-F.PDF

for different sectors that include: Public Health; Biodiversity and Habitat; Ocean and Coastal Resources; Water Management; Agriculture; Forestry; and Transportation and Energy Infrastructure. As data continues to be developed and collected, the state's adaptation strategy will be updated to reflect current findings.

Resources Agency was also directed to request the National Academy of Science to prepare a Sea Level Rise Assessment Report by December 2010[7] to advise how California should plan for future sea level rise. The report is to include:

- relative sea level rise projections for California, Oregon and Washington taking into account coastal erosion rates, tidal impacts, El Niño and La Niña events, storm surge and land subsidence rates;
- the range of uncertainty in selected sea level rise projections;
- a synthesis of existing information on projected sea level rise impacts to state infrastructure (such as roads, public facilities and beaches), natural areas, and coastal and marine ecosystems;
- A discussion of future research needs regarding sea level rise.

Prior to the release of the final Sea Level Rise Assessment Report, all state agencies that are planning to construct projects in areas vulnerable to future sea level rise were directed to consider a range of sea level rise scenarios for the years 2050 and 2100 in order to assess project vulnerability and, to the extent feasible, reduce expected risks and increase resiliency to sea level rise. Sea level rise estimates should also be used in conjunction with information regarding local uplift and subsidence, coastal erosion rates, predicted higher high water levels, storm surge and storm wave data

Until the final report from the National Academy of Sciences is released, interim guidance has been released by The Coastal Ocean Climate Action Team (CO-CAT) as well as the Department as a method to initiate action and discussion of potential risks to the states infrastructure due to projected sea level rise.

All projects that have filed a Notice of Preparation, and/or are programmed for construction funding from 2008 through 2013, or are routine maintenance projects as of the date of Executive Order S-13-08 may, but are not required to, consider these planning guidelines. A Notice of Preparation has not been filed for this project. The project has an expected construction date of the year 2013/2014.

Furthermore Executive Order S-13-08 directed the California Business, Transportation, and Housing Agency to prepare a report to assess vulnerability of transportation systems to sea level affecting safety, maintenance and operational improvements of the system and economy of the state. The Department continues to work on assessing the transportation system vulnerability to climate change, including the effect of sea level rise.

Currently, the Department is working to assess which transportation facilities are at greatest risk from climate change effects. However, without statewide planning scenarios for relative sea level rise and other climate change impacts, the Department has not been able to determine what change, if any, may be made to its design standards for its transportation facilities. Once statewide planning scenarios become available, the Department will be able review its current design standards to determine what changes, if any, may be warranted in order to protect the transportation system from sea level rise.

[7] The Sea Level Rise Assessment report is currently due to be completed in 2012 and will include information for Oregon and Washington State as well as California.

Climate change adaptation for transportation infrastructure involves long-term planning and risk management to address vulnerabilities in the transportation system from increased precipitation and flooding; the increased frequency and intensity of storms and wildfires; rising temperatures; and rising sea levels. The Department is an active participant in the efforts being conducted in response to Executive Order S-13-08 and is mobilizing to be able to respond to the National Academy of Science report on Sea Level Rise Assessment which is due to be released in 2012.

Chapter 3 – Comments and Coordination

Coordination

Early and continuous coordination with the general public and appropriate public agencies is an essential part of the environmental process. It helps planners determine the necessary scope of environmental documentation, the level of analysis required, and to identify potential impacts and mitigation measures and related environmental requirements. Agency consultation and public participation for this project have been accomplished through a variety of formal and informal methods, including: project development team meetings; interagency coordination meetings; specific location meetings with stakeholders; and coordination with resource and permitting agencies having jurisdiction over affected resources. Also, Caltrans staff met on May 30, 2012 (and again on June 6, 2012 for those that could not attend the first meeting) to discuss the project activity at Big Chico Creek with representatives from Butte County, the City of Chico, and other stakeholders.

This Initial Study / Mitigated Negative Declaration will be was made available for public and agency review during a 30-day comment period beginning on July 18, 2012, and ending on August 16, 2012. During that time, the document will have been made available to all appropriate parties of the public and governmental agencies, including the following: (1) Responsible Agencies; (2) Trustee agencies that have resources affected by the project; (3) other State, federal, and local agencies that have regulatory jurisdiction, or that exercise authority over resources which may be affected by the project; and (4) the public at large. A Notice of Availability was published in three newspapers broadly available in Colusa, Butte and Glenn Counties. Copies of this document were made available at the Caltrans District 3 Headquarters, Office of Environmental Management, 703 B Street, Marysville, CA, as well as via the internet at:

http://www.dot.ca.gov/dist3/departments/envinternet/envdoc.htm

Comments were received from the agencies and stakeholders listed below:

1. National Oceanic and Atmospheric Administration (NOAA – Fisheries Division)
2. United States Fish and Wildlife Service (USFWS)
3. Central Valley Regional Water Quality Control Board (CVRWQCB)
    - CVRWQCB regarding Hunter Creek
    - CVRWQCB regarding Clear Creek
    - CVRWQCB regarding Big Chico Creek
4. California State Clearinghouse
5. Streaminders, Chapter of Izaak Walton League

Copies of those comments along with the Caltrans responses are included on the following pages.

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
Southwest Region
501 West Ocean Boulevard, Suite 4200
Long Beach, California 90802-4213

AUG 06 2012

In response refer to:
2012/01466

Ms. Sue Bauer
Branch Chief, Environmental Management
Department of Transportation
District 3
703 B Street
Marysville, California 95901-0911

Dear Ms. Bauer:

This letter is in response to your April 20, 2012, request for initiation of section 7 consultation with NOAA's National Marine Fisheries Service (NMFS) pursuant to the Endangered Species Act (ESA) of 1973, as amended (16 U.S.C. 1531 *et seq.*), concerning the District 3 Scour Repair Project (project) for seven bridges in Butte, Glenn, and Colusa Counties, California. The project will make critical bridge repairs to damage caused by ongoing scour at the following locations:

(1) Location 1, Highway 20 at Salt Creek in Colusa County;
(2) Location 2, Interstate 5 at Salt Creek in Colusa County;
(3) Locations 3 and 4, Interstate 5 at Lurline Creek in Colusa County;
(4) Location 5, Highway 32 at Big Chico Creek in Butte County;
(5) Location 6, Highway 149 at Clear Creek in Butte County;
(6) Location 7, Highway 162 at Hunter Creek in Glenn County.

The California Department of Transportation (Caltrans) has determined that the proposed project may affect, but is not likely to adversely affect, threatened Central Valley (CV) spring-run Chinook salmon (*Oncorhynchus tshawytscha*), threatened California CV (CCV) steelhead (*O. mykiss*), or their designated critical habitats. In addition, Caltrans has determined that the proposed project may adversely affect essential fish habitat (EFH) of Pacific salmon, and has requested initiation of consultation pursuant to the Magnuson-Stevens Fishery Conservation and Management Act (MSA). This letter also serves as consultation under the authority of, and in accordance with, the provisions of the Fish and Wildlife Coordination act of 1934 (FWCA), as amended. NMFS recognizes that Caltrans is acting in conjunction with the Federal Highway Administration (FHWA) for this project and has assumed FHWA's responsibilities under Federal environmental laws as allowed by the Memorandum of Understanding between FHWA and Caltrans, which became effective on July 1, 2007.

Caltrans has determined the only potential for anadromous fish to occur is within the Big Chico Creek portion of the project (Location 5). NMFS has used the Endangered Species Consultation Handbook to confirm that the other six repairs will take place in waters that are no longer habitats for CV spring-run Chinook salmon and CCV steelhead (Federal Register Vol. 70, No. 170/ Friday September 2, 2005/Rules and Regulations).

Project Description

The Big Chico Creek portion of this project will include the placement of rock slope protection within the stream next to existing bents 2 and 3 of the bridge. The creek will be diverted using sand and gravel filled sacks as a cofferdam to redirect the flow to the opposite half of the stream channel prior to work on bent 2. When that portion of the work is complete, the stream will be re-diverted to the other side of the creek so work can be performed on bent 3. As a result of avoidance and minimization measures including best management practices (BMPs), post-project site reclamation and appropriate work windows (August 15-October 1), the project is not likely to adversely affect threatened CV spring-run Chinook salmon or CCV steelhead.

Construction activities will be conducted during the non-rainy season of August 15-October 1. To minimize downstream erosion and sedimentation, BMPs will include, but are not limited to, seeding, mulching, fertilization of disturbed soils, straw wattles, silt fences, sediment basins, and other control methods that will prevent sediments from entering Big Chico Creek.

Caltrans is incorporating the following measures to avoid and minimize potential impacts to CV spring-run Chinook salmon and CV steelhead:

(1) A qualified biologist will inspect the work area prior to start of work to confirm absence of salmonids.
(2) In-water work will occur during the summer / early fall (August 15 to October 1) when flows are low and water temperatures are too warm to support salmonids.
(3) Silt curtains will be used around in-water work to minimize turbidity and sedimentation.
(4) Erosion control will be applied to disturbed soil areas prior to October 1.
(5) BMPs will be implemented to minimize impacts to waterways.
(6) Loss of riparian habitat will be minimized within the project area by preserving existing vegetation to the maximum extent possible and re-vegetating disturbed areas to establish permanent riparian cover.

ESA Section 7 Consultation

Based on our review of the material provided with your request and the best scientific and commercial information currently available, NMFS concurs that the Big Chico Creek project on Highway 32 is not likely to adversely affect CV spring-run Chinook salmon and CCV steelhead, or their designated critical habitats. NMFS reached this determination based on the incorporation of the following measures:

(1) Minimization measures such as directed stream flows, silt filtering, and erosion control have been incorporated into the proposed project description in order to reduce the

potential for water quality impacts that could potentially harm listed anadromous fish or their habitat to a level that is insignificant or discountable.

(2) Activities conducted in the active channel of the creek will be limited to the timeframe between July 15 and October 1 when presence of salmonids is unlikely, therefore impacts to listed fish would be insignificant or discountable.

(3) Caltrans will refurbish all removed native riparian vegetation within the project area by replanting the same species on-site at a 3:1 ratio to maintain fish critical habitat.

(4) There is no holding or spawning habitat for these fish in the vicinity of the project action, therefore the construction activities would be insignificant or discountable.

Section 7(a)(1) of the ESA directs Federal agencies to utilize their authorities to further the purposes of the ESA by carrying out conservation programs for the benefit of threatened and endangered species. Conservation recommendations are discretionary agency activities intended to minimize or avoid adverse effects of a proposed project on listed species or critical habitat, to help implement recovery plans, or to develop information. In order to fulfill the requirements of section 7(a)(1), NMFS recommends that Caltrans purchase riparian credits from a NFMS-approved anadromous fish conservation bank at a ratio of 3 acres to every 1 acre of the project area footprint that lies within 100 feet of the riparian zone associated with the channel.

This concludes ESA consultation for the Big Chico Creek Scour Repair project. This concurrence does not provide incidental take authorization pursuant to section 7(b)(4) and section 7(o)(2) of the ESA. Re-initiation of the consultation is required where discretionary Federal agency involvement or control over the proposed project has been retained (or is authorized by law), and if: (1) new information reveals effects of the proposed project that may affect listed species or critical habitat in a manner or to an extent not considered; (2) the proposed project is subsequently modified in a manner that causes adverse effects to listed species or critical habitat; or (3) a new species is listed or critical habitat designated that may be affected by the proposed project.

EFH Consultation

With regards to EFH consultation, the action area has been identified as EFH for Chinook salmon in Amendment 14 of the Pacific Salmon Fishery Management Plan pursuant to the MSA. Federal action agencies are mandated by the MSA (section 305(b)(2)) to consult with NMFS on all actions that may adversely affect EFH and NMFS must provide EFH conservation recommendations to those agencies (section 305(b)(4)(A)). Based on our review of the material provided and the best scientific information available, NMFS has determined that the proposed action will adversely affect EFH for Pacific salmon. However, the proposed project includes adequate measures (described in the ESA section 7 consultation above), to avoid, minimize, or otherwise offset the adverse effects to EFH. Therefore, additional EFH conservation recommendations are not being provided at this time, and written response as required under section 305(b)(4)(B) of the MSA and Federal regulations (50 C.F.R. § 600.920(k)) will not be required. However, if there are substantial revisions to the proposed project, the lead Federal agency will need to re-initiate EFH consultation.

FWCA Consultation

The purpose of the FWCA is to ensure that wildlife conservation receives equal consideration, and is coordinated with other aspects of water resources development (16 U.S.C. 661). The FWCA establishes a consultation requirement for Federal departments and agencies that undertake any action that proposes to modify any stream or other body of water for any purpose, including navigation and drainage (16 U.S.C 662(a)). Consistent with this consultation requirement, NMFS provides recommendations and comments to Federal action agencies for the purpose of conserving fish and wildlife resources. The FWCA provides the opportunity to offer recommendations for the conservation of species and habitats beyond those currently managed under the ESA and MSA. NMFS recommends that the ESA section 7(a)(1) conservation recommendations be adopted as a FWCA measure.

Please contact Dylan Van Dyne at (916) 930-3725, or via e-mail at Dylan.VanDyne@noaa.gov, if you have any questions or require additional information concerning this project.

Sincerely,

for

Rodney R. McInnis
Regional Administrator

cc: Copy to File ARN 151422SWR2012SA00104
NMFS-PRD, Long Beach, CA

Comment Letter # 1 - NOAA Fisheries

In your letter dated August 12, 2012, it is acknowledged that NOAA Fisheries is in concurrence with the determination by Caltrans that Big Chico Creek (Location 5) is the only site with potential for anadromous fish to occur, and that the other repair sites no longer provide habitat for CV spring-run Chinook salmon and CCV steelhead. A Section 7 Consultation determination has been reached by NOAA Fisheries that the work at Location 5 is not likely to adversely affect CV spring-run Chinook salmon and CCV steelhead, or their designated critical habitat. While NOAA Fisheries has also determined that the proposed project may adversely affect essential fish habitat (EFH) for Pacific salmon, the agency stated that the measures described below would avoid, minimize, or otherwise offset the adverse effects to EFH. If there are substantial changes to the project description, Caltrans would need to re-initiate EFH consultation with NMFS.

Caltrans will incorporate environmental commitments and minimization measures listed in Section 2.1.3, page 21 as amended by conditions set out in the letter from NOAA Fisheries. NOAA Fisheries stated that their determination was reached based on incorporation of the following measures:

1. Minimization measures such as directed stream flows, silt filtering, and erosion control have been incorporated into the proposed project description in order to reduce the potential for water quality impacts that could potentially harm listed anadromous fish or their habitat to a level that is insignificant or discountable.
2. Activities conducted in the active channel of the creek will be limited to the timeframe between July 15 and October 1 when presence of salmonids is unlikely, therefore impact to listed fish would be insignificant or discountable.
3. Caltrans will refurbish all removed native riparian vegetation within the project area by replanting the same species on-site at a 3:1 ratio to maintain critical fish habitat.
4. There is no holding or spawning habitat for these fish in the vicinity of the project action, therefore the construction activities would be insignificant or discountable.

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United States Department of the Interior

FISH AND WILDLIFE SERVICE
Sacramento Fish and Wildlife Office
2800 Cottage Way, Room W-2605
Sacramento, California 95825-1846

In reply refer to:
08ESMF00-2012-I-0430-1

MAY 11 2012

Ms. Sue Bauer
Environmental Branch Chief
California Department of Transportation, District 3
703 B Street
Marysville, California 95901

Subject: Informal Consultation for the Repair of Bridge Scour at Seven Locations in Butte, Glenn, and Colusa Counties, California

Dear Ms. Bauer:

This letter is in response to the California Department of Transportation's (Caltrans) April 20, 2012 letter requesting initiation of informal consultation with the U.S. Fish and Wildlife Service (Service) for the proposed Repair of Bridge Scour at Seven Locations (proposed projects) in Butte, Glenn, and Colusa Counties, California. Your request was received by the Service on April 24, 2012. You requested our concurrence that the proposed projects are not likely to adversely affect the federally listed as threatened valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*) (beetle) and giant garter snake (*Thamnophis gigas*) (snake). The proposed projects are not located within critical habitat for any federally listed species. This response is in accordance with section 7 of the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 *et seq.*) (Act).

The findings and recommendations in this consultation are based on: (1) your April 20, 2012 initiation letter and included *Request for Section 7 consultation for project effects on federally listed species valley elderberry longhorn beetle and giant garter snake*; (2) electronic-mail conversations between the Service and Caltrans; and (3) other information available to the Service.

Project Description

Caltrans proposes to perform maintenance work at seven bridge locations in Butte, Glenn, and Colusa Counties, California. All of these bridges are experiencing substructure scour, which could eventually result in bridge failure. A description of the work that will occur at each structure is listed below.

Location 1, Highway 20 at Salt Creek, Colusa County: A slope underneath the bridge will be re-graded, and 2.5 feet of rock slope protection (RSP) with fabric will be placed on this slope. Vegetation will be removed from the north side of the bridge to aid in water conveyance. Total project size will be 0.06 acre.

Location 2, Interstate 5 at Salt Creek, Colusa County: Previously installed concrete slope protection will be removed from the south bank under the bridge. Once removed, the area will be backfilled with soil and the slope will be paved. Total project size will be 0.05 acre.

Locations 3 and 4, Northbound and Southbound Interstate 5 at Lurline Creek, Colusa County: The banks under both bridges will be covered with RSP. Total size of projects will be 0.19 acre.

Location 5, Highway 32 at Big Chico Creek, Butte County: The Creek will be temporarily diverted, and 2.5 feet of RSP will be placed at the base of piers 2 and 3. Total project size will be 0.05 acre.

Location 6, Highway 149 at Clear Creek, Butte County: The channel bed will be excavated 1.5 feet, extending to 8 feet on either side of the bridge, and RSP will be placed in the streambed. Total project size will be 0.10 acre.

Location 7, Highway 162 at Hunter Creek, Glenn County: A void under an existing box culvert will be filled with concrete slurry, and RSP will be installed. Total project size will be 0.01 acre.

There is suitable habitat for the snake located adjacent to Locations 1, 2, 3, and 4. There are five elderberry shrubs (*Sambucus* spp.), the sole host plant for the beetle, with stems greater than one inch in diameter at ground level, near project work at Location 5; one shrub was identified near project work at Location 6. No beetle exit holes were observed on any elderberry stems. There is no habitat for either the beetle or the snake at Location 7.

The applicant has proposed the following conservation measures in order to reduce the likelihood of project effects on the snake and the beetle:

Giant Garter Snake:

- Construction activity within snake habitat will be conducted between May 1 and October 1, which represents the snake's active period. Conducting construction activities during this period lessens direct impacts on the snake because they are more active and can move to avoid danger.

- Clearing will be confined to the minimal area necessary to facilitate construction activities. The applicant will flag and designate potential snake habitat within or adjacent to the project area that will be avoided by all construction personnel.

- No plastic, monofilament, jute, or similar erosion control material that could ensnare snakes will be used.

- A Service-approved biologist will train all construction personnel prior to any ground disturbing activities on the life history and habitat requirements of the snake, the importance of protecting the species, how to recognize the species, and project-related conservation measures that must be implemented to avoid impacts to the snake and its habitat.

- A Service-approved biologist will conduct a preconstruction survey for the snake no more than 24 hours prior to the start of construction activities (site preparation and grading). If construction activities stop on the project site for a period of two or more weeks, a new survey will be completed no more than 24 hours prior to the commencement of construction activities.

- If a snake is encountered during construction, activities shall cease until appropriate corrective measures have been taken or it has been determined that the snake will not be harmed. All sightings and any incidental take will be reported to the Service immediately by telephone at (916) 414-6600.

Valley Elderberry Longhorn Beetle:

- High visibility protective fencing will be installed at least 20 feet from the dripline of each elderberry shrub, and will be maintained for the duration of construction.

- Every 50 feet, signage will be installed on the protective fencing identifying it as an avoidance area.

- All workers will receive environmental awareness training from a Service-approved biologist, which will include information on the status of the beetle and the importance of avoiding the elderberry shrubs.

While there is suitable habitat for the snake located near (1 mile or less) of Locations 1, 2, 3, and 4, the habitat present at these project locations is of low quality. Emergent vegetation is limited or nonexistent at these locations, and Caltrans has indicated that the presence of flowing water at these locations is primarily or entirely restricted to the wet season, when snakes are generally less active. However, snakes may utilize these Locations for dispersal. Based on the conservation measures proposed by Caltrans, the Service concurs with your determination that these proposed projects are not likely to adversely affect the snake.

There are a total of six elderberry shrubs located at Locations 5 and 6. No beetle exit holes were identified on these shrubs. While project work will occur near these shrubs, no ground disturbing activities will occur within 20 feet of their driplines. The Service believes it is unlikely that these shrubs or any beetles that may be inhabiting them, will be adversely affected

by the proposed projects, and concurs with your determination that these projects are not likely to adversely affect the beetle.

This concurrence is provided specific to the project areas defined by Caltrans, and for the proposed action only as described within your request. Any change in these proposed projects, as described, may require additional consultation with the Service. This concludes our review of your proposed projects and no further coordination with us under the Act is necessary at this time. Please note, however, that this letter does not authorize the take of listed species.

If you have any questions regarding the proposed projects, please contact Ben Watson, Fish and Wildlife Biologist, or Kellie Berry, Chief, Sacramento Valley Division at (916) 414-6645.

Sincerely,

Kenneth Sanchez
Assistant Field Supervisor

Comment Letter # 2 - United States Fish and Wildlife Service (USFWS)

In your Letter of Concurrence dated May 11, 2012, FWS stated that there was habitat for the giant garter snake (snake) adjacent to Locations 1, 2, 3, and 4. Additionally, there were five host plants for Valley elderberry longhorn beetle (VELB) at Location 5, and one host plant at Location 6, a location that will no longer be included in scope of work. Caltrans will implement the required conservation measures discussed on page 21-22 of the Initial Study, and as amended by conditions in the USFWS Letter of Concurrence dated May 11, 2012, in order to reduce the likelihood of project effects on the snake and VELB.

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10 August 2012

Susan D. Bauer
California Department of Transportation
District 3
703 B Street
Marysville, CA 95901

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COMMENTS TO THE DRAFT MITIGATED NEGATIVE DECLARATION, SEVEN BRIDGES SCOUR REPAIR PROJECT, SCH NO. 2012072021, COLUSA, BUTTE, AND GLENN COUNTIES

Pursuant to the State Clearinghouse's 13 July 2012 request, the Central Valley Regional Water Quality Control Board (Central Valley Water Board) has reviewed the *Draft Mitigated Negative Declaration* for the Seven Bridges Scour Repair Project, located in Colusa, Butte, and Glenn Counties.

Our agency is delegated with the responsibility of protecting the quality of surface and groundwaters of the state; therefore our comments will address concerns surrounding those issues.

Construction Storm Water General Permit

Dischargers whose project disturb one or more acres of soil or where projects disturb less than one acre but are part of a larger common plan of development that in total disturbs one or more acres, are required to obtain coverage under the General Permit for Storm Water Discharges Associated with Construction Activities (Construction General Permit), Construction General Permit Order No. 2009-009-DWQ. Construction activity subject to this permit includes clearing, grading, grubbing, disturbances to the ground, such as stockpiling, or excavation, but does not include regular maintenance activities performed to restore the original line, grade, or capacity of the facility. The Construction General Permit requires the development and implementation of a Storm Water Pollution Prevention Plan (SWPPP).

For more information on the Construction General Permit, visit the State Water Resources Control Board website at:
http://www.waterboards.ca.gov/water_issues/programs/stormwater/constpermits.shtml.

Phase I and II Municipal Separate Storm Sewer System (MS4) Permits[1]

The Phase I and II MS4 permits require the Permittees reduce pollutants and runoff flows from new development and redevelopment using Best Management Practices (BMPs) to the maximum extent practicable (MEP). MS4 Permittees have their own development standards, also known as Low Impact Development (LID)/post-construction standards that include a hydromodification component. The MS4 permits also require specific design concepts for LID/post-construction BMPs in the early stages of a project during the entitlement and CEQA process and the development plan review process.

For more information on which Phase I MS4 Permit this project applies to, visit the Central Valley Water Board website at:
http://www.waterboards.ca.gov/centralvalley/water_issues/storm_water/municipal_permits/.

Industrial Storm Water General Permit

Storm water discharges associated with industrial sites must comply with the regulations contained in the Industrial Storm Water General Permit Order No. 97-03-DWQ.

For more information on the Industrial Storm Water General Permit, visit the Central Valley Water Board website at:
http://www.waterboards.ca.gov/centralvalley/water_issues/storm_water/industrial_general_permits/index.shtml.

Clean Water Act Section 404 Permit

If the project will involve the discharge of dredged or fill material in navigable waters or wetlands, a permit pursuant to Section 404 of the Clean Water Act may be needed from the United States Army Corps of Engineers (USACOE). If a Section 404 permit is required by the USACOE, the Central Valley Water Board will review the permit application to ensure that discharge will not violate water quality standards. If the project requires surface water drainage realignment, the applicant is advised to contact the Department of Fish and Game for information on Streambed Alteration Permit requirements.

If you have any questions regarding the Clean Water Act Section 404 permits, please contact the Regulatory Division of the Sacramento District of USACOE at (916) 557-5250.

Clean Water Act Section 401 Permit – Water Quality Certification

If an USACOE permit, or any other federal permit, is required for this project due to the disturbance of waters of the United States (such as streams and wetlands), then a Water Quality Certification must be obtained from the Central Valley Water Board prior to initiation of project activities. There are no waivers for 401 Water Quality Certifications.

[1] Municipal Permits = The Phase I Municipal Separate Storm Water System (MS4) Permit covers medium sized Municipalities (serving between 100,000 and 250,000 people) and large sized municipalities (serving over 250,000 people). The Phase II MS4 provides coverage for small municipalities, including non-traditional Small MS4s, which include military bases, public campuses, prisons and hospitals.

Waste Discharge Requirements

If USACOE determines that only non-jurisdictional waters of the State (i.e., "non-federal" waters of the State) are present in the proposed project area, the proposed project will require a Waste Discharge Requirement (WDR) permit to be issued by Central Valley Water Board. Under the California Porter-Cologne Water Quality Control Act, discharges to all waters of the State, including all wetlands and other waters of the State including, but not limited to, isolated wetlands, are subject to State regulation.

For more information on the Water Quality Certification and WDR processes, visit the Central Valley Water Board website at:
http://www.waterboards.ca.gov/centralvalley/help/business_help/permit2.shtml.

If you have questions regarding these comments, please contact me at (916) 464-4684 or tcleak@waterboards.ca.gov.

Trevor Cleak
Environmental Scientist

cc: State Clearinghouse Unit, Governor's Office of Planning and Research, Sacramento

CERTIFIED MAIL
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Susan D. Bauer
California Department of Transportation
District 3
703 B Street
Marysville, CA 95901
95901$5556 C002

16 August 2012

Ms. Susan D. Bauer
Caltrans, District 3
703 B Street
Marysville, CA 95901

COMMENTS ON THE MITIGATED NEGATIVE DECLARATION FOR PROPOSED BIG CHICO CREEK BRIDGE SCOUR REPAIR PROJECT, BUTTE COUNTY

The Central Valley Regional Water Quality Control Board (Central Valley Water Board) is a responsible agency for this project, as defined by the California Environmental Quality Act (CEQA). On 19 July 2012, we received your request for comments on the Mitigated Negative Declaration for the Seven Bridges Scour Repair Project.

Caltrans is proposing to repair Big Chico Creek Bridge (Bridge No. 12-0043) by placing rock slope protection over filter fabric at piers 2 and 3 located within the creek bed, to protect footings exposed by scour. Work windows would be used to avoid impacts to aquatic species, and a coffer dam or other form of water diversion would be used to maintain creek flow within the channel. Work would be performed on the pier within the de-watered side of the creek channel and he process would be reversed so that work could be completed on the other bridge pier. Staging would be on paved areas adjacent to the work site, including temporary construction easements on surface streets and at an adjacent commercial site.

Based on our review of the information submitted for the proposed project, we have the following comments:

Clean Water Act (CWA) Section 401, Water Quality Certification

The Central Valley Water Board has regulatory authority over wetlands and waterways under both the Federal Clean Water Act (CWA) and the California Water Code, Division 7 (CWC). Discharge of dredged or fill material to waters of the United States requires a CWA Section 401 Water Quality Certification from the Central Valley Water Board. Typical activities include any modifications to these waters, such as stream crossings, stream bank modifications, filling of wetlands, etc. 401 Certifications are issued in combination with CWA Section 404 Permits issued by the Army Corps of Engineers. The proposed project must be evaluated for the presence of jurisdictional waters, including wetlands and other waters of the State. Steps must be taken to first avoid and minimize impacts to these waters, and then mitigate for unavoidable impacts. Both the Section 404 Permit and Section 401 Water Quality Certification must be obtained prior to site disturbance.

Isolated wetlands and other waters not covered by the Federal Clean Water Act

Some wetlands and other waters are considered "geographically isolated" from navigable waters and are not within the jurisdiction of the Clean Water Act. (e.g., isolated wetlands, vernal pools, or stream banks above the ordinary high water mark). Discharge of dredged or fill

material to these waters may require either individual or general waste discharge requirements from the Central Valley Water Board. If the U.S. Army Corps of Engineers determine that isolated wetlands or other waters exist at the project site, and the project impacts or has potential to impact these non-jurisdictional waters, a Report of Waste Discharge and filing fee must be submitted to the Central Valley Water Board. The Central Valley Water Board will consider the information provided and either issue or waive Waste Discharge Requirements. Failure to obtain waste discharge requirements or a waiver may result in enforcement action.

Any person discharging dredge or fill materials to waters of the State must file a report of waste discharge pursuant to Sections 13376 and 13260 of the CWC. Both the requirements to submit a report of waste discharge and apply for a Water Quality Certification may be met using the same application form, found at:

http://www.waterboards.ca.gov/centralvalley/water_issues/water_quality_certification/wqc_application.pdf

If you have any questions or comments regarding this matter please contact me at (530) 224-4784 or by email at szaitz@waterboards.ca.gov.

Scott A. Zaitz

Scott A. Zaitz, R.E.H.S.
Environmental Scientist
Storm Water & Water Quality Certification Unit

SAZ: wrb/he

cc: MS. Krystel Bell, U.S. Army Corp of Engineers, Sacramento
Department of Fish and Game, Region 2, Rancho Cordova
State Clearing House Number (2012072021)

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CA Regional Water Quality Control Board
364 Knollcrest Dr, Suite 205
Redding, CA 96002

Susan D. Bauer
Caltrans, District 3
703 B Street
Marysville, CA 95901

95901$$$$6

16 August 2012

Ms. Susan D. Bauer
Caltrans, District 3
703 B Street
Marysville, CA 95901

COMMENTS ON THE MITIGATED NEGATIVE DECLARATION FOR PROPOSED CLEAR CREEK BRIDGE SCOUR REPAIR PROJECT, BUTTE COUNTY

The Central Valley Regional Water Quality Control Board (Central Valley Water Board) is a responsible agency for this project, as defined by the California Environmental Quality Act (CEQA). On 19 July 2012, we received your request for comments on the Mitigated Negative Declaration for the Seven Bridges Scour Repair Project.

Caltrans is proposing to repair Clear Creek Bridge (Bridge No. 12-0073R) near the town of Durham. The creek is perennial, requiring a coffer dam or other water diversion, complete the work. Only the bridge under the northbound lanes requires repairs. Most of the staging would be within existing right of way, with a temporary construction easement needed on the northern side of the work site. The entire site under the bridge would be regarded, and after lining the creek bed with fabric, the footings and abutments would be protected from bank to bank with rock slope protection.

Based on our review of the information submitted for the proposed project, we have the following comments:

Clean Water Act (CWA) Section 401, Water Quality Certification

The Central Valley Water Board has regulatory authority over wetlands and waterways under both the Federal Clean Water Act (CWA) and the California Water Code, Division 7 (CWC). Discharge of dredged or fill material to waters of the United States requires a CWA Section 401 Water Quality Certification from the Central Valley Water Board. Typical activities include any modifications to these waters, such as stream crossings, stream bank modifications, filling of wetlands, etc. 401 Certifications are issued in combination with CWA Section 404 Permits issued by the Army Corps of Engineers. The proposed project must be evaluated for the presence of jurisdictional waters, including wetlands and other waters of the State. Steps must be taken to first avoid and minimize impacts to these waters, and then mitigate for unavoidable impacts. Both the Section 404 Permit and Section 401 Water Quality Certification must be obtained prior to site disturbance.

Isolated wetlands and other waters not covered by the Federal Clean Water Act

Some wetlands and other waters are considered "geographically isolated" from navigable waters and are not within the jurisdiction of the Clean Water Act. (e.g., isolated wetlands, vernal pools, or stream banks above the ordinary high water mark). Discharge of dredged or fill material to these waters may require either individual or general waste discharge requirements

from the Central Valley Water Board. If the U.S. Army Corps of Engineers determine that isolated wetlands or other waters exist at the project site, and the project impacts or has potential to impact these non-jurisdictional waters, a Report of Waste Discharge and filing fee must be submitted to the Central Valley Water Board. The Central Valley Water Board will consider the information provided and either issue or waive Waste Discharge Requirements. Failure to obtain waste discharge requirements or a waiver may result in enforcement action.

Any person discharging dredge or fill materials to waters of the State must file a report of waste discharge pursuant to Sections 13376 and 13260 of the CWC. Both the requirements to submit a report of waste discharge and apply for a Water Quality Certification may be met using the same application form, found at:

http://www.waterboards.ca.gov/centralvalley/water_issues/water_quality_certification/wqc_application.pdf

If you have any questions or comments regarding this matter please contact me at (530) 224-4784 or by email at szaitz@waterboards.ca.gov.

Scott A. Zaitz

Scott A. Zaitz, R.E.H.S.
Environmental Scientist
Storm Water & Water Quality Certification Unit

SAZ: wrb/he

cc: MS. Krystel Bell, U.S. Army Corp of Engineers, Sacramento
Department of Fish and Game, Region 2, Rancho Cordova
State Clearing House Number (2012072021)

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CA Regional Water Quality Control Board
364 Knollcrest Dr, Suite 205
Redding, CA 96002
Susan D. Bauer
Caltrans, District 3
703 B Street
Marysville, CA 95901
95901355556

16 August 2012

Ms. Susan D. Bauer
Caltrans, District 3
703 B Street
Marysville, CA 95901

COMMENTS ON THE MITIGATED NEGATIVE DECLARATION FOR PROPOSED HUNTER CREEK BRIDGE SCOUR REPAIR PROJECT, BUTTE COUNTY

The Central Valley Regional Water Quality Control Board (Central Valley Water Board) is a responsible agency for this project, as defined by the California Environmental Quality Act (CEQA). On 19 July 2012, we received your request for comments on the Mitigated Negative Declaration for the Seven Bridges Scour Repair Project.

Caltrans is proposing to repair Hunter Creek Bridge (Bridge No. 11-0097). The creek has a perennial flow, requiring a coffer dam or other water diversion for work to be constructed. The structure is an arch culvert on the upstream site, matched to a box culvert at the downstream side, covered with non-bearing wing walls on each side of the bridge. The facility has one lane in each direction, and staging requires a temporary construction easement on the northern side of the site. Scour has undermined the full width of the slab footing supporting the combined structure. The repair would inject slurry concrete in the area under the slab that has been scoured out on the downstream side. To prevent future scour, rock slope protection would be situated downstream over fabric to slow water velocity.

Based on our review of the information submitted for the proposed project, we have the following comments:

Clean Water Act (CWA) Section 401, Water Quality Certification

The Central Valley Water Board has regulatory authority over wetlands and waterways under both the Federal Clean Water Act (CWA) and the California Water Code, Division 7 (CWC). Discharge of dredged or fill material to waters of the United States requires a CWA Section 401 Water Quality Certification from the Central Valley Water Board. Typical activities include any modifications to these waters, such as stream crossings, stream bank modifications, filling of wetlands, etc. 401 Certifications are issued in combination with CWA Section 404 Permits issued by the Army Corps of Engineers. The proposed project must be evaluated for the presence of jurisdictional waters, including wetlands and other waters of the State. Steps must be taken to first avoid and minimize impacts to these waters, and then mitigate for unavoidable impacts. Both the Section 404 Permit and Section 401 Water Quality Certification must be obtained prior to site disturbance.

Isolated wetlands and other waters not covered by the Federal Clean Water Act

Some wetlands and other waters are considered "geographically isolated" from navigable waters and are not within the jurisdiction of the Clean Water Act (e.g., isolated wetlands, vernal

pools, or stream banks above the ordinary high water mark). Discharge of dredged or fill material to these waters may require either individual or general waste discharge requirements from the Central Valley Water Board. If the U.S. Army Corps of Engineers determine that isolated wetlands or other waters exist at the project site and the project impacts or has potential to impact these non-jurisdictional waters, a Report of Waste Discharge and filing fee must be submitted to the Central Valley Water Board. The Central Valley Water Board will consider the information provided and either issue or waive Waste Discharge Requirements. Failure to obtain waste discharge requirements or a waiver may result in enforcement action.

Any person discharging dredge or fill materials to waters of the State must file a report of waste discharge pursuant to Sections 13376 and 13260 of the CWC. Both the requirements to submit a report of waste discharge and apply for a Water Quality Certification may be met using the same application form, found at:
http://www.waterboards.ca.gov/centralvalley/water_issues/water_quality_certification/wqc_application.pdf

Dewatering Alternative 1: Discharge to Storm Drains or Waters of the United States

A dewatering permit, *General Order for Dewatering and Other Low Threat Discharges to Surface Waters*, (Central Valley Water Board Order No. R5-2008-0082, adopted 12 June 2008) may be required for pump testing, pipeline dewatering and/or construction activities. This general NPDES (National Pollutant Discharge Elimination System) permit covers the discharge to waters of the United States of clean or relatively pollutant-free wastewater that poses little or no threat to water quality. The following categories are covered by the dewatering permit: well development water; construction dewatering; pump/well testing; pipeline/tank pressure testing; pipeline/tank flushing or dewatering; condensate discharges; water supply system discharges; miscellaneous dewatering/low threat discharges. The dewatering permit applies only to direct discharges to waters of the United States. Failure to obtain a dewatering permit, when required, may result in enforcement action. An application form and a copy of the permit are available at this office.

Dewatering Alternative 2: Discharges to Land

Construction and system test dewatering discharges that are contained on land (i.e., will not enter waters of the United States) are allowed under Central Valley Water Board Resolution No. 2003-0003-DWQ provided the following conditions are met: (1) the dewatering discharge is of a quality as good as or better than underlying groundwater; and (2) there is a low risk of nuisance. Examples of dewatering discharges to land include a terminal basin, irrigation (with no return to waters of the United States), and dust control. You may request written confirmation from this office that the waiver is applicable.

If you have any questions or comments regarding this matter please contact me at (530) 224-4784 or by email at szaitz@waterboards.ca.gov.

Scott A. Zaitz

Scott A. Zaitz, R.E.H.S.
Environmental Scientist
Storm Water & Water Quality Certification Unit

cc: See Attached List

cc: MS. Krystel Bell, U.S. Army Corp of Engineers, Sacramento
Department of Fish and Game, Region 2, Rancho Cordova
State Clearing House Number (2012072021)

SAZ: wrb/jmtm

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CA Regional Water Quality Control Board
364 Knollcrest Dr, Suite 205
Redding, CA 96002

Susan D. Bauer
Caltrans, District 3
703 B Street
Marysville, CA 95901

95901$5555

Comment Letters #3 - Central Valley Regional Water Quality Control Board:

Response to four Comment Letters from the CVRWQCB:
As discussed in this Initial Study beginning on page 30 in Section 2.2, Caltrans construction activities are covered by the Caltrans Storm Water General Permit, which would be implemented with this project. Additionally, a Storm Water Pollution Prevention Plan (SWPPP) is required by the Construction General Plan. As an MS4 permittee, Caltrans would reduce pollutant and runoff flows by using Construction BMPs to the maximum extent possible, as well as the required Low Impact Development (LID) post-construction standards. A Clean Water Act (CWA) Section 401 permit will be required by the project, and so coordination and consultation would continue with CVRWQCB, as well as with USACE (CWA Section 404 permit), and with CDFG (Fish and Game Code Section 1602 Streambed Alteration Agreement authorization.)

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STATE OF CALIFORNIA

GOVERNOR'S OFFICE *of* PLANNING AND RESEARCH

STATE CLEARINGHOUSE AND PLANNING UNIT

EDMUND G. BROWN JR.
GOVERNOR

KEN ALEX
DIRECTOR

August 14, 2012

Susan D. Bauer
California Department of Transportation, District 3
703 B Street
Marysville, CA 95901

Subject: Seven Bridges Scour Repair Project
SCH#: 2012072021

Dear Susan D. Bauer:

The State Clearinghouse submitted the above named Mitigated Negative Declaration to selected state agencies for review. On the enclosed Document Details Report please note that the Clearinghouse has listed the state agencies that reviewed your document. The review period closed on August 13, 2012, and the comments from the responding agency (ies) is (are) enclosed. If this comment package is not in order, please notify the State Clearinghouse immediately. Please refer to the project's ten-digit State Clearinghouse number in future correspondence so that we may respond promptly.

Please note that Section 21104(c) of the California Public Resources Code states that:

> "A responsible or other public agency shall only make substantive comments regarding those activities involved in a project which are within an area of expertise of the agency or which are required to be carried out or approved by the agency. Those comments shall be supported by specific documentation."

These comments are forwarded for use in preparing your final environmental document. Should you need more information or clarification of the enclosed comments, we recommend that you contact the commenting agency directly.

This letter acknowledges that you have complied with the State Clearinghouse review requirements for draft environmental documents, pursuant to the California Environmental Quality Act. Please contact the State Clearinghouse at (916) 445-0613 if you have any questions regarding the environmental review process.

Sincerely,

Scott Morgan
Director, State Clearinghouse

Enclosures
cc: Resources Agency

1400 10th Street P.O. Box 3044 Sacramento, California 95812-3044
(916) 445-0613 FAX (916) 323-3018 www.opr.ca.gov

Document Details Report
State Clearinghouse Data Base

SCH#	2012072021
Project Title	Seven Bridges Scour Repair Project
Lead Agency	Caltrans #3
Type	MND Mitigated Negative Declaration
Description	Caltrans proposes to complete scour repairs at seven bridges: four are located in Colusa County; two in Butte County; and one in Glenn County. Generally, the scour repairs would involve regrading of the sites to restore the original contours, followed by protecting affected areas with the placement of rock slope protection (RSP) or, in one location, paving concrete. Additional material such as filter fabric under RSP, compacted structural soils, and slurry concrete may also be included in these repairs.

Lead Agency Contact

Name	Susan D. Bauer		
Agency	California Department of Transportation, District 3		
Phone	530 741 7113	*Fax*	
email			
Address	703 B Street		
City	Marysville	*State* CA	*Zip* 95901

Project Location

County	Colusa, Butte, Glenn			
City				
Region				
Lat / Long				
Cross Streets	Various			
Parcel No.				
Township		*Range*	*Section*	*Base*

Proximity to:

Highways	Hwy 5, 20, 32, 149, 162
Airports	
Railways	
Waterways	Creeks: Big Chico, Clear, Salt, Lurline, Hunter
Schools	
Land Use	Various (urban and rural)

Project Issues Biological Resources; Water Quality; Wetland/Riparian

Reviewing Agencies Resources Agency; Department of Boating and Waterways; Department of Fish and Game, Region 2; Department of Parks and Recreation; Central Valley Flood Protection Board; Department of Water Resources; California Highway Patrol; Regional Water Quality Control Bd., Region 5 (Redding); Regional Water Quality Control Bd., Region 5 (Sacramento); Native American Heritage Commission; State Lands Commission

Date Received 07/13/2012 *Start of Review* 07/13/2012 *End of Review* 08/13/2012

Note: Blanks in data fields result from insufficient information provided by lead agency.

Comment Letter # 4 – California State Clearinghouse

The State Clearinghouse lists in their letter the state agencies selected for review of the draft Mitigated Negative Declaration. The letter also acknowledges that Caltrans has complied with the State Clearinghouse review requirements for draft environmental documents, pursuant to the California Environmental Quality Act.

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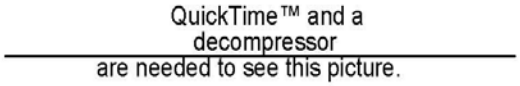

August 14, 2012

Susan D. Bauer, Env. Branch Chief
Caltrans Environmental Management M-1
Attn: Joseph Robinson (joe_robinson@dot.ca.gov)
703B Street
Marysville, CA 95901-5556

Comments re: Seven Bridges Scour Repair Project Initial Study, Site 5 Big Chico Creek

Streaminders has been working on Chico's streams since 1989, mostly in Big Chico Creek. The affected reach of Big Chico Creek has been the location of four projects since 2000:

a. Bidwell 1 Reach Rehabilitation,
b. Bidwell 2 Reach Rehabilitation, and two maintenance projects:
c. Bidwell 1.5 and,
d. Bidwell 2.5 (over $400,000 in grant funds have been invested mostly in floodplain creation and stream-friendly biotechnical bank stabilization and floodplain creation for habitat improvement.)

Big Chico is home to spring and fall run salmon. As such we are very concerned about potential hydrologic effects of the proposed project.

Firstly, we recognize the need to protect the bridge foundations.

Page 14 of the Proposed Mitigated Negative Declaration states that: "There will be no effect on hydrology and floodplains because efforts will be made to ensure that the project does not cause any rise in water surface (WSE) elevations under these seven bridges. There would be no additional thrust of flooding from the work being undertaken by the project"

Unfortunately, WSE during flood events is only one component of the hydrology of these streams. Others of significant concern apply to the bankfull include width of the channel, width to depth ratio of the channel, and average and peak velocities.

Water flowing in a stream always has a certain amount of energy due to its slope and quantity of water which is used for:

1. overcoming internal friction, (turbulence) and
2. overcoming friction with the bed and banks or vegetation.

If the energy available is not fully used in 1 and 2 it will be used for

3. transporting sediment, or

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PO Box 68 Forest Ranch, CA 94942

4. eroding the bed or banks (J. Castro, NRCS unpublished handout, pg 5,4/24/98)

When the reach is very wide and shallow, it has a tendency to deposit gravels and can easily transfer that energy to eroding the bed or banks. When both stream banks are armored, as will be the case with this project, the stream energy will be directed down to the bed causing down cutting. Such down cutting can create a head cut which then travels upstream destabilizing banks and lowering the streams water table, perhaps beyond the reach of trees on the stream banks, thus causing them to die and fall into the creek.

It is for these reasons that it is important that the proposed project not narrow the bankfull or active stream channel. Such down cutting, though it might not show up for several years after construction, would constitute a significant effect in our estimation.

In short, if the streams are narrowed -- as is common in an armoring project -- we can expect a cycle of stream degradation. This type of degradation has occurred on local waterways, such as Lindo Channel and is incipient in another location on Big Chico Creek some miles upstream.

Additionally, if it's determined that riprap armoring is required, we suggest the use of self-launching rock such as we used in 2007 on the outside of a bend 1/4 mile downstream. In that case we used graded rock with a maximum diameter of 15.5 inches, which is smaller than has been typically used.

In fact, since the ultimate concern regarding the bridge foundations is to prevent undercutting, it's possible that the technique we recently used in our Bidwell 2 project (2006-2012) using rock cross vanes (see below) would be a more stream-friendly solution and still accomplish project goals. With a cross vane in place just downstream of the bridges at a correct sustainable elevation the stream will be prevented from down cutting. Rock cross vanes also focus stream energy into the center of the channel, thus preventing bank erosion as well.

We have assembled considerable technical information on this reach of stream and these techniques. We worked with Rancho Engineering of Paradise developing working drawings for cross vanes and inspected their construction. Please contact us if we can assist.

Sincerely,

Roger Cole
President
Streaminders

Addenda

Technique: Self launching stone.

For bank protection measures, well-graded (poorly sorted) stone is best. Well-graded (the opposite of well sorted) stone has a tendency to interlock and adjust to small deformations in the underlying bank without jeopardizing the entire structure; however, recent research investigates particulars further – see below. Poorly sorted stone also contains fine gravel-sized particles that enhance the opportunity for vegetation to become established. The fines and smaller stones fill voids between larger stones and retard interstitial water flow and subsequent erosion behind the riprap. This reduces the incidence of piping or sapping of fines and the need for

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filter layers and filter fabric. Thus, well-graded stone with a sufficient fraction of "fine" particles are referred to as Self-filtering stone (Derrick, 2002).

Ecologists have reasoned that within certain limits, a stable structure composed of a wide range of stone sizes will provide a wider range of interstitial sizes and thus more diverse habitat than a stable structure made of more uniform stone.

Self-launching stone refers to poorly sorted stone that will fall (self-launch) into scour holes. Self-launching stone has been specified and used by the USACOE for decades in streams throughout Mississippi. REF: Greenbank software, Derrick, D. (2001). *Advanced Streambank Protection Course Material.* US Army Corps of Engineers, Vicksburg, MS.

Technique: Cross Vanes

The Cross-Vane is a grade control structure that decreases near-bank shear stress, velocity and stream power, but increases the energy in the center of the channel. The structure will establish grade control, reduce bank erosion, create a stable width/depth ratio, maintain channel capacity, while maintaining sediment transport capacity, and sediment competence. The Cross-Vane also provides for the proper natural conditions of secondary circulation patterns commensurate with channel pattern, but with high velocity gradients and boundary stress shifted from the near-bank region.

The Cross-Vane is also a stream habitat improvement structure due to: 1) an increase in bank cover due to a differential raise of the water surface in the bank region; 2) the creation of holding and refuge cover during both high and low flow periods in the deep pool; 3) the development of feeding lanes in the flow separation zones (the interface between fast and slow water) due to the strong down welling and up welling forces in the center of the channel; and 4) the creation of spawning habitat in the tail-out or glide portion of the pool.

Dave Rosgen explains the need for and genesis of cross vanes:

> "As additional objectives of river engineering have evolved there has arisen a need for a "softer" substitute for streambank stabilization. The departure from traditional "hard" procedures has been slow but steady as the use of natural materials and methods have grown in popularity. This has, in turn, encouraged the pursuit of additional techniques to offset existing problems of various structures observed in the field. A properly designed river structure should meet more than one specific objective (such as grade control)."

Structures should also:

1. Maintain the stable width/depth ratio of the channel;
2. Maintain the shear stress to move the largest size particle to maintain stability (competence);
3. Decrease near-bank velocity, shear stress or stream power;
4. Maintain channel capacity;
5. Ensure stability of structure during major floods;
6. Maintain fish passage at all flows;
7. Provide safe passage or enhance recreational boating;
8. Improve fish habitat;

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9. Be visually compatible with natural channels;
10. Be less costly than traditional structures;
11. Create maintenance-free diversion structures;
12. Reduce bridge pier/footer scour, road fill erosion and prevent sediment deposition.

The use of rip-rap, gabions, concrete lined channels, bin walls, interlocking blocks, groins, Kelner Jacks, spur dikes, rock jetties, barbs, reinforced revetment, sheet piling, log cribs, concrete check dams, and loose rock check dams are not only expensive but often do not meet the above stated objectives for river structures.

(REF: *Greenbank software and The Cross-Vane, W-Weir and J-Hook Vane Structure: Their Description, Design and Application for Stream Stabilization and River Restoration*, D. L. Rosgen, P.H., 2001.)

Streaminders is chapter of the Izaak Walton League, Roger Cole, Project Manager
PO Box 68 Forest Ranch, CA 94942

Comment Letter # 5 - Streaminders, Chapter of Izaak Walton League:

The scour repair at Location 5 will be completed using smaller RSP in a “self-launching” installation. On the stream-side of piers 2 and 3, the installation would have a slope of 1.5:1, and on the upland-side of piers 2 and 3 the installation would match the original ground. Mitigation for “Other Waters of the U.S.” will be required by USACE, and has been planned to occur at the project site.

Caltrans design standards have been developed to be consistent with federal and State requirements for highway and structure design that minimize transportation hazards to the motoring public and multimodal users, and reduce environmental impacts. Moreover, the design work would be consistent with the standards/criteria of the Federal Emergency Management Agency (FEMA).

Coordination would continue throughout the design process with resource and permitting agencies dealing with flooding, water quality, and biological resources. Caltrans is responsible for initiating early coordination meetings to discuss potential floodplain encroachments. Local, state and federal water resources and floodplain management agencies have been consulted since the proposed action encroaches on a 100-year base floodplain.

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Chapter 4 - List of Preparers

In alphabetical order, the following staff of Caltrans District 3 contributed to the preparation of this Initial Study:

Susan D. Bauer	Senior Environmental Planner Contribution: Environmental Branch Chief
Alicia Beyer	Transportation Engineer Contribution: Hazardous Waste Initial Site Assessment
Kathleen Grady	Landscape Architect Contribution: Visual Impact Assessment
Osabuogbe C. Igbinedion	PE, Transportation Engineer Contribution: Water Quality Assessment
Ken Keaton	PE, Senior Transportation Engineer Contribution: Project Design
Daryl Noble	Associate Environmental Planner (Archaeology). Contribution: Cultural Studies
Joseph Robinson	Associate Environmental Planner Contribution: Coordinator and Document Preparer
Sukhdeep Sandher, PE	Project Engineer, Transportation Engineer. Contribution: Project Design
Nadarajah Suthahar, PE	Project Manager Contribution: Project Coordination and Delivery
Sharon Tang	Transportation Engineering Technician Contribution: Air Quality & Noise Study
Brooks Taylor	Environmental Planner (Natural Science) Contribution: Natural Environmental Study

Chapter 5 – Distribution List

Office of Planning and Research
State Clearinghouse and Planning Unit
1400 10th Street
P.O. Box 3044
Sacramento, CA 95812-3044

Clerk of the Board of Supervisors
Butte County Administrative Office
25 County Center Drive # 200
Oroville, CA 95965-3365

Ms. Sheryl Thur, County Clerk
Glenn County Supervisors
525 W. Sycamore Street, Suite B1
Willows, CA 95988

Ms. Yolanda Tirado, Chief Board Clerk
Colusa County Supervisors
547 Market Street, Suite 102
Colusa, CA 95932

Chico Branch Library
1108 Sherman Avenue
Chico, CA 95926

Colusa County Free Library
738 Market Street
Colusa, CA 95932

Glenn County Library
333 Mill Street
Orland, CA 95963-1788

City of Chico, General Services
Mr. Ruben Martinez, Director
965 Fir Street
Chico, Ca. 95973

Nat. Oceanic and Atmospheric Administration
Nat. Marine Fisheries Service, SW Region
501 West Ocean Blvd, Suite 4200
Long Beach, CA 90802-4213

US Fish and Wildlife Service
Attn: Ms. Kellie Berry
2800 Cottage Way, Room W-2605
Sacramento, CA 95825-1846

Central Valley Flood Protection Board
Attn: Mr. James Herota, Floodway Protection Section
3310 El Camino Avenue, Rm. 151
Sacramento, CA 95821

Butte County, Dept of Public Works
Mr. Mike Crump, Director
7 County Center Drive
Oroville CA 95965

Mr. Roger Cole, Streaminders
PO Box 68
Forest Ranch, CA 95942

APPENDICES

Appendix A. CEQA Checklist

The impacts checklist starting on the next page identifies physical, biological, social, and economic factors that might be affected by the proposed project. In many cases, background studies performed in connection with the projects indicate no impacts. A "NO IMPACT" answer in the last column reflects this determination. Direct and indirect impacts are addressed in checklist items I through XVI. Mandatory Findings of Significance are discussed in item XVII. The California Environmental Quality Act impact levels include "potentially significant impact," "less than significant impact with mitigation," "less than significant impact," and "no impact." These do not reflect federal limits or restrictions.

Supporting documentation of all CEQA checklist determinations is provided in Chapter 2 of this Initial Study/Environmental Assessment. Documentation of "No Impact" determinations is provided at the beginning of Chapter 2. Discussion of all impacts, avoidance, minimization, and/or compensation measures under the appropriate topic headings in Chapter 2.

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
I. AESTHETICS: Would the project:				
a) Have a substantial adverse effect on a scenic vista	☐	☐	☐	☒
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway	☐	☐	☐	☒
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	☐	☐	☐	☒
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☐	☐	☐	☒
II. AGRICULTURE 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 Dept. 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 the 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?	☐	☐	☐	☒

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
III. 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:				
a) Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☐	☒
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	☐	☐	☐	☒
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non- attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?	☐	☐	☐	☒
d) Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☐	☒
e) Create objectionable odors affecting a substantial number of people?	☐	☐	☐	☒
IV. BIOLOGICAL RESOURCES: Would the project:				
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☐	☒	☐
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or US Fish and Wildlife Service?	☐	☐	☒	☐
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☒	☐	☐
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☐	☒	☐
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☐	☒

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
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?	☐	☐	☐	☒
V. CULTURAL RESOURCES: Would the project:				
a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?	☐	☐	☐	☒
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	☐	☐	☐	☒
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☐	☐	☒
d) Disturb any human remains, including those interred outside of formal cemeteries?	☐	☐	☐	☒
VI. GEOLOGY AND SOILS: Would the project:				
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:	☐	☐	☐	☒
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42?	☐	☐	☐	☒
ii) Strong seismic ground shaking?	☐	☐	☐	☒
iii) Seismic-related ground failure, including liquefaction?	☐	☐	☐	☒
iv) Landslides?	☐	☐	☐	☒
b) Result in substantial soil erosion or the loss of topsoil?	☐	☐	☐	☒
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	☐	☐	☐	☒
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	☐	☐	☐	☒

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	☐	☐	☐	☒

VII. GREENHOUSE GAS EMISSIONS: Would the project:

a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment? b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	An assessment of the greenhouse gas emissions and climate change is included in the body of environmental document. While Caltrans has included this good faith effort in order to provide the public and decision-makers as much information as possible about the project, it is Caltrans determination that in the absence of further regulatory or scientific information related to GHG emissions and CEQA significance, it is too speculative to make a significance determination regarding the project's direct and indirect impact with respect to climate change. Caltrans does remain firmly committed to implementing measures to help reduce the potential effects of the project. These measures are outlined in the body of the environmental document.

VIII. HAZARDS AND HAZARDOUS MATERIALS: Would the project:

a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☐	☒
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☐	☐	☒
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☐	☒
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?	☐	☐	☐	☒
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?	☐	☐	☐	☒
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?	☐	☐	☐	☒
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	☒

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	☐	☐	☐	☒
IX. HYDROLOGY AND WATER QUALITY: Would the project:				
a) Violate any water quality standards or waste discharge requirements?	☐	☐	☐	☒
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)?	☐	☐	☐	☒
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?	☐	☐	☐	☒
d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?	☐	☐	☒	☐
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?	☐	☐	☒	☐
f) Otherwise substantially degrade water quality?	☐	☐	☐	☒
g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	☐	☐	☐	☒
h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?	☐	☐	☐	☒
i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?	☐	☐	☐	☒
j) Inundation by seiche, tsunami, or mudflow	☐	☐	☐	☒
X. LAND USE AND PLANNING: Would the project:				
a) Physically divide an established community?	☐	☐	☐	☒

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
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?	☐	☐	☐	☒
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?	☐	☐	☐	☒
XI. MINERAL RESOURCES: Would the project:				
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☐	☒
b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	☐	☐	☐	☒
XII. NOISE: Would the project result in:				
a) 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?	☐	☐	☐	☒
b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	☐	☒
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☐	☒
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☐	☒
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 expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒
) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒
XIII. POPULATION AND HOUSING: Would the project:				
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)?	☐	☐	☐	☒

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

XIV. PUBLIC SERVICES:

a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, 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 public services:	☐	☐	☐	☒
Fire protection?	☐	☐	☐	☒
Police protection?	☐	☐	☐	☒
Schools?	☐	☐	☐	☒
Parks?	☐	☐	☐	☒
Other public facilities?	☐	☐	☐	☒

XV. RECREATION:

a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☐	☒
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	☐	☐	☐	☒

XVI. TRANSPORTATION/TRAFFIC: Would the project:

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?	☐	☐	☐	☒

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
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?	☐	☐	☐	☒
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	☐	☐	☐	☒
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	☐	☒
e) Result in inadequate emergency access?	☐	☐	☐	☒
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?	☐	☐	☐	☒
XVII. UTILITIES AND SERVICE SYSTEMS: Would the project:				
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	☐	☐	☐	☒
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☐	☒
c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☐	☒
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	☐	☐	☐	☒
e) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☐	☒
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	☐	☐	☐	☒
g) Comply with federal, state, and local statutes and regulations related to solid waste?	☐	☐	☐	☒

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

Appendix B. Title VI Policy Statement

STATE OF CALIFORNIA—BUSINESS, TRANSPORTATION AND HOUSING AGENCY ARNOLD SCHWARZENEGGER, Governor

DEPARTMENT OF TRANSPORTATION
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Flex your power!
Be energy efficient!

July 20, 2010

TITLE VI
POLICY STATEMENT

The California Department of Transportation, under Title VI of the Civil Rights Act of 1964 and related statutes, ensures that no person in the State of California shall, on the grounds of race, color, national origin, sex, disability, or age, be excluded from participation in, be denied the benefits of, or be otherwise subjected to discrimination under any program or activity it administers.

For information or guidance on how to file a complaint based on the grounds of race, color, national origin, sex, disability, or age, please visit the following web page: http://www.dot.ca.gov/hq/bep/title_vi/t6_violated.htm.

Additionally, if you need this information in an alternate format, such as in Braille or in a language other than English, please contact Charles Wahnon, Manager, Title VI and Americans with Disabilities Act Program, California Department of Transportation, 1823 14th Street, MS-79, Sacramento, CA 95811. Phone: (916) 324-1353 or toll free 1-866-810-6346 (voice), TTY 711, fax (916) 324-1869, or via email: charles_wahnon@dot.ca.gov.

CINDY McKIM
Director

"Caltrans improves mobility across California"

List of Technical Studies that are Bound Separately

Air Quality Conformity Analysis, Caltrans Environmental Engineering, April 24, 2012

Hazardous Waste Report: Initial Site Assessment, Caltrans Environmental Engineering September 20, 2011

Natural Environmental Study, Caltrans Environmental Management, Biology, May 2012

Noise Assessment, Caltrans Environmental Engineering, April 24, 2012

Programmatic Agreement / Screening Memorandum, Caltrans Environmental Management Cultural Resources, October 11, 2011

Visual Impact Assessment, Caltrans Landscape Architecture, June 7, 2012

Water Quality Assessment, Caltrans Environmental Engineering, April 12, 2012