PROPOSED FINAL
Mitigated Negative Declaration

Jalama Road Bridge 51C-017 Replacement
14NGD-00000-00006
State Clearinghouse # 2014071075

September 2014

Jalama Road Bridge, view to the southeast

This document is prepared by Garcia and Associates and InterAct.

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1.0 INTRODUCTION

1.1 BACKGROUND

The County of Santa Barbara Department of Public Works (DPW) proposes to replace Bridge 51C-017 over Jalama Creek along Jalama Road, located in Santa Barbara County, approximately 8.8 miles (mi) southwest from Highway 1 (Pacific Coast Highway), and 5.0 mi east of the confluence of the creek with the Pacific Ocean (see Figure 1-1). The replacement is required to bring the bridge into compliance with the current seismic standards. The bridge was identified as seismically deficient by Caltrans in 1997. First, a retrofit of this bridge was approved for funding through the Federal Highway Bridge Rehabilitation and Replacement Program. Later, in 2010, a full replacement was approved instead of a retrofit.

Figure 1-1 Project General Area

Several previous studies have been prepared for this project, such as:

- Natural Environment Study (NES) (December 2003).
- Biological Assessment (BA) (December 2003).

- County of Santa Barbara, Local Agency Seismic Retrofit, Final Retrofit Strategy Report, Jalama Creek Bridge, Bridge No. 51C-0017 (March 1998).
- Biological Opinion to Retrofit Existing Bridge on the Jalama Road Crossing in Santa Barbara County, California (CON-1-8-04-F-34) (September 23, 2004).
- Letter from National Marine Fisheries Service to Federal Highway Administration concluding informal consultation regarding steelhead (July 16, 2004).

More recent documents prepared for this project include:

- National Environmental Policy Act (NEPA) Categorical Exclusion dated December 16, 2013 (Santa Barbara County 2013);
- Addendum to the 2003 Biological Assessment dated October 2013 (Garcia and Associates 2013);
- Biological Resources Report dated January 2014 (Garcia and Associates 2014).

Surveys and studies conducted to confirm previous data and to collect additional data for the Biological Resources Report, Addendum to the Biological Assessment, Categorical Exclusion, and this MND were:

- General vegetation surveys and habitat mapping in 2009 and 2011;
- Surveys for special-status plants in 2009 and2011;
- Preliminary delineation of wetlands in 2011;
- Surveys for general and special-status wildlife in 2009 and 2011;
- Habitat evaluation for steelhead in 2009;
- Protocol surveys for least Bell's vireo and southwestern willow flycatcher in 2011;
- Protocol surveys for California red-legged frog in 2009;
- Surveys and evaluation of habitat for bats in 2009 and 2013; and
- Count of trees in 2013 that will potentially be affected by construction.

This document describes the project in detail, analyzes environmental impacts from the bridge replacement project per the California Environmental Quality Act (CEQA) requirements and concludes that with the proposed mitigations no significant impacts will occur.

1.2 PUBLIC CIRCULATION AND COMMENTS

In compliance with Section 15073 of the CEQA Guidelines, the draft IS/MND was circulated for public review for a 30-day period ending on August 22, 2014. The State Clearinghouse's standard notice of filing and acknowledgement of compliance with CEQA noticing requirements were received. No comment letters were received from interested governmental agencies or organizations.

2.0 PROJECT DESCRIPTION

2.1 PROJECT HISTORY AND PURPOSE

The Jalama Road Bridge 51C-017 was constructed in 1951. It services traffic between Highway 1 and Jalama Beach and Campground, as well as privately owned parcels west of the bridge. The project is needed because the bridge was identified as seismically deficient by Caltrans in 1997 as compared to the current seismic standards. The purpose of the project is to replace the existing bridge over Jalama Creek with construction of a bridge that has the structural integrity and other parameters to meet the current seismic standards. The project also includes the installation of a retaining wall on the east side of the bridge and the south side of the road to contain slip-out that has occurred.

2.2 PROJECT LOCATION AND ACCESS

Jalama Road Bridge 51C-017 at Jalama Creek is located along Jalama Road at Post Mile 8.8 in an unincorporated area of Santa Barbara County south of the City of Lompoc. The specific site location and coordinates are: Township 5 North, Range 34 West, (34°30'35" N, 120°26'04" W) (see Figure 1-1). The bridge crosses Jalama Creek approximately 8.8 miles southwest of Highway 1, 1.5 miles east of Jalama Ranch, and 5.0 miles east of the confluence of the creek with the Pacific Ocean.

The site is located in the Santa Barbara Coastal Zone, in an area zoned for agriculture. Site information is detailed in Table 2-1.

Table 2-1 Site Information

Comprehensive Plan Designation	Coastal Zone, Rural AG-II-320, one unit / 320 acres max. density
Zoning District, Ordinance	Article II, AG-II-320: Agriculture, minimum 320 acres
Site Size	1.20 acres gross temporary disturbances, includes 0.08 acres developed area). 0.04 acres (natural habitat permanent disturbance)
Present Use & Development	The bridge is used for crossing of Jalama Creek on Jalama Road and accessing privately owned parcels west of the bridge, as well as Jalama campground and beach. The surrounding areas are used for cattle grazing, and open space. A horse ranch is present on the south side of Jalama Road, west of the bridge.
Surrounding Uses/Zoning	North, South, East, and West: AG-II-320 / Agriculture
Access	Direct access via Highway 1 to Jalama Road
Public Services	Water Supply and Sewage: Not applicable Fire: SB County Fire Department, Station #51, Lompoc

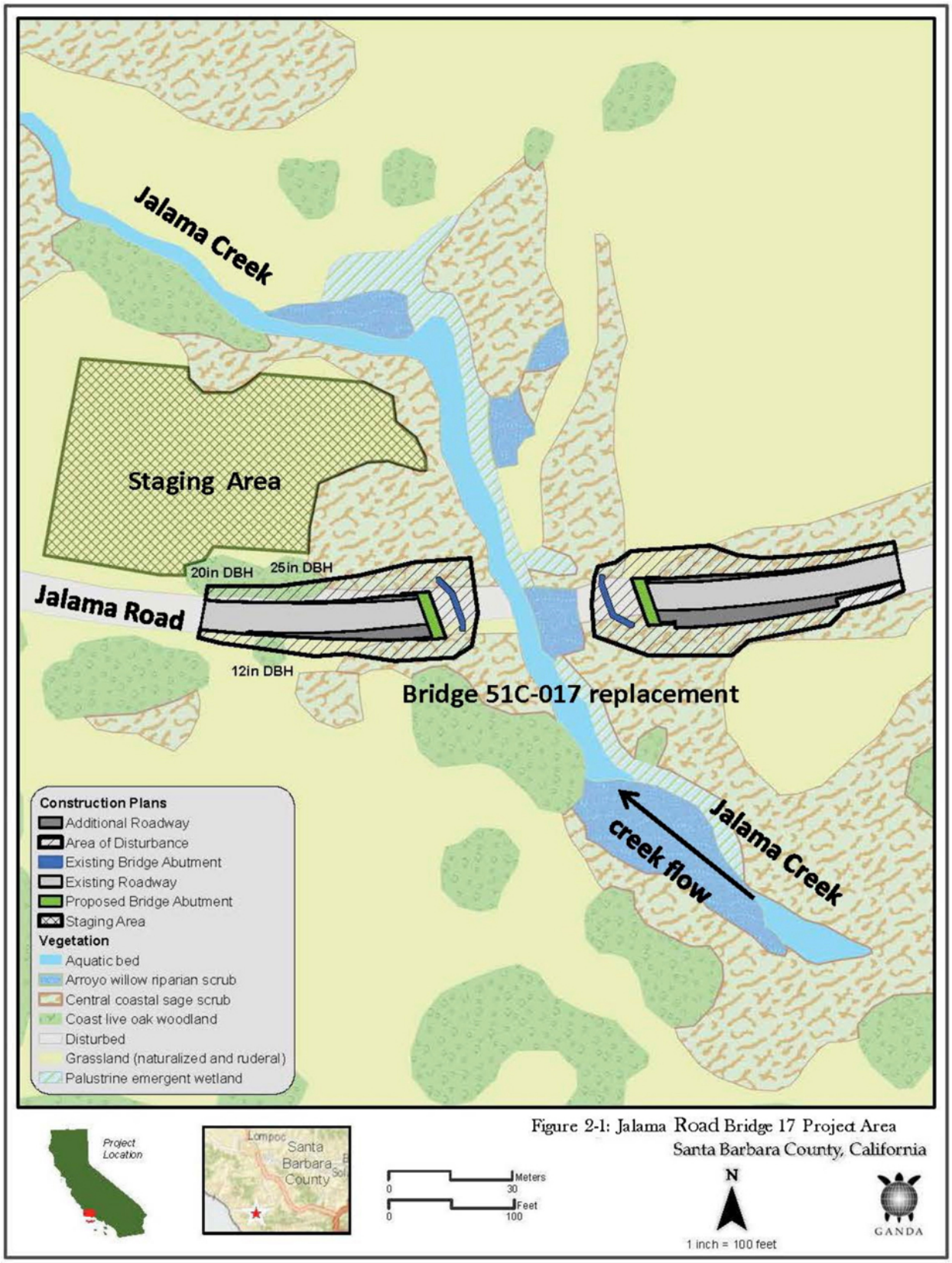
Access to the project site will be from the existing roadway of Jalama Road. The construction staging area would be located on rangeland on the northwest side of the bridge (see Figure 2-1). The staging area is characterized by sparse vegetative cover or non-native grass cover, and lacks oak and riparian woodlands.

Table 2-2 lists the estimated acreage of impacted land. Permanent impacts to natural habitats will be limited to 0.04 acre.

Table 2-2 Estimated Project Impact Areas to Habitats and Land Uses

Project Component	Habitat/Land Use	Impact Area, acres	
		Temporary	Permanent
New roadway, bridge abutments, and retaining wall	Central coast sage scrub		0.02
	Non-native grassland		0.02
	Developed		0.05
Staging areas	Non-native grassland	0.80	
Other temporary disturbance areas	Central coast sage scrub	0.23	
	Non-native grassland	0.06	
	Coast live oak woodland	0.03	
	Developed	0.08	
Existing bridge abutments and wingwall to be removed	Central coast sage scrub		0.002
	Non-native grassland		<0.001
	Developed		0.20
Disturbance to upper bank of Jalama Creek by retaining wall (subject to CDFW jurisdiction for Streambed Alteration Agreement)	Central coast sage scrub	<0.01	<0.01
Total disturbance (natural habitats only)	Central coast sage scrub	0.23	0.02
	Non-native grassland	0.86	0.02
	Coast live oak woodland	0.03	None
			None

Figure 2-1 Project Site Diagram



2.3 DESCRIPTION OF THE BRIDGE REPLACEMENT

The existing bridge is a three-span steel "I"-Girder Bridge, approximately 118 feet long and 25 feet wide, carrying one traffic lane in each direction and supported by wide-flange steel columns. It was constructed in 1951.

The existing bridge's reinforced concrete deck and steel girders are proposed to be longitudinally saw-cut between the girders and removed in sections with cranes and placed onto trucks for recycling and disposal. All bridge removal work will be done from the top of banks. The only potential disturbance to creek banks or in the riparian zone will be caused by workers retrieving debris, if any accidentally falls below the top of banks.

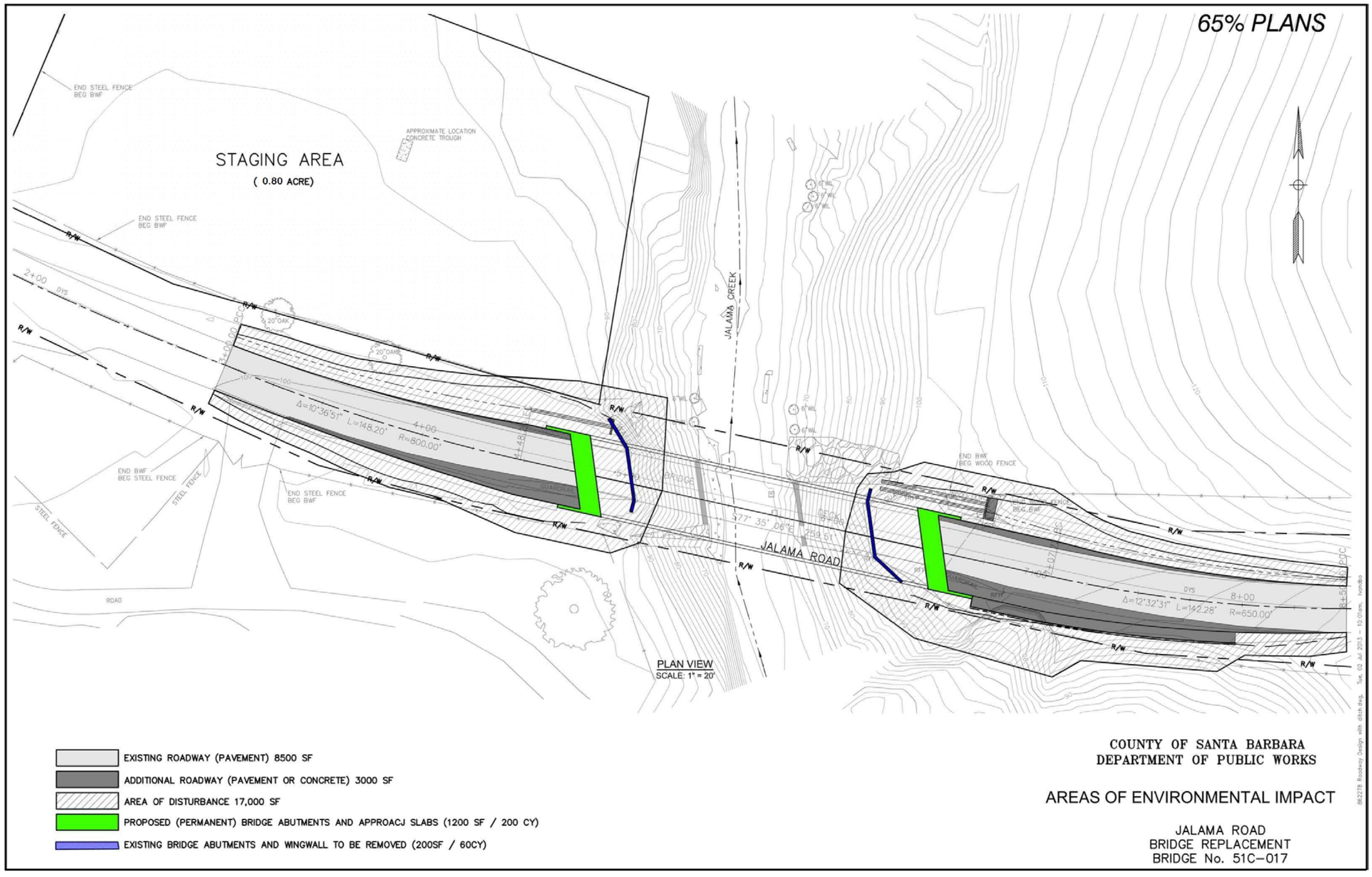
Due to the constraints of the existing approach roadways, the new bridge will be located essentially on the same alignment as the existing bridge. The bridge is proposed to be constructed in two stages to allow maintenance of one bi-directional travel lane throughout construction. Similarly, the removal of the existing bridge superstructure, steel columns, and abutments will occur in two stages. One lane of the bridge will be removed and a new lane constructed, while the second lane would remain operational and accessible for traffic. Then the second lane will be dealt with in the same manner.

The proposed new bridge will be a single-span pre-cast and pre-stressed concrete Bulb-Tee Girder Bridge. The new structure will accommodate one 12-foot traffic lane and a 5-foot wide shoulder in each direction. With the proposed traffic barriers, the overall bridge deck width is proposed to be 36 feet, 10 inches. The proposed bridge length is 160 feet. The new abutments will be founded on cast-in-place concrete piles and set back sufficiently from the tops of the existing incised creek banks to provide additional protection against potential future erosion of the banks. Construction will be done from the tops of banks to avoid disturbance to creek banks and the riparian zone. Grading will include 90 cubic yards of structure excavation. The amount to be backfilled will be 60 cubic yards and the amount to be exported will be 30 cubic yards.

The two existing reinforced concrete pile-supported pier walls which support the existing steel columns are proposed to remain. The existing concrete pier walls substructure are proposed to be left in place to avoid creek disturbance from their removal and to avoid additional emplacement of rock slope protection to amour the creek banks from scour. The existing abutment pilings are also proposed to remain in place. However, the existing bridge abutments above the pilings and the existing wingwalls will be removed. The area involved in the removal of the abutments and wingwalls is more than 0.2 acre, but contains only 0.002 acre of natural habitats (Central coast sage scrub and non-native grassland) (see Table 2-2).

The sizes and locations of staging areas for the materials and equipment will be similar to those evaluated previously by Padre and Garcia and Associates (2003a & b and 2013). See Figure 2-2 for locations of temporary and permanent (new bridge abutments and roadway) impact areas in the immediate vicinity of the bridge as well as the staging area location.

Figure 2-2 New Bridge Diagram



2.4 RETAINING WALL DESCRIPTION

A retaining wall will be constructed along Jalama Road, on the east side of the bridge and the south side of the road to contain slip-out that has occurred. The size of the retaining wall will be approximately 100 feet long by 12 feet tall at its highest point (see Appendix A for retaining wall plans and Figures 2-3 and 2-4 below for photos of the slip-out area). The volume of material to be graded for the retaining wall will be 445 cubic yards. Of that total, 325 cubic yards will be used as backfill and 120 cubic yards will be exported. Areas of temporary and permanent impacts due to construction of the new retaining wall are included with new roadway and abutment construction (Table 2-2). Construction of the retaining wall will result in less than 0.01 acre each of permanent and temporary impacts to Central coast sage scrub on the upper bank of Jalama Creek. As noted in Table 2-2, this area will require a Streambed Alteration Agreement from the California Department of Fish and Wildlife.

Figure 2-3 Bank Slip-out North of Bridge 17 on East Side of Road Looking North

Figure 2-4 Bank Slip-out Area North of Bridge 17 on East Side of Road Looking SW

2.5 ROADWAY CONSTRUCTION DESCRIPTION

The existing roadway consists of two approximately 11-foot wide traffic lanes and 2-foot wide unpaved shoulders. With the replacement project, the west side of the bridge structure will include 185 feet of approach roadway with two 12-foot wide traffic lanes, 5-foot paved shoulders and 3-foot unpaved shoulders. The lanes and shoulders will taper to match the existing roadway. The northwest side will include a varying width, approximate 1-foot-deep ditch and 2:1 slopes. The southwest side slopes will vary from 2:1 to 1:1 and include 80 feet of Geosynthetic Reinforced Embankment. All slopes and ditches will have erosion control measures applied.

Improvements to the east side of the structure will include 205 feet of approach roadway with two 12-foot traffic lanes and 5-foot paved shoulders. The lanes and shoulders will taper to match into the existing roadway. The northeast side will include 3-foot unpaved shoulders, a varying width of approximately 1 foot deep ditch and 2:1 slopes. On the southeast side of the bridge the unpaved shoulders will vary from 2 to 5 feet in width and include 130 feet of vegetation control (where the road shoulder will be paved). All proposed slopes on the east side will be 2:1. The volume of material to be graded will be 753 cubic yards. Of that total, 319 cubic yards will be backfilled and 434 cubic yards will be exported. All slopes and ditches will have erosion control measures applied.

The roadway drains from east to west and the road has a super-elevation with a cross slope draining to the north. The ditch west of the bridge structure drains in an easterly direction. Both ditches end with pipes draining onto the existing riprap on the bank of the creek. Three coast live oak trees (12 inches, 20 inches, and 25 inches in diameter at breast height, respectively) will likely to be trimmed or removed to accommodate new roadway construction. A staging area to be used during roadway and retaining wall construction will be the same as the areas used for bridge construction and demolition. The amount of disturbance (all temporary) associated with the staging area is 0.80 acre. The staging area disturbance will only consist of driving over the disturbed, primarily annual grassland that is regularly grazed by cattle; no grading or clearing of vegetation will occur. This area will be restored following construction according to the Revegetation and Habitat Restoration Plan.

The previous project description included removal of concrete pieces under the existing bridge that were acting as scour protection. Approximately 72 cubic yards of the existing concrete scour protection (covering 652 square feet) would have been removed at the western bent of the bridge. During field surveys, Garcia and Associates biologists observed California red-legged frogs and western pond turtles (including juveniles) using the concrete as cover. Removal of the concrete could have resulted in take of red-legged frogs and steelhead and direct loss of pond turtles and two-striped garter snakes. The concrete will be left in place and will continue to serve as cover for these species.

There will be no disturbance to the riparian zone, arroyo willow riparian scrub, palustrine emergent wetland, and aquatic bed, and limited disturbance to Central coast sage scrub, Coast live oak woodland, non-native grassland, and southern California steelhead. There will limited potential disturbance to individuals of, and habitat for, California red-legged frog, two-striped garter snake, and western pond turtle. Table 2-3 includes acreages of habitat impacted by the current proposed project for the special-status species with known or potential occurrence in the Biological Study Area.

Table 2-3 Acres of Habitat for Special-status Species in the Construction Impact Area

Species	Acreage of Habitat Potentially Affected			
	Breeding/Roosting/ Spawning/Denning Temp/Perm	Migration/ Dispersal Temp/Perm	Foraging Temp/Perm	Critical Habitat Temp/Perm
Black-flowered figwort*	0/0	--	--	--
Southern California steelhead	0/0	0/0	0/0	0/0
California red-legged frog	0/0	0.23/0.02	0/0	--
Western pond turtle	0.80/0	0/0	0/0	--
Two-striped garter snake	0/0	0.23/0.02	0/0	--
White-tailed kite	0.03/0	0/0	1.09/0.04	--
Northern harrier	0/0	0/0	1.09/0.04	--
Sharp-shinned hawk	0/0	0.03/0	1.09/0.04	--
Cooper's hawk	0.03/0	0.03/0	1.09/0.04	--
Mountain plover	0/0	0.80/0	0.80/0	--

Species	Acreage of Habitat Potentially Affected			
	Breeding/Roosting/ Spawning/Denning Temp/Perm	Migration/ Dispersal Temp/Perm	Foraging Temp/Perm	Critical Habitat Temp/Perm
Least Bell's vireo	0/0	0/0	0/0	--
Southwestern willow flycatcher	0/0	0/0	0/0	--
Yellow warbler	0/0	0/0	0/0	--
Southern California rufous-crowned sparrow	0.23/0.02	0/0	0.23/0.02	--
Grasshopper sparrow	0.86/0.02	0/0	0.86/0.02	--
Bell's sage sparrow	0.23/0.02	0/0	0.23/0.03	--
Pallid bat	<0.01/0	0/0	1.12/0.02	--
Yuma myotis	<0.01/0 (roosting under existing bridge)	0/0	0.28/0	--
California myotis	0.03/0	0/0	1.40/0.04	--
Big brown bat	<0.01/0	0/0	1.40/0.04	--
Mexican free-tailed bat	<0.01/0	0/0	1.40/0.04	--
American badger	0.89/0.02	0/0	1.12/0.04	--

*None observed in CIA, but one found adjacent to edge of BSA.

2.6 MITIGATION MEASURES PROPOSED AS PART OF THE PROJECT

As noted above, the potential for impacts to special-status biological resources will be substantially reduced by working from the existing road, road shoulders and in areas mostly above the banks of Jalama Creek; the likelihood and magnitude of impacts will be further reduced by implementing measures designed to protect such resources. The measures are described below. Some measures are designed for riparian- and stream-dependent species, such as steelhead and California red-legged frog. The current project is not anticipated to result in impacts to riparian and stream habitats, but there could be a need to retrieve material from demolition of the existing bridge. As such, measures for those species will be implemented.

2.6.1 Timing of Construction

Construction is estimated to take approximately 320 work days: 240 days for construction of the new bridge lanes and 80 days for demolition and removal of the old structure. The work schedule will coincide with the start of the dry season of the year when water levels in Jalama Creek will be low. As such, impacts to aquatic, riparian, and wetland resources will be minimized. Work that must be performed adjacent to the actual channel and banks of the creek will be done during the dry season between May 1 and November 30. This will be a time of year when water levels should be at their lowest point. This will also be the time of year when steelhead would be least likely to travel through the area. Impacts to nesting birds will be minimized with vegetation removal occurring before February 15 or after August 15. To ensure avoidance of active bird nests, pre-construction surveys will also be conducted,

as described below. In addition to seasonal restrictions, night work will be limited to six hours for three consecutive nights during each of the two stages of the bridge construction (six nights total). This will reduce potential impacts to bats and to species of wildlife that utilize the creek at night for foraging and travel.

2.6.2 Minimization of Disturbance for Construction, Demolition, and Staging

The size of the construction and staging areas will be limited to that necessary to complete the project. The areas will be marked with fencing, flagging, stakes, and/or other means to indicate the boundaries to workers. No project-related activities will take place outside of the marked boundaries. Work will be conducted from the top of the bank and just below the top of bank to install abutments for the new bridge. No work will occur in the creek channel and no vehicles or equipment will enter the channel because: (a) demolition of the existing bridge will be done from the banks; (b) construction of the new bridge will be done from the banks; and (c) the old concrete in the channel will not be removed to avoid impacts to red-legged frogs and pond turtles. Workers will enter the channel only, as necessary, to retrieve debris from demolition of the existing bridge. No water diversion is expected to be necessary.

The construction staging area will be located above the top bank of the creek, northwest of the bridge. The staging area will be located in non-native vegetation no closer than 100 feet from the center point of the creek channel. Equipment refueling will occur at least 200 feet from the creek channel containing flowing water. All maintenance and staging of equipment and vehicles will occur at least 100 feet from creek channel containing flowing water and not in a location from where a spill would drain directly toward aquatic habitat.

The following best management practices (BMPs) for refueling vehicles and equipment will be followed:

- When fueling, tanks will not be topped off.
- When fueling, secondary containment, such as drip pans, will be used to catch spills.
- Fueling and servicing will only be done in designated areas that are enclosed by spill-containing berms.
- Employees and subcontractors will be trained in proper fueling, servicing, and clean-up procedures.
- All fluid spills will be reported immediately to the County.
- A spill contingency plan that covers possible leaks and spills of hazardous materials into Jalama Creek will be developed and implemented.

2.6.3 Environmental Awareness Training

An environmental awareness program will be presented to construction crews before project initiation. The education program will include a review of the federal and/or state listed species, as well as other species and habitats of concern that occur in and near the project area. The information will include life history and habitat requirements, the potential to occur in the project area, and their legal status and protection under state and federal laws and policies.

The program will also cover the restrictions and guidelines that must be followed by all construction personnel to reduce or avoid effects on these species during project

implementation. The importance of preventing the spread of invasive plant species will be discussed, as well as measures that can be implemented to ensure that introductions of invasive plants do not occur. Restrictions and guidelines that must be followed by construction personnel will include such activities as: 1) limiting the amount of disturbance to natural vegetation, 2) staying out of the creek bed, 3) control of litter, and 4) prohibition of firearms and pets in the project area.

2.6.4 Minimization of Potential for Concrete to Enter the Creek

The following measures will be taken to minimize the potential for concrete to enter the water of Jalama Creek:

- Tarps will be placed just below the top of bank where the new abutments will be poured to protect the channel surface from spilled concrete. Tarps will be collected and disposed properly at the end of concrete pouring.
- Silt fencing and other barriers will be used to keep concrete in the pour location of the project area.

The washing of concrete trucks will occur only in an area where concrete and concrete-affected water can be contained for subsequent removal from the site. Wash water will not be discharged to the creek or road drains. The area designated for washing functions will be at least 200 feet from road drains and from the creek channel containing flowing water, and shall not be in a location from where a spill would drain directly toward aquatic habitat. The location of the washout area will be clearly noted at the construction site with signs.

2.6.5 Wetlands

No project activities are proposed in wetland areas. There will be no impacts to wetlands or waters of the U.S.

2.6.6 Restoration

Following construction of the new bridge, roadway, and retaining wall, demolition of the existing bridge, and removal of existing bridge abutments and wingwalls, disturbed areas will be restored to previous uses. All disturbed areas in County-owned ROW will be covered with a compost blanket, native seed mix, and jute netting for revegetation and erosion control. Much of disturbed area in the ROW is in the road shoulder and has been disturbed previously due to prior bridge and road construction. Restoration of native vegetation disturbed by the project will occur offsite in County-owned ROW on Jalama Road at mile post 4.4. This area was selected as the restoration site because cattle will not impact it. There is high potential for cattle to impact sites in and adjacent to the project site. The restoration will mitigate the temporary disturbance to 0.23 acre of Central Coast sage scrub and 0.02 acre of Coast live oak woodland, and the permanent disturbance of 0.02 acre of Central Coast sage scrub. The restoration at the offsite location will include a 3:1 ratio for temporary disturbance (0.69 acre of Central Coast sage scrub will be restored, as will 0.06 acre of Coast live oak woodland). The restoration ratio for permanent disturbance will be 5:1. As such, another 0.10 acre of Central Coast sage scrub will be restored. In addition, to the restoration of vegetation types, three coast live oak trees may need to be trimmed or removed to accommodate new roadway. If the three oaks are removed

or substantially trimmed, they will be mitigated by the planting of oaks at the offsite location at a ratio of 10:1 (thus, up to 30 oaks planted).

The staging area is entirely on private property and is currently used for cattle grazing and as a temporary cattle holding areas. As such, cattle will have access to the entire area including the creek bed and banks, following construction. This area will be restored to its current use, cattle grazing, after the County project is completed.

Prescriptions for mitigating temporary and permanent disturbance to native habitats by revegetating and restoring habitats in the offsite area are included in the Restoration Plan. The prescriptions include seed mixes, appropriate container plant species and sizes, recontouring, salvage of topsoil, removal of invasive non-native plants, and possible use of hydroseed. A five-year monitoring plan is also described, as well as success criteria for planted trees and shrubs.

2.7 CONSTRUCTION WORKFORCE AND EQUIPMENT

The estimated workforce will consist of 22 to 44 workers throughout the project. No more than 44 workers would be present at the project site on any one day. Anticipated equipment that would be used in the bridge construction is show in Table 2-4.

Table 2-4 Construction Equipment List

Equipment	Number
Construction Phase	
Cranes	2
Drill Rig	1
Loaders	2
Excavators	2
Bulldozers	3
Motor Grader	1
Concrete Pump Trucks	2
Large Fork Lift	1
Earth Movers	2
Painting Equipment	Various
Hand Tools	Various
Water Trucks	2
Demolition Phase	
Cranes	2
Backhoe With Breaker	1
Paving Phase	
Compactors	3
Pavers	3
Rollers	4

2.8 PROJECT SCHEDULE

Approximately 320 work days will be needed to complete the entire project. The construction for most of the project will be scheduled for the dry season (normally between May and November). Even though no work will occur in the creek channel or below the top of bank, construction during the dry season will further minimize the potential for impacts to aquatic, riparian, and wetland resources. This will be a time of year when water levels should be at their lowest point and will also be the time of year when steelhead would be least likely to travel through the area. Some tasks away from the banks of the creek may be completed between December 1 and April 30.

3.0 ENVIRONMENTAL SETTING

The project site is located 5 miles from the northern Santa Barbara County coast where the Mediterranean climate is characterized by cool, rainy winters and warm, dry summers. The cold California current pushing up against the coastline often creates lingering summer fogs that may dissipate by the end of the day. This climatic pattern creates unique patterns of vegetation, combined with variability in the topography and soils.

The project site consists of the existing Jalama Road that runs in an approximately westerly direction, and Jalama Creek and its banks that transects the project site in the southeast to northwest direction. The creek area has vegetated and relatively steep banks that rise to meet the unpaved "shoulder" of the existing road. The creek banks are partially vegetated. Several plant communities, including Arroyo Willow Riparian Scrub and Central Coast Sage Scrub, exist within or adjacent to the project site. Fauna observed at the site consists of vertebrate, invertebrate and avian species associated with undeveloped riparian and woodland habitat.

No known archaeological sites are located on the project site, although archaeological resources have been identified in the vicinity of Jalama Road elsewhere on Bixby Ranch. Surrounding land uses are agricultural. An archaeological survey has been performed for the immediate vicinity of the project area in 2004 (Applied Earthworks Inc. 2004). The specific area surveyed is confidential and therefore is not presented in this public document.

The following analysis addresses specific impacts that could result from the proposed seismic Replacement work, and presents mitigation measures developed to minimize these impacts. Environmental setting information is provided, where necessary, to establish a baseline for assessing project impacts.

4.0 POTENTIALLY SIGNIFICANT EFFECTS CHECKLIST

In the following sections, checklists are used to summarize the potential level of environmental impact resulting from possible project activities. Abbreviations used to describe the relative significance of the listed impacts are as follows:

Abbreviation	Meaning
Poten. Signif.	A fair argument can be made, based on the substantial evidence in the record, that an effect may be significant.
Less Than Signif. w/ Mitigation	Incorporation of mitigation measures has reduced an effect from a Potentially Significant Impact to a Less Than Significant Impact.
Less Than Signif.	An impact is considered adverse but does not trigger a significance threshold.
No Impact	There is adequate support that the referenced information sources show that the impact simply does not apply to the subject project.
Reviewed Under Previous Document	The analysis contained in a previously adopted/certified environmental document addresses this issue adequately for use in the current case and is summarized in the discussion below. The discussion should include reference to the previous documents, a citation of the page(s) where the information is found, and identification of mitigation measures incorporated from the previous documents.

Under Section 15064 of the State CEQA Guidelines, the lead agency (Santa Barbara County Public Works Department) must identify cumulative impacts, determine their significance and determine if the effects of the project are cumulatively considerable.

“Cumulative” impacts refer to a proposed project’s incremental effect viewed over time together with other closely related past and present projects and projects in the reasonably foreseeable future whose impacts may compound or increase the incremental effect of the proposed project (Public Resources Code Section 21083; California Code of Regulations, Title 14, Sections 15064[h], 15065[c], 15130, and 15355). The following sections present a definition of the geographic extent within which cumulative impacts are analyzed and an analysis of the project’s potential incremental effects when combined with other past, present, and future projects.

The standard for a cumulative impacts analysis is defined by the use of the term "collectively significant" in the CEQA Guidelines Section 15355; the analysis must assess the collective or combined effect of development. Cumulative impact assessments cannot conclude that contributions to cumulative impacts are not significant because the contributions represent a small percentage of the overall problem. Doing so could improperly omit facts relevant to an analysis of the collective effect that the project and other related projects would have upon biological resources. The result could be approval of projects based on an analysis that avoided evaluating the severity of impacts which, when taken in isolation appear insignificant, but when viewed together appear significant.

4.1 AESTHETICS / VISUAL RESOURCES

Will the proposal result in:	Poten. Signif.	Less Than Signif w/ Mitigation	Less Than Signif	No Impact	Reviewed Under Previous Document
a. The obstruction of any scenic vista or view open to the public or the creation of an aesthetically offensive site open to public view?			X		
b. Change to the visual character of an area?			X		
c. Glare or night lighting, which may affect adjoining areas?		X			
d. Visually incompatible structures?				X	

Environmental Setting:

The surrounding area is rural in visual nature, with grasslands, and sparse trees. No human-occupied structures are visible in the vicinity of the bridge. A horse corral is visible in the vicinity.

Impact Discussion:

(a, b.) The project would not permanently obstruct any scenic vistas or change the visual character of the area. The purpose of the project is to replace the existing bridge over Jalama Creek with a bridge that has structural integrity and other parameters that meet the current seismic standards, and which is similar in visual character to the existing bridge. Upon completion of the project the visual character of the area will be very similar to the current existing character.

Construction of the replacement bridge could create short-term visual impacts due to project equipment operation, equipment at the staging areas and the possible trimming of vegetation to access the areas around the replacement site. Equipment and project materials and refuse will temporarily be visible to the travelers on Jalama Road, which is not a designated scenic roadway. Trash associated with the work at the project site, if left overnight, has a potential to be carried away by wind and potentially create adverse visual impacts outside of the project site, which could be visible after project completion.

The project will be conducted in a manner to minimize the need to remove vegetation, thereby minimizing visual impacts. Some vegetation will have to be trimmed back to access the work areas and promote personnel safety. It is expected that the trimmed vegetation will grow back naturally. If any vegetation is removed, measures described in Section 4.4, Biological Resources, would be undertaken to re-vegetate disturbed areas. Therefore, the project impacts are not considered significant.

(c.) Some of the project activities will be carried out during night hours. Night lighting will be used to assure safe work conditions. Receptors that could be sensitive to light (residences) are at a considerable distance from the project area (over a mile) and do not have a direct line of sight to the project area as they are screened with topography and trees. The work requiring light would be limited to several days only. Additionally, the mitigation measure below will reduce any impacts from night lighting to below significant level.

(d.) The replacement bridge will be in alignment with the existing bridge at approximately the same elevation. Once in place, it will not obstruct scenic vistas.

Mitigation and Residual Impact:

The following mitigation measure is expected to reduce potential visual impacts to a less than significant level. In addition, the measures would also aid in the reduction of biological impacts. Shielding night lighting and limiting lighting duration would reduce disturbance to nocturnal animals such as bats.

V-1 Minimization of Disturbance from Night Work Lighting.
To prevent nuisance and glare from the proposed night work lighting:

- lighting shall be minimized to only what is required for safe operation, and
- the lights shall have appropriate shields that enable the light only to point down at the specific work area without illuminating the adjacent areas.

Plan Requirements and Timing: Mitigation measures shall be included in the project plans and specifications. **Monitoring:** The County Resident Engineer or Biological Monitor shall ensure compliance with this measure.

With the incorporation of this measure, residual impacts would be less than significant.

There will be no cumulative aesthetic/visual impacts. The bridge will be replaced with a new bridge that will be placed in the same location as the old bridge and will have similar visual attributes. Disturbance areas will be revegetated with native plant species similar to native plants present in the pre-disturbance condition. No other new structures are proposed in the visible area around the bridge.

4.2 AGRICULTURAL RESOURCES

Will the proposal result in:	Poten. Signif.	Less Than Signif w/ Mitigation	Less Than Signif	No Impact	Reviewed Under Previous Document
a. Convert prime agricultural land to non-agricultural use, impair agricultural land productivity (whether prime or non-prime) or conflict with agricultural preserve programs?				X	
b. An effect upon any unique or other farmland of State or Local Importance?				X	

Environmental Setting:

The areas surrounding the bridge are zoned Agricultural (AG-II-320). The land is used for cattle grazing. A ranch is located on the south side of Jalama Road, southwest from the bridge. No other agricultural uses are evident at the project site.

Impact Discussion:
The replacement bridge will be in alignment with the existing bridge. Equipment will be temporarily located and moved across small portions of the agricultural land (staging areas and access). Any disturbed areas will either be re-vegetated or will naturally restore within a short period of time. Thus, the project will not result in long-term impacts to agricultural land or uses. Thus, the project will not result in long-term impacts to agricultural land or uses in general, and specifically not to prime agricultural land or to unique farmland of State or local significance.

(a, b.) The project will not result in the conversion of agricultural land to non-agricultural use, nor will it impair agricultural land productivity. Moreover, disturbed areas will revegetate naturally or with the implementation of the revegetation plan. As such, the replacement of the bridge will not adversely affect unique or other farmland of State or Local importance.

Mitigation and Residual Impact:

No significant impacts were identified; therefore, mitigation is not required. Residual impacts would be less than significant.

4.3 AIR QUALITY

Will the proposal result in:	Poten. Signif.	Less than Signif. with Mitigation	Less Than Signif.	No Impact	Reviewed Under Previous Document
a. The violation of any ambient air quality standard, a substantial contribution to an existing or projected air quality violation, or exposure of sensitive receptors to substantial pollutant concentrations (emissions from direct, indirect, mobile and stationary sources)?				X	
b. The creation of objectionable smoke, ash or odors?				X	
c. Extensive dust generation?				X	
Greenhouse Gas Emissions	Poten. Signif.	Less than Signif. with Mitigation	Less Than Signif.	No Impact	Reviewed Under Previous Document
d. Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?				X	
e. Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?				X	

Environmental Setting:

With respect to air quality, the project site is within the regulatory authority of the Santa Barbara County Air Pollution Control District (SBCAPCD). Santa Barbara County is in attainment or unclassifiable/attainment for all National ambient air quality standards, as published on the SBCAPCD website (SBCAPCD 2014). Reactive organic compounds (ROC) and nitrogen oxides (NO_x) are considered precursors to ozone and are therefore treated as non-attainment pollutants.

Short-term air quality impacts generally occur during project construction. Although the APCD has developed thresholds to determine the significance of operational air emissions under

CEQA, no quantitative CEQA thresholds for pollutant emissions from short-term or construction projects (e.g., the proposed Jalama Road Bridge project) have been established by the APCD or the County of Santa Barbara Planning and Development Department. However, the APCD would require mitigations if emissions from construction equipment exceed 25 tons of any pollutant (except carbon monoxide) in a 12-month period.

March 2010 revisions to the CEQA Guidelines issued by the California Natural Resources Agency require all projects subject to CEQA review to include an analysis of Greenhouse Gases (GHGs) associated with the project and determine whether the emissions require mitigation (SBCAPCD GHGS, 2010). Following actions taken by other air districts within the state, the APCD proposes a threshold of 10,000 metric tons carbon dioxide equivalent as a determination of significance.

Impact Discussion:

Although the APCD or the SB County do not have quantitative CEQA thresholds of significance for short-term or construction projects, CEQA requires that short-term impacts be addressed in environmental documents. Conservative estimates of the short-term emissions and a discussion of potential project impacts are summarized below. Air quality calculations are available for review in the project file.

(a.) All Criteria Pollutant emissions for the construction activities of the project were estimated using the most recent version of the California Air Pollution Control Officer Association's (CAPCOA) California Emissions Estimator Model (CalEEMod) Version 2013.2.2. Default data associated with the program have been provided by the various California air districts to account for local requirements and conditions. Unless identified by project specific or equipment specific information, default values were cascaded in CalEEMod to calculate construction emissions associated with the project. The following assumptions were used to calculate air quality impacts:

- The project will be comprised of two main phases: removal, construction and paving of one bridge lane, and removal, construction and paving of the 2nd bridge lane. Each phase is expected to adhere to the following schedule: 40 days for demolition, 115 days for construction, and 5 days for paving.
- Construction equipment will be delivered to the site before replacement work starts, and removed after the work is completed;
- Materials will be delivered to the site during construction phases and refuse will be removed from the site during demolition phases. Material delivery will require 5 truck trips per day for the two construction phases and refuse removal will require 5 truck trips per day for the demolition phases.
- Fencing activities will require one day to erect the perimeter at the beginning of the project and one day to dismantle the perimeter at the end. Emissions associated with travel to and from the site for workers erecting the fence were assimilated into the first demolition phase of the project to erect the fence and assimilated into the second paving phase to dismantle the perimeter at the end of the project.
- Traffic control will be necessary for each work day. Emissions associated with travel to and from the site for traffic control workers for each day were added to the total number of worker trips for each project activity and accounted for in total project emissions.

- Tier 2 diesel engines were estimated for half of the construction fleet.
- Carpooling assumed to reduce worker traveling by 50%. Unmitigated worst case (peak day) worker trips would result in 44 commuter vehicles traveling to the site, with carpooling the number of commuter vehicles is reduced to 22, on a peak (worst case) day. Commuter vehicles are assumed to be light duty, using gasoline fuel.

Emissions estimations were calculated based upon the worst case scenario. Actual project emissions will likely be less. Table 4.3-1 provides the details on the project machinery usage during each project phase.

The primary sources of criteria pollutant emissions for the project would result from the use of internal combustion engines during construction activities. Specifically, conventional construction equipment such as a crane, backhoe, bulldozer, excavator, etc., will be utilized. Additional sources of air pollutant emissions include emissions from on-road motor vehicles used to transport materials and personnel to and from the project site, and fugitive dust generated when site is prepared and soil is moved during the bridge replacement process.

Bulldozers, concrete pump trucks, water trucks, and earthmovers were unavailable as options in CalEEMod, therefore the most applicable equipment were substituted and vehicle specifications were calculated based upon the proposed project equipment parameters in Table 4.3-1. While the three sub-phases identified for the project will be associated with varying levels of emissions, CalEEMod generates numbers for the Maximum Daily Emissions as peak day emissions.

Table 4.3-1 Proposed Project Construction Equipment Parameters

PROJECT PHASE/ Construction Equipment (320 days total)	Number of Units	Load Factor (%)	Daily Hours	Dura-tion, days	BHP	Fuel Type
Demolition Phase 1						
Crane	2	75	8	40	255	Diesel
Backhoe with Breaker	1	37	6	40	97	Diesel
Construction Phase 1						
Bore/Drill Rig	1	37	8	115	97	Diesel
Crane	2	75	4	115	226	Diesel
Excavator	2	38	8	115	162	Diesel
Earthmover	2	38	8	115	162	Diesel
Forklift	1	20	6	115	89	Diesel
Cement Truck	2	38	8	115	80	Diesel
Water Truck	2	38	8	115	80	Diesel
Loader	2	37	8	115	64	Diesel
Bulldozer	3	37	8	115	97	Diesel
Paving Phase 1						
Compactor	2	43	8	5	8	Diesel
Roller	4	38	7	5	80	Diesel
Paver	2	42	7	5	125	Diesel
Demolition Phase 2						
Crane	2	75	8	40	255	Diesel

PROJECT PHASE/ Construction Equipment (320 days total)	Number of Units	Load Factor (%)	Daily Hours	Dura-tion, days	BHP	Fuel Type
Backhoe with Breaker	1	37	6	40	97	Diesel
Construction Phase 2						
Bore/Drill Rig	1	37	8	115	97	Diesel
Crane	2	75	4	115	226	Diesel
Excavator	2	38	8	115	162	Diesel
Earthmover	2	38	8	115	162	Diesel
Forklift	1	20	6	115	89	Diesel
Cement Truck	2	38	8	115	80	Diesel
Water Truck	2	38	8	115	80	Diesel
Loader	2	37	8	115	64	Diesel
Bulldozer	3	37	8	115	97	Diesel
Paving Phase 2						
Compactor	2	43	8	5	8	Diesel
Roller	4	38	7	5	80	Diesel
Paver	2	42	7	5	125	Diesel

CalEEMod run results were compiled in three reports for the proposed project: Summer, Winter and Annual. In order to allow the project emissions to be correctly calculated and fit within one year, the equipment was assigned to be working 7 days per week for the purpose of the CalEEMod. This numerical change does not influence the project peak daily or total emissions. Summer and Winter reports are used because the emission factors are seasonally dependent. For this project, Maximum Daily Emissions from the Winter Report were used because they resulted in higher emissions than the Summer Report. Additionally, CalEEMod calculates the Total Project Emissions for comparison against an APCD's project emissions thresholds. Thresholds were compared against the mitigated emissions to most accurately represent the emissions expected with mitigation measures AQ-1.1 through AQ-1.10 applied to the project.

Table 4.3-2 provides a summary of calculated emissions. The total project emissions are well below the 25-ton threshold for any one-criterion pollutant and 10,000 metric ton threshold for carbon monoxide equivalent (CO2e). For full disclosure required under CEQA, calculations for both peak day and total air quality emissions during construction are provided here:

Table 4.3-2 Peak Daily and Total Project Emissions

	Peak Daily Emissions (lbs/day)					Total Emissions (tons, metric tons CO2e)					
Period	**ROC**	**NO_X**	**CO**	**SO_X**	**PM_{10}**	**ROC**	**NO_X**	**CO**	**SO_X**	**PM_{10}**	**CO2e**
Peak Day	2.48	50.49	41.81	0.06	1.94s						
Total						0.33	7.18	5.71	8.58E-3	0.27	814.2
Threshold	**NA**	**NA**	**NA**	**NA**	**NA**	**25**	**25**	**25**	**25**	**25**	**10,000**

The APCD's peak daily and total significance thresholds for mass emissions of air pollutants are intended to help identify potential localized violations of ambient air quality standards. When the thresholds are not exceeded, as is the case for the subject project, no violation of an ambient air quality standard would be expected to occur.

The State of California identified Diesel Particulate Matter as a toxic air contaminant in 1998. It is assumed as a worst-case scenario for purposes of this analysis that all particulate matter emitted from construction equipment operated during project execution is in the form of diesel particulate matter. As shown in Table 4.3-2, Maximum Daily PM_{10} emissions from the project construction diesel engines have been estimated at 1.94 lbs/day. Considering that these emissions are well below the APCD adopted significance threshold of 80 lbs/day for operation and are short-term, and the nearest residences are over 1 mile (5,280 feet) northwest from the project site (1.5 miles via road), significant health impacts are not anticipated.

The APCD has adopted the 2010 Clean Air Plan (CAP) (SBCAPCD 2010) that focuses on how the County will attain the State 1-hour ozone standard. The 2010 CAP includes an inventory of emission sources within the County and is used as the basis for implementing control measures intended to meet attainment of the State 1-hour ozone standard. Construction emissions and emissions from mobile sources are estimated and included in the 2010 CAP emissions inventory. The proposed project involves only construction component with no long-term sources of emissions, nor will it lead to growth that was not considered in the 2010 Clean Air Plan. Standard dust control measures identified by the APCD are listed below, and are mandatory for a project to be considered consistent with the CAP. Considering the above, the proposed project is expected to be consistent with the 2010 CAP.

(b.) The project would not create objectionable smoke, ash, or odors. Only construction machinery with internal combustion engines would be utilized at the project site. These pieces of equipment do not produce significant smoke, ash or odors. The construction equipment is required to be maintained per the manufacturers' specifications - see mitigation measure AQ-1.4, which will reduce likelihood of these impacts. The project is short term and does not have any operational impacts.

(c.) Dust control mitigations will be implemented as described below. There would be no operational emissions associated with the proposed project.

(d, e.) The County's methodology to address Global Climate Change in CEQA documents is evolving. The County is currently working to develop a Climate Action Plan consistent with CEQA Guidelines Section 15183.5 (Tiering and Streamlining the Analysis of Greenhouse Gas Emissions). Until the Climate Action Plan is formally adopted, the County will follow an interim approach to evaluating GHG emissions. This interim approach will look to criteria adopted by the San Luis Obispo County Air Pollution Control District (SLOAPCD) for land use development projects.

The proposed project is short term and will produce less than significant impacts from emissions of criteria pollutants. Total project emissions for NOx and ROC are below 25 tons. Greenhouse gases are typically characterized for long-term projects that have operational emissions. Emissions of greenhouse gases would be significantly below 10,000 metric tons of CO_2 equivalent. Due to the short-term nature and small scope of the project, the greenhouse gas impact is considered less than significant.

Mitigation and Residual Impact:

The 2010 Clean Air Plan included mandates pertaining to APCD New Rule 345, Control of Fugitive Dust from Construction and Demolition Activities, to fulfill the Senate Bill 656 requirements. The following measures are expected to further reduce potential air quality impacts and address the standards of the newly adopted Rule 345.

AQ-1 Air Quality BMPs.
The following Best Management Practices (BMPs) shall be incorporated into the project to minimize potential air quality impacts:

1. Project-related dust shall be kept to a minimum with a goal of retaining dust on-site. During vegetation removal, mowing, earth moving, excavation, or transportation of materials, a water truck will be used as necessary to prevent dust from leaving the site.
2. The bridge replacement contractor shall designate a person to monitor the dust control program and to order increased watering as necessary, to prevent transport of dust off-site.
3. The contractor shall use, whenever feasible:
    - heavy-duty diesel powered construction equipment manufactured after 1996 (with federally mandated "clean" diesel engines);
    - catalytic converters on gasoline-powered equipment or diesel catalytic converters if available;
    - electric equipment instead of diesel powered equipment if grid power is available, (this measure is not applicable to the current project because grid power is not readily available at the site; however, it is listed for completeness);
    - minimum practical engine size of construction equipment;
    - smallest practical number of simultaneously operating construction equipment.
4. Construction equipment shall be maintained consistent with manufacturer's specifications. All equipment shall be checked and tuned to ensure efficient operation.
5. Speed of travel on unpaved areas shall be limited to 15 mph or less.
6. The contractor shall implement carpooling and vehicle trip reduction mitigations to the extent possible.
7. Trucks transporting soil or other bulk materials (if any) to and from the site shall be tarped from the point of origin.
8. The contractor shall minimize visible roadway dust from track-out/carry-out and remove visible roadway dust at the conclusion of each work day.
9. Demolished structures will be directed inward toward the existing structure (this measure is not applicable to the current project; however, it is listed for completeness)
10. Soil stockpiled for more than two days shall be covered, kept moist, or treated with soil binders to prevent dust generation.

Plan Requirements and Timing: These measures shall be included in the project specifications. **Monitoring**: The County Resident Engineer (RE) shall ensure the measures are fully implemented.

Mitigation measures are provided in number sequence above.

With the incorporation of these measures, residual impacts of construction-related air quality impacts will be reduced to a level of less than significant.

There will be no long-term air quality impacts. There are numerous construction projects occurring in the Santa Barbara Air District. However, because the project is short term and has no operational emissions, cumulative impacts are considered less than significant and mitigated to the fullest extent with the proposed required mitigation measures.

4.4 BIOLOGICAL RESOURCES

Will the proposal result in:	Poten. Signif.	Less Than Signif w/ Mitigation	Less Than Signif	No Impact	Reviewed Under Previous Document
Flora					
a. A loss or disturbance to a unique, rare or threatened plant community?		X			
b. A reduction in the numbers or restriction in the range of any unique, rare or threatened species of plants?				X	
c. A reduction in the extent, diversity, or quality of native vegetation (including brush removal for fire prevention and flood control improvements)?		X			
d. An impact on non-native vegetation whether naturalized or horticultural if of habitat value?		X			
e. The loss of healthy native specimen trees?		X			
f. Introduction of herbicides, pesticides, animal life, human habitation, non-native plants or other factors that would change or hamper the existing habitat?		X			
Fauna					
g. A reduction in the numbers, a restriction in the range, or an impact to the critical habitat of any unique, rare, threatened or endangered species of animals?		X			
h. A reduction in the diversity or numbers of animal's onsite (including mammals, birds, reptiles, amphibians, fish or invertebrates)?		X			
i. A deterioration of existing fish or wildlife habitat (for foraging, breeding, roosting, nesting, etc.)?		X			
j. Introduction of barriers to movement of any resident or migratory fish or wildlife species?				X	
k. Introduction of any factors (light, fencing, noise, human presence and/or domestic animals) which could hinder the normal activities of wildlife?		X			

4.4.1 Introduction and Methods for Biological Resource Surveys

The following discussion is based on the results of a Biological Resources Report (BRR) prepared for the Jalama Road Bridge 17 Replacement Project by Garcia and Associates in January 2014. The BRR is provided under separate cover and available for review in the project file. The report included biological surveys for flora and fauna in the project area, as well as detailed vegetation mapping and a delineation of wetlands and streams. The results are also based in part on the Natural Environment Study (NES) and Biological Assessment (BA) prepared by Padre Associates in 2003. Although the NES and BA were based on a seismic retrofit design, the surveys encompassed the same biological study area. Studies conducted to

assess potential occurrence of, and project-related effects on, sensitive biological resources included those listed below.

- Vegetation mapping and general botanical surveys;
- Rare plant surveys;
- Counts of native trees subject to removal;
- An evaluation of Jalama Creek as habitat for California red-legged frog, steelhead, western pond turtle, and two-striped garter snake;
- An evaluation of bat habitat within the environmental study limits; and general wildlife surveys;
- Protocol surveys for California red-legged frog;
- Surveys for bats;
- Protocol surveys for least Bell's vireo and southwestern willow flycatcher; and
- A delineation of wetlands and other waters of the U.S. and waters of the State.

Following the completion of the surveys, vegetation types were described and lists of plants and wildlife observed were compiled (see Appendices B and C).

The Biological Study Area (BSA) included the bed and banks of Jalama Creek 500 feet upstream and downstream of Bridge 17, as well as 50 feet on either side of the centerline of the channel. The BSA also included upland areas to the north and south of Jalama Road, and extended along the road for 185 feet to the east and 205 feet to the west of the bridge. These upland areas included proposed roadway improvements, disturbance needed to access the construction zone, and staging area. Total area of natural habitats in the BSA is 10.46 acres. Subsequent to the surveys, some components of the project were deleted from the project description, including two of the staging areas and the dirt access road. As such, the area within the Construction Impact Area (CIA, area subject to disturbance due to construction activities) is substantially smaller. There is a total of 1.16 acres of natural habitats in the CIA. These are described below in section 4.4.2 "Results of Biological Resource Surveys."

Vegetation mapping and general biological resource surveys (plants and animals) for the NES and BA based on the seismic retrofit design were conducted in the study area by Padre Associates in 2000, 2001, and 2003. New surveys, including protocol-level surveys, based on the bridge replacement design, were conducted by Garcia and Associates in 2009 on February 22, April 1, 3, 10, and 14, May 15, June 11, 19, and 24. A larger BSA was surveyed by Garcia and Associates on April 10, 11, 19, May 5, 6, and June 13 and 15, 2011, and July 28, 2013. Protocol surveys for least Bell's vireo and southwestern willow flycatcher were conducted April 12 and July 28, 2011. The delineation of wetlands and other waters was conducted on April 11 and 19, 2011. The wetland delineation report is included as Appendix D. An additional bat evaluation was conducted on December 1, 2013 and is described in the Biological Resources Report (Garcia and Associates 2014).

Sources consulted included: a list of special-status species for the Lompoc Hills USGS 7.5-minute quad provided by USFWS in 2011, an updated species list specific to the project area from USFWS dated June 8, 2012, Plants of Santa Barbara County (Wiskowski 1988), flora of

the Santa Barbara region (Smith 1998), and the California Natural Diversity Data Base (California Department of Fish and Wildlife (CDFW 2014) that focused on the Lompoc, Lompoc Hills, and Point Conception 7.5-minute USGS quads. All eight quads that are adjacent to the Lompoc Hills quad were reviewed. In addition to the three listed above, the other quads were, Casmalia, Surf, Tranquillon Mountain, Orcutt, Sisquoc, Los Alamos, and Santa Rosa Hills.

Other sources consulted included local and species management plans, environmental impact reports and planning documents from the Jalama Creek area. A detailed list of all sources consulted and cited is available in the BRR.

4.4.2 Results of Biological Resource Surveys

Environmental Setting:

A total of six natural communities was documented within the BSA. Because the project was modified to minimize, among other things, impacts to federal listed fish and other aquatic species, three natural communities (the stream channel ["aquatic bed"], the associated wetlands ["palustrine emergent wetlands"], and arroyo willow riparian scrub) no longer occur within the CIA. Table 4.4-1, below, quantifies the distribution of each habitat type in the BSA, and the subset that is contained within the CIA.

Table 4.4-1 Acreages of Natural Communities within the BSA and CIA

Natural Community Terrestrial or Aquatic	Acres in BSA	Acres in CIA
Coast live oak woodland	2.19	0.03
Central Coast sage scrub	3.31	0.25
Non-native grassland	4.07	0.88
Arroyo willow riparian scrub	0.29	0.00
Palustrine emergent wetland	0.25	0.00
Aquatic bed	0.35	0.00
Total Acreage	**10.46**	**1.16**

VEGETATION:

This section presents descriptions of vegetation and other natural communities within the BSA, including discussions of common and characteristic plant species. Other biological conditions described cover invasive species and common wildlife species in each community.

Coast Live Oak Woodland

This vegetation type is adjacent to the outer edge of arroyo willow riparian scrub, mostly on the western side of the BSA. The areas of Coast live oak woodland in the BSA and CIA are 2.19 acres and 0.03 acre, respectively (Table 4.4-1). The overstory is dominated by mature coast live oak trees. The understory is comprised of non-native grasses and forbs, including slender wild oats, ripgut grass, soft chess, mustard, and Italian thistle.

Central Coast Sage Scrub

As described in Padre (2003b), this vegetation type is found mixed with riparian scrub on the upper and lower banks of Jalama Creek. The acreages of Central Coast sage scrub in the BSA and CIA are 3.31 and 0.25, respectively (Table 4.4-1). Common and characteristic plants in Central Coast sage scrub include coyote brush, poison oak, California sagebrush, and sticky monkeyflower. Within the CIA, there are several small coast live oak trees (all less than 6-inch diameter-at-breast-height) in an area dominated by Central Coast sage scrub.

Non-native Grassland

Padre reported a combination of grazed pasture (non-native grassland) and cropland in the BSA. No cropland was observed in 2009 or 2011. The amounts of non-native grassland in the BSA and CIA are 4.07 and 0.88 acres, respectively (Table 4.4-1). The non-native grassland habitat in the project area is dominated by non-native grasses and forbs. Common and characteristic plants are ripgut grass, soft chess, slender wild oats, Italian thistle, bull thistle, milk thistle, mustard, yellow star-thistle, and Italian rye-grass. The level pasture areas, as well as the upper banks of Jalama Creek on the east and west sides, have been grazed intensively by cattle in recent years. The cattle also graze in the creek channel in spring and early summer downstream of the bridge. By early July 2009 and 2011, the creek channel upstream and downstream of the bridge exhibited signs of livestock disturbance (removal of vegetation by trampling and grazing).

Arroyo Willow Riparian Scrub

Arroyo willow riparian scrub occurs in the BSA primarily on the creek banks. Due to the change in project type (from seismic retrofit to bridge replacement) there is no riparian scrub in the CIA and there will be no impacts to this vegetation type. The dominant shrub/small tree is arroyo willow. Scattered larger trees include red willow and coast live oak. The latter is found on the outer edge of this vegetation type where it intergrades with upland types. Other plant species in riparian scrub include mugwort, wild blackberry, poison oak, and California figwort. Occasional coyote brush shrubs are found, mostly at the outer edges of riparian scrub.

The area of arroyo willow riparian scrub within the BSA is 0.29 acre (Table 4.4-1). This natural community does not occur in the CIA.

Palustrine Emergent Wetland

Palustrine emergent wetland occurs on the creek bank terraces adjacent to the channel, as well as on sandbars in the channel that have formed from transported soil material accumulating at certain points. Vegetation is comprised of rooted emergent vegetation, such as narrow-leaved cattails, giant horsetail, seaside heliotrope, brown-headed rush, common spikerush, rabbitsfoot grass, saltgrass, and barnyard grass. The areas of palustrine emergent wetland form a transition between open water and riparian scrub. The amount of this wetland type in the BSA is 0.25 acre. This wetland type does not occur in the CIA.

Aquatic Bed

Aquatic bed occurs within the wetted perimeter of the active channel and is characterized by watercress, seaside heliotrope, spikerush, and rabbitsfoot grass. Pools of water in this type

varied from 1 to 18 feet in width and from 3 inches to 2 feet in depth. The amount of riverine aquatic bed in the BSA is 0.35 acre (Table 4.4-1). This wetland type does not occur in the CIA.

WILDLIFE:

Jalama Creek and its riparian habitat provide important habitat for wildlife. The project area supports a large variety of common bird wildlife species. Wildlife surveys of the project area recorded a wide range of wildlife species diversity and an overall high number of bird species.

Wildlife observed in the project area included larger mammals such as coyote, mule deer, wild hog, raccoon, and Virginia opossum, and smaller mammals such as brush rabbit and Botta's pocket gopher. Raptors included red-tailed hawk, American kestrel, and turkey vulture. Smaller birds included Pacific slope flycatcher; ash-throated flycatcher, oak titmouse, bushtit, house wren, purple finch, Anna's hummingbird, and Nuttall's woodpecker. Other species observed included western fence lizard, northern Pacific tree frog, California red-legged frog, and western pond turtle.

WILDLIFE CORRIDORS:

As described in Padre (2003b), corridors used by wildlife for migration and travel are areas with sufficient cover and other values that link areas of habitat together. Jalama Creek has a variety of vegetation types within and adjacent to its banks. Riparian habitat is not continuous along the creek; however, the mix of riparian, Central Coast sage scrub, oak woodland, wetlands, and other types that provide cover and foraging opportunities make the creek bed and banks a valuable movement corridor in the region. Observations made in 2000, 2001, 2003, 2009, and 2011 support this conclusion. Mule deer and coyotes have been observed in the creek bed. Tracks of several other mammals were noted, including opossum, striped skunk, and raccoon. This reach of Jalama Creek is also a migration corridor for aquatic species. Although it does not include spawning or rearing habitat for steelhead, it is a migration corridor for that species to travel between the Pacific Ocean and spawning areas further upstream. California red-legged frog and western pond turtles were observed in the BSA, including juveniles of both species. Jalama Creek provides a route of dispersal for these subadults.

INVASIVE PLANT SPECIES:

There is potential for the transport of invasive plant seeds to nearby natural communities, including Central coast sage scrub and Coast live oak woodland. Of the non-native species observed by Padre (2003b) and during the 2009-2011 surveys, five are included on either the Natural Resource Conservation Service's list of noxious weeds in California (U.S. Department of Agriculture 2013) or the California Invasive Species Advisory Committee (2013) Invasive Species List (a list compiled from the California Department of Food and Agriculture list, the Cal-IPC Invasive Plant Inventory, and Weeds of California book/list):

- Italian thistle
- Milk thistle
- Yellow star-thistle
- Poison-hemlock
- Fennel

HABITATS OF CONCERN:

Santa Barbara County considers oak woodlands, oak forests and individual oak trees as important biological resources. The County Deciduous Oak Tree Protection and Regeneration Ordinance (Ordinance # 4490) was adopted in 2003 to protect valley and blue oaks. The County's Grading Ordinance was subsequently revised to include native oak tree removal (Ordinance # 4491) which included coast live oak. The ordinance set limits on the number of oak tree removals and required replacement thresholds. Valley oak trees are considered protected when they are six inches in diameter at breast height (four feet). Coast live oaks are considered protected if they are at least eight inches diameter at breast height. Oak trees in the Coastal Zone are also protected by the Coastal Zoning Ordinance (Article II) with the same required replacement threshold if they are at least eight inches diameter at breast height.

The State of California also recognizes oak forests as important biological resources. Senate Concurrent Resolution 17 (Protection of Oaks) identifies four species of native oaks (valley oak, blue oak, coast live oak, and Engelmann oak) as sensitive biological resources, and requires that impacts to oak habitats be avoided or lessened, and that losses be mitigated.

SPECIAL-STATUS PLANT SPECIES:

Special-status plant species are either listed as endangered or threatened under the federal or California Endangered Species Acts, or rare under the California Native Plant Protection Act. In addition, they may be considered to be rare or of scientific interest (but not formally listed) by resource agencies, professional organizations (e.g., Audubon Society, California Native Plant Society) and the scientific community.

Four listed species potentially occur in the region: seaside bird's-beak (*Cordylanthus rigidus* ssp. *littoralis*), Gaviota tarplant (*Deinandra increscens* ssp. *villosa*), Lompoc yerba santa (*Eriodictyon capitatum*), and Gambel's watercress (*Rorippa gambelii).* No individuals of these species were found during the surveys. There is no habitat for Gambel's watercress in the BSA or CIA. In addition, Vandenberg monkeyflower (*Diplacus vandenbergensis* = *Mimulus fremontii* var. *vandenbergensis*), recently proposed for federal endangered status, also occurs in the region, but is not known from the vicinity. All would have been visible at the time of the surveys. In addition to those five species, there was potential for 15 special-status plants in the BSA, including:

- Hoover's bent grass (*Agrostis hooveri*)
- Santa Ynez ground-star (*Ancistrocarphus keilii*)
- La Purisima manzanita (*Arctostaphylos purissima*)
- Sand mesa manzanita (*Arctostaphylos rudis*)
- Eastwood's manzanita (*Arctostaphylos tomentosa* ssp. *eastwoodiana*)
- Coulter's saltbush (*Atriplex coulteri*)
- Straight-awned spineflower (*Chorizanthe rectispina*)
- Dune larkspur (*Delphinium parryi* ssp*. blochmaniae*)
- Mesa horkelia (*Horkelia cuneata* ssp. *puberula*)
- Kellogg's horkelia (*Horkelia cuneata* ssp. *sericea*)
- Pale-yellow layia (*Layia heterotricha*)
- Santa Barbara honeysuckle (*Lonicera subspicata* var. *subspicata*);
- Hoffman's sanicle (*Sanicula hoffmannii*)
- Black-flowered figwort (*Scrophularia atrata*)

- Rayless ragwort (*Senecio aphanactis*)

The California Natural Diversity Database (CNDDB) and the California Native Plant Society's online 8th edition of the Inventory of Rare and Endangered Plants were queried for results on nine quadrangles including and surrounding the Lompoc Hills quadrangle, where the project is located.

Following are descriptions of the listed and non-listed special-status species with habitat requirements consistent with vegetation types in the BSA.

LISTED SPECIES AND THOSE PROPOSED FOR LISTED STATUS:

Seaside Birds-beak

Seaside birds-beak is state-listed endangered species that is also a California Rare Plant Rank (CRPR) List 1B hemi-parasitic annual herb. It is a member of the *Orobanchaceae* family and occurs in closed-cone coniferous forests, maritime chaparral, cismontane woodlands, coastal dunes, and coastal scrub and blooms from April to October. No seaside birds-beak was found in the BSA. It is not expected to occur in the CIA.

Gaviota Tarplant

Gaviota tarplant is a federal- and state-listed endangered species, as well as a plant included on the CRPR List 1B. This late-flowering annual in the sunflower family (*Asteraceae*) grows in coastal bluff scrub, coastal scrub, and grassland. It has been reported from the vicinity of Alcatraz Canyon and Gaviota north along the coast past Lompoc toward Pt. Sal. Critical habitat for this taxon is 2.5 to 3 miles southwest of the BSA. No Gaviota tarplants were found during the rare plant surveys. This species is not expected to occur in the CIA.

Vandenberg Monkeyflower

Vandenberg monkeyflower is a species recently proposed for federally-listed endangered status (USFWS 2013a). It is found on sandy soils within vegetation canopy openings in Burton Mesa chaparral habitat. It is an annual plant that grows from 3 to 10 inches in height. Vandenberg monkeyflower is in the figwort family (*Scrophulariaceae*). This taxon occurs only on the Burton Mesa at locations more than 10 miles from the BSA. Critical habitat has been proposed for this species; all units of the proposed critical habitat are in the Burton Mesa area (USFWS 2013b).Habitats in and near the BSA were not suitable for Vandenberg monkeyflower. No individuals of this taxon were found during the rare plant surveys. It is not expected to occur in the CIA.

Lompoc Yerba Santa

Lompoc yerba santa is a federally-listed endangered, state-listed rare, and CRPR List 1B species. It is a shrub in the waterleaf family (*Hydrophyllaceae*). It grows up to 10 feet in height and is currently known from a limited number of locations in northern Santa Barbara County. It has been reported from coastal sage scrub, chaparral, and Bishop Pine forest in the Santa Ynez Mountains, Solomon Hills, and on the Burton Mesa. Critical habitat for this species occurs about

1.5 miles east-southeast of the BSA. This species was not found in the BSA during the rare plant surveys. Based on survey results, it is not expected to occur in the CIA.

NON-LISTED SPECIAL-STATUS SPECIES:

Hoover's Bent Grass

Hoover's bent grass is endemic to California, where it is known only from western San Luis Obispo and Santa Barbara counties. It is a CRPR List 1B species. It grows in woodland and chaparral in hilly terrain. This is a perennial grass growing in tufts 12 to 31 inches tall. The inflorescence is an array of thin branches bearing tiny spikelets each a few millimeters long. This species was not found during the surveys. It is not expected to occur in the CIA.

Coulter's Saltbush

Coulter's saltbush is a CRPR List 1B perennial herb. It is a member of the *Chenopodiaceae* family. It occurs in coastal bluff scrub, coastal dunes, coastal scrub, and valley and foothill grasslands and blooms from March to October. No Coulter's saltbush was found in the BSA. It is not expected to occur in the CIA.

Straight-awned Spineflower

Straight-awned spineflower is a CRPR List 1B annual herb. It is a member of the *Polygonaceae* family. It occurs in chaparral, cismontane woodlands, and coastal scrub and blooms from April to July. No straight-awned spineflower were found in the BSA. It is not expected to occur in the CIA.

Mesa Horkelia

Mesa horkelia is a CRPR List 1B perennial herb. It is a member of the *Rosaceae* family. It occurs in maritime chaparral, cismontane woodlands, and coastal scrub and blooms from February to September. No mesa horkelia were found in the BSA. It is not expected to occur in the CIA.

Kellogg's Horkelia

Kellogg's horkelia is a CRPR List 1B plant. A perennial herb in the rose family (*Rosaceae*), it occurs in closed-cone coniferous forest, maritime chaparral, and coastal scrub, often in sandy or gravelly soils. It grows from 8 to 24 inches in height and is known from coastal areas in Santa Barbara County. The closest CNDDB record is about 2.4 miles east-southeast of the BSA. No plants of this taxon were found during the rare plant surveys. It is not expected to occur in the CIA.

Pale-Yellow Layia

Pale yellow layia is a CRPR List 1B plant that occurs in pinyon-juniper and other forms of woodland, as well as grassland areas. It is a member of the *Asteraceae* family that has a flowering period of March through June. This species was not found during the rare plant surveys and is not expected to occur in the CIA.

Santa Barbara Honeysuckle

Santa Barbara honeysuckle is a member of the *Caprifoliaceae* or honeysuckle family and has a CRPR of 1B. The habitats in which it is found include chaparral, cismontane woodlands, and coastal sage scrub at elevations from sea level to 3,300 feet. This species was not found during surveys of the project area. Santa Barbara honeysuckle is a perennial evergreen shrub and would have been identifiable at the time of the surveys if it was present. This species is not expected to occur in the CIA.

Hoffmann's Sanicle

Hoffmann's sanicle is a CRPR List 4 perennial herb. It is a member of the *Apiaceae* family. It occurs in broad-leaved upland forests, coastal bluff scrub, chaparral, cismontane woodlands, coastal scrub, and lower montane coniferous forests and blooms from March to May. No Hoffmann's sanicle was found during the surveys. It is not expected to occur in the CIA.

Black-flowered Figwort

Black-flowered figwort is a CRPR List 1B species. It is a perennial herb that grows from three to four feet in height and has maroon to black colored flowers. It is a member of the figwort family (*Scrophulariaceae*). Black-flowered figworts are found in a variety of habitats, including closed-cone coniferous forest, coastal scrub, chaparral, coastal dunes, and riparian scrub in Santa Barbara and San Luis Obispo counties. It was not found in the BSA during either the 2001 or 2011 rare plant surveys. In 2011, it was found adjacent to the BSA. Based on survey results, its occurrence in the BSA is unlikely, but possible, given that there is 3.60 acres of suitable habitat. Within the CIA, this species is not expected to occur since it was not found during field surveys and suitable habitat is limited to Central Coast sage scrub (0.25 acre in the CIA).

Rayless Ragwort

Rayless ragwort is a CRPR List 2 annual herb. It is a member of the *Asteraceae* family. It occurs in chaparral, cismontane woodlands, and coastal scrub and blooms from January to April. No rayless ragwort was found in the BSA. It is not expected to occur in the CIA.

SPECIAL-STATUS WILDLIFE SPECIES:

Twenty-seven wildlife species of concern were evaluated at the beginning of project. The potential occurrence of each species was assessed based on the available data sources. Several species were eliminated from further consideration due to a lack of habitat in the BSA, or because the project area appeared to be out of the species' distributional range. It should be noted that all species were searched for during the field surveys, including those considered unlikely to be present.

Species with the highest likelihood of occurring in the BSA included southern California steelhead, California red-legged frog, western pond turtle, two-striped garter snake, yellow warbler, grasshopper sparrow, Yuma myotis, and American badger. Those species are described further below along with other special-status species with potential to occur in the CIA. In addition, protocol surveys were conducted for least Bell's vireo and southwestern willow flycatcher; those two species are also discussed below.

Southern California Steelhead

The southern California steelhead is a federally-listed endangered species and California species of special concern. The project area is within the Southern Evolutionarily Significant Unit (ESU) of the southern California steelhead. In addition, Jalama Creek in the BSA is within the Arroyo Hondo Hydrologic Sub-area (331510) of the South Coast Hydrologic Unit (3315) of designated critical habitat for the southern California steelhead Distinct Population Segment (DPS) (NMFS 2005). The area of critical habitat within the BSA is 0.35 acre. Because no work will be done in the creek channel, there is no steelhead habitat in the CIA.

Steelhead are an anadromous form of rainbow trout. They spawn in freshwater, but spend much of their adult lives in the ocean. This is a "winter run" species, indicating that the adults return to coastal streams during winter months to spawn. In reality, the in-migration to spawn can be stretched out beyond just winter months. Adults enter streams from November to May, depending on the timing and amount of precipitation. Spawning occurs between December and June, with a peak in February and March. In coastal Santa Barbara County streams, in-migration occurs mostly between December and April. Spawning occurs in cool, clear, well-oxygenated freshwater streams with appropriate depth, substrate, and flow velocity. Redds (spawning beds) are excavated by the female in clean gravels. Steelhead eggs are deposited in gravels and hatch in 30 to 90 days. Fry generally emerge during April and May, and juvenile steelhead will spend between one and seven years in freshwater before out-migrating to the ocean. They will spend two to four years in the ocean before returning to spawn. Unlike other Pacific salmon, steelhead are capable of spawning more than once before they die.

Padre (2003a, 2003b) reviewed information available through literature, data bases, and professional contacts. Steelhead have been reported in Jalama Creek historically and in recent years. As recently as 1994, a 25-inch-long gravid female was collected by CDFW biologists near the upstream limit of the lagoon, but because of access restrictions, no comprehensive stream surveys have been conducted beyond the upstream boundary of Vandenberg Air Force Base (VAFB) (M. Cardenas, pers. comm., 2003, cited in Padre [2003b]). Swift (2000) has reported that the reach of Jalama Creek within the boundaries of VAFB, four miles downstream from the BSA, provides a migration corridor, spawning habitat, and rearing habitat. A steelhead habitat and recovery assessment of Santa Barbara County streams was conducted by Stoeker and Conception Coast Project (2002). The report concluded that the reach through the BSA had moderate habitat quality; however, two passage barriers (culverted crossings) of moderate severity occur between the mouth and the BSA.

Steelhead were not observed during surveys conducted by Padre (2003a) in 2001 and 2003. The Padre (2003b) NES concluded that the BSA was unlikely to be suitable for spawning or rearing, but could be used as a migration corridor by steelhead during high runoff flows. Similar to Padre 2001 and 2003 survey results, no steelhead were observed during the field surveys conducted by Garcia and Associates in 2009 to 2011.

Steelhead migrating habitat within the BSA includes the channel, which averages about 15 feet wide, for a length of 500 feet upstream and downstream of the bridge. As such, the BSA contains 0.35 acre of steelhead migration habitat. Steelhead habitat does not occur in the CIA.

California Red-legged Frog

The California red-legged frog (CRLF) is a federally listed threatened species and a state species of special concern in California. Critical habitat has been designated for the CRLF since 2003 (USFWS 2006). Although the critical habitat does not include the project area, it is within one mile of the BSA.

CRLF breed between November and late April in pond habitats (Jennings and Hayes 1994), but up to mid- to late May in stream habitats (T. Olson, personal observations). Overhanging branches, submerged roots, and undercut banks are used as escape cover. Within the BSA, CRLFs were observed using shotcrete scour protection as cover. Individual frogs were sighted swimming under the shotcrete (T. Olson, personal observation 2009).

Surveys for CRLFs were conducted in 2001 by Padre biologists (Padre 2003a) and in 2009 by Garcia and Associates biologists. Garcia and Associates biologists had six observations of CRLF in the BSA during the April 1, 2009 survey.

All of the observations described above were within the BSA. Three of the sightings, including two subadults, one adult, and CRLF larvae, were located in water under the bridge. None of the observations were within the CIA of the project.

CRLF breeding habitat within the BSA includes the channel, which averages about 15 feet wide, for 500 feet upstream and downstream of the bridge. As such, the BSA contains 0.35 acre of CRLF breeding habitat. There is no breeding habitat in the CIA; no work will be done in the channel. CRLF dispersal habitat is assumed to include bed and banks of the creek (including areas near the top of banks), not just the flowing stream channel. Some upland habitat near the creek banks could be used as well during movements. The amounts of upland habitat that CRLF could use during movements include 3.46 acres in the BSA and 0.25 acre in the CIA.

Western Pond Turtle

The western pond turtle (WPT) is a California species of special concern. It is an aquatic turtle inhabiting streams, marshes, ponds, and irrigation ditches within woodland, grassland, and open forest communities. However, it requires upland sites for nesting and overwintering.

Stream habitats for this species usually contain large, deep pool areas (three to six feet deep) with moderate plant and debris cover, rock and cobble substrates for escape retreats, and basking sites. Objects used as basking sites are in or near the water and include rocks, downed limbs and trunks, mats of emergent vegetation, scour protection and even stream banks. GANDA biologists observed WPT using the last two objects (scour protection and stream banks) as basking sites in the BSA during the 2009 surveys.

The BSA and CIA contain suitable habitat for the WPT. This species is expected to utilize the creek channel and some of the areas on adjacent banks as habitat, including dispersal habitat. Dispersal by this species would occur mostly along the creek channel and adjacent banks. The amount of pond turtle dispersal habitat in the BSA is 0.58 acre. Because no work will be done in the channel or on the banks, the CIA is not expected to be used as dispersal habitat. However, female pond turtles could use upland vegetation types in the CIA for nest sites. This species is known to move up to 0.5 mile from the creek channel to nest. It is unlikely that this species

would nest in proximity to the creek channel (in aquatic bed or palustrine emergent wetland), but could use the riparian and upland habitats in the BSA. As such, the BSA contains 9.86 acres of potential nesting habitat. Pond turtles are not expected to nest in the work areas adjacent to Jalama Road and the bridge, but could use the staging area for nesting. There is 0.80 acre of potential nesting habitat for pond turtles in the CIA.

Two-striped Garter Snake

The two-striped garter snake is a California species of special concern that occurs along the central and southern California coastal streams from Monterey County to northern Baja California. It is a highly aquatic species, and is dependent on freshwater aquatic habitats for breeding and foraging. It is typically found in streams, ponds, and reservoirs with permanent water and sufficient emergent vegetation. It appears to prefer relatively slow-moving waters in small streams with a large prey-base of tadpoles, frogs, and fish.

The two-striped garter snake has been reported in the lower reaches of Jalama Creek within the boundaries of VAFB. No individuals of this species were observed during surveys.

Potential two-striped garter snake breeding habitat in the BSA includes 0.35 acre. There is no breeding habitat in the CIA. The amounts of two-striped garter snake dispersal habitat within the BSA and CIA are 0.83 and 0.25 acres, respectively.

Raptors

Common and special-status raptors could forage over the natural habitats in the BSA and CIA and possibly nest in oak woodland. Some species could occur as winter residents, but not nest in the area. Raptors observed during field surveys included common species, such as red-tailed hawk, American kestrel, and turkey vulture. The habitat in the CIA is not optimal. The oak woodland is adjacent to the road and the Central Coast sage scrub is disturbed to various degrees by its proximity to the road as well. Most of the non-native grassland in the CIA is in the staging area, which has been heavily impacted by cattle. The vegetative cover and prey base in the staging area are relatively low. Although Botta's pocket gopher burrows were observed there, no California ground squirrel burrows were found. Similarly, no ground squirrel burrows were found in areas surrounding the staging area. Some special-status species could forage over the natural habitats of the CIA, or could nest or roost in the small amount of oak woodland in the CIA. Species such as golden eagle, ferruginous hawk, and peregrine falcon could fly over or forage over the 1.16 acres of natural habitat in the CIA on rare to infrequent occasions. Species with the potential to occur on more than a rare basis include:

White-tailed Kite. The white-tailed kite is a California Fully Protected species. It has the potential to forage over open habitats of the BSA and CIA, including non-native grassland and Central Coast sage scrub, and to nest or roost in oak woodland. Use of the CIA and adjacent areas would be on an infrequent basis. Foraging would be more likely than nesting. The amounts of foraging habitat in the BSA and CIA are 7.38 and 1.13, respectively. The acres of potential nesting/roosting habitat in the CIA and BSA are 2.19 and 0.03, respectively.

Northern Harrier. The Northern harrier is California species of special concern. This species is not expected to nest in the BSA or CIA, but could forage over the open habitats (non-native

grassland and Central Coast sage scrub) on an infrequent basis. As such, there are 7.38 acres of foraging habitat in the BSA and 1.13 acres of foraging habitat in the CIA.

Sharp-shinned Hawk. The sharp-shinned hawk, a former California species of special concern, is a winter visitor that utilizes woodland areas and other natural habitats for foraging. It remains on other conservation lists, including on the CDFW watch list. Nesting by this species is unlikely. It could forage in the natural habitats in the BSA (10.46 aces) and CIA (1.16 acres), particularly in the winter. Wintering habitat includes oak woodland (2.19 acres in the BSA and 0.03 acre in the CIA).

Cooper's Hawk. The Cooper's haw a former California species of special concern, is a winter visitor and occasional-to-rare breeding species that utilizes woodland areas for nesting and natural habitats for foraging. It remains on other conservation lists, including on the CDFW watch list. There are 2.19 acres of nesting/wintering habitat in the BSA and 0.03 acre of nesting habitat in the CIA. Nesting by this species would be on an infrequent basis. It could forage in the natural habitats in the BSA (10.46 aces) and CIA (1.16 acres), particularly in the winter.

Mountain Plover

The mountain plover is a California species of special concern. It does not nest in Santa Barbara County, but is a known wintering species on VAFB. Areas used during the winter are characterized by short vegetative cover, such as fallow cropland and heavily grazed grassland. There are 4.01 acres of non-native grassland in the BSA that could be used by this species in the winter. The 0.80 acre of non-native grassland in the staging area could potentially be used by wintering mountain plovers, but not by breeding mountain plovers.

Least Bell's Vireo

The least Bell's vireo is an obligate riparian bird species that prefers early successional and structurally diverse riparian vegetation. It is a federal- and state-endangered species. They occur in dense, low, shrubby vegetation, second-growth forest, oak scrub, coastal chaparral, and mesquite shrub lands (USFWS 1998). The most critical component of their summer breeding habitat is dense vegetation from 0.6 to 3 meters (1.96 – 9.8 feet) in height in riparian areas (Kus 2002).

The riparian zone in the BSA contains riparian vegetation that is scattered, poorly developed, and too sparse below 3 meters in height. Protocol-level surveys were conducted for this species in 2011. No least bell's vireos were detected. The sparse arroyo willow riparian scrub vegetation in the BSA (0.29 acre) could be used by migrants on a rare to occasional basis. Nesting by this species is not expected in the BSA. There is no potential breeding or migratory habitat for this species in the CIA.

Southwestern Willow Flycatcher

Southwestern willow flycatcher is a riparian obligate bird species that breeds in dense vegetation along rivers, streams, or other wetlands. The full species (*Empidonax traillii*) is a state-listed endangered species, while the southwestern subspecies (*E. traillii extimus)* is a federal-listed species. Willow flycatchers will utilize dense stands of willows, seepwillows, tamarisk, and other low shrubs for breeding substrate. The most important quality of the

vegetation is that it must be dense throughout all of the layers present. Also, the vegetation must be within 18 meters (approximately 60 feet) of water or very saturated soil. Southwestern willow flycatchers usually arrive on the breeding ground between early May and early June, and breeding takes place from mid-June to the end of July. Several subspecies of willow flycatchers migrate through southern California in early spring, and willow flycatchers call and sing while migrating, so willow flycatcher detections prior to June 15th cannot be assumed to be the southwestern subspecies *E. t. extimus*.

Similar to the least Bell's vireo, the vegetation in the BSA is too poorly developed, especially below 3 meters in height to be considered nesting habitat for this species. During protocol-level surveys conducted for this species, one flycatcher in the *Empidonax* genus was observed on May 29, 2011. Based on the physical characteristics of the bird, it was likely a willow flycatcher, but the subspecies could not be verified. Given the timing of the observation and the fact that no other willow flycatchers were detected during any other survey, the bird observed was likely a migrant that had no affinity to this site. The 0.29 acre of arroyo willow riparian scrub in the BSA could be used during migration on a rare to occasional basis. Nesting by this species is not expected in the BSA. There is no potential breeding or migratory habitat for this species in the CIA.

Yellow Warbler

The yellow warbler is a California state species of special concern (Shuford and Gardali [eds] 2008). This species breeds in riparian habitats, including riparian scrub and riparian woodland. There are records of nesting by yellow warblers on VAFB, along the Santa Ynez River, and in riparian habitat at La Purisima Mission State Historic Park in Lompoc (Lehman 1994, Holmgren and Collins 1999, Gevirtz et al. 2005).

Yellow warblers were detected in the BSA by vocalizations during vireo and flycatcher protocol surveys conducted on May 29 and June 18, 2011. Nesting by this species is possible in the BSA, but in low densities. The scarce amounts of arroyo willow riparian scrub in the BSA also limit the extent of potential breeding habitat for this species. Moreover, riparian vegetation in the BSA is not dense, but rather quite open with poorly developed understory, further reducing the likelihood of nesting. This reach of Jalama Creek could be used by a variety of migrating birds, including yellow warblers. The area of migratory and potential breeding and migratory habitat in the BSA is 0.29 acre. There is no potential breeding or migratory habitat for this species in the CIA.

Southern California Rufous-crowned Sparrow

The southern California rufous-crowned sparrow was formerly a California species of special concern that is included on other lists maintained by conservation organizations. Is an uncommon resident in northern Santa Barbara County, usually in proximity to the coast. It uses drier areas with vegetation types such as chaparral and coastal sage scrub. Southern California rufous-crowned sparrow is known to occur on VAFB. The Central Coast sage scrub areas in the BSA and CIA are potential nesting habitat. As such, there are 3.31 acres of potential nesting habitat for this species in the BSA. The 0.25 acre of Central Coast sage scrub in the CIA occurs mostly along the road and is potential, but not optimal, habitat for this species.

Grasshopper Sparrow

The grasshopper sparrow is a California species of special concern (Shuford and Gardali [eds] 2008). It is a summer resident in the coastal areas of Santa Barbara County. Lehman (1994) reported declining numbers in the county. Nesting habitat is short- to-middle height moderately open grassland with scattered shrubs.

One grasshopper sparrow was observed during the least Bell's vireo and southwestern willow flycatcher surveys on June 28, 2011. It was observed above the channel on the downstream side of the bridge and east of the creek. The bird was observed on a fence in non-native grassland at the edge of Central Coast sage scrub. There were no other sightings of this species. Nesting by this species is possible in the BSA and CIA, primarily in non-native grassland. The amounts of potential breeding habitat in the BSA and CIA are 4.07 and 0.88 acres, respectively.

Bell's Sage Sparrow

Bell's sage sparrow is a former California species of special concern that is included on other lists maintained by conservation organizations. It nests mostly in chaparral habitats, particularly in areas that have been burned. It will also use areas with sage and coyote brush. As such, the 3.31 acres of Central Coast sage scrub in the BSA represent potential habitat. Within the CIA, there are 0.25 acre of Central Coast sage scrub along the road and with varying degrees of disturbance. As such, there is 0.25 acre of potential, but not optimal, habitat for this species in the CIA.

Other Nesting Birds

Other birds could nest on the ground or in shrubs and trees in the natural habitats in the BSA and CIA. As such, there are 10.46 acres of potential nesting habitat in the BSA and 1.16 acres in the CIA. Pre-construction surveys to be conducted will include searches for all species, and will not be limited to special-status species.

Bats

Based on evaluations conducted in June 2009 and December 2013, up to five species of bats are known or have potential to utilize the underside of the bridge (Yuma myotis, California myotis, pallid bat, big brown bat, Mexican free-tailed bat). Note that the big brown bat and California myotis are not species of special concern. Other species of special-status bats (Townsend's big-eared bat, western red bat, and western mastiff bat) were not detected during the bat surveys and are not expected to utilize the CIA.

Bats were detected under the bridge in 2009 using Sonabat technology. A 50 kHz myotis species was recorded that could have been either a California myotis or Yuma myotis, and a 25 kHz species that was likely big brown bat based on appearance and behavior. It was not possible to estimate group size.

During the 2009 survey, there was no indication of a maternity roost on or near the bridge. The expansion joints in the deck are closed and do not provide roosting habitat. The lack of a maternity roost under the bridge was confirmed during the December 2013 survey. Potential

day roosting habitat under the bridge includes one narrow opening on the west side of the bridge (possible use by Yuma myotis or California myotis), as well as inactive cliff swallow nests (possible use by big brown bat or Mexican free-tailed bat). Night roosting habitat was identified at the opposite ends of bridge near the abutments. Staining on small areas on the sides of the bridge were observed, as were insect parts, characteristic of pallid bat night roost sites. The effects on the foraging habitat are likely to be minimal due to the limited night work (restricted to three consecutive nights of work for each of two separate phases).

Yuma Myotis. Yuma myotis is not included on the list of species of special concern in California, but is included on other conservation lists, such as those maintained by Bureau of Land Management (BLM) and the International Union for Conservation of Nature (IUCN). There is approximately 0.05 acre of area on the underside of the bridge, but only a portion has structure that could be used for roosting. This species could use a narrow opening on the west side of the underside of the bridge (described above) as a day roost. Yuma myotis have also been known to day-roost in abandoned cliff swallow nests. There are cliff swallow nests on the bridge. The amount of potential roosting habitat under the bridge is less than 0.01 acre.

Yuma myotis usually forage over open water. For this project, the open water area approximately corresponds with the aquatic bed and emergent palustrine wetland habitats. As such, there is approximately 0.60 acre of foraging habitat along the creek channel within the BSA. Because no work will occur in channel, these two habitats do not occur in the CIA. However, for the purpose of evaluating potential impacts of night work on foraging bats, the area of these two habitats under the bridge and for 200 feet upstream and downstream were calculated. The total along that 425-foot reach of Jalama Creek is 0.28 acre.

California Myotis. California myotis is a common species. It is a crevice-rooster, and as such, could potentially use the same area under the bridge for roosting habitat as that described for Yuma myotis. There is approximately 0.05 acre of area on the underside of the bridge, but only a portion has structure that could be used for roosting. This is less than 0.01 acres. This species also roosts in loose bark of trees, thus 0.03 acre of oak woodland in the CIA could potentially have day roost sites as well.

Foraging habitat includes areas over ground and water, as well as among shrubs and trees. As such, much of the 10.46 acres of natural habitat in the BSA is potential foraging habitat. Within the CIA, the acreage of potential foraging habitat for this species is 1.44 acres, which includes the 1.16 acres of natural habitats plus another 0.28 acre of mostly open water area that occurs from 200 feet upstream to 200 feet downstream of the bridge. The latter area could be affected during the proposed six nights of night work.

Pallid Bat. The pallid bat is a California species of special concern that is likely using small areas at the opposite ends of the bridge as night roosting habitat as described above. This species preys on insects; night roosts can often be detected by finding prey remains (insect parts) on the ground under the roosting area. In the CIA, insect parts were found during the December 2013 survey at the ends of the bridge. This indicated that pallid bats were likely using the underside of the ends of the bridge as night roosting areas. The size of the night roosting areas is less than 0.01 acre.

Pallid bats forage over open areas. In the BSA, there are 4.61 acres of foraging habitat in the BSA (non-native grassland, aquatic bed, and palustrine emergent wetland. Within the CIA, there 0.88 acre of non-native grassland is potential foraging, as is the 0.28 acre of aquatic bed and palustrine emergent wetland within 200 feet upstream and downstream of the bridge (total = 1.16 acres).

Big Brown Bat. The big brown bat is a common species that is a generalist in foraging and a crevice-rooster. It could forage over any of the natural habitats is BSA (10.46 acres) and CIA (1.16 acres). Big brown bats generally nest in crevices. Within the CIA, they could potentially use inactive cliff swallow nests as day roost habitat. The area would be less than 0.01 acre.

Mexican free-tailed Bat. The Mexican free-tailed bat is another common species with potential to forage and roost in and near the CIA. This species forages for insects at various heights above the ground and over a variety of habitats. The 10.46 acres of natural habitat in the BSA represent potential foraging habitat, as do the 1.16 acres in the CIA. With the addition of 0.28 acre of additional foraging habitat that could be affected by the limited night work, the area of potential foraging habitat for this species in the CIA is 1.44 acres.

American Badger

The American badger is a California species of special concern. It is found primarily in open habitats, such as grassland, oak savanna, and coastal scrub. Distinctive burrows are constructed normally in a half-moon shape. Badgers change burrows often, sometimes using several in one month. Prey items include burrowing rodents, such as California ground squirrels and Botta's pocket gopher, that use the same habitats. Badgers are known from the Lompoc area of northern Santa Barbara County. Road-killed individuals have been found on Harris Grade Road and on Highway 1 between Lompoc and the intersection with Highway 101 at Las Cruces (T. Olson, personal observations).

No badgers or badger burrows were found during the field surveys. However, there is potential burrowing and foraging habitat in the CIA. Based on the survey results, the BSA and CIA do not include known burrowing habitat, but do have 9.57 acres and 1.16 acres, respectively, of foraging habitat for this species. Denning occurs in more open habitats such as non-native grassland and oak woodland. Potential denning habitat in the BSA and CIA totals 6.26 and 0.91 acres, respectively.

WETLANDS:

Jalama Creek is hydrologically connected to 'traditional navigable waters' (the Pacific Ocean), and is determined to be both waters of the U.S. and waters of the State. A total of 1,453 linear feet and 0.966 acres of waters of the U.S. and streambeds of the State were detected within the BSA. An additional total of 0.035 acre of wetlands (seeps) were detected. In combination, a total of 3.89 acres of CDFW jurisdiction is present within the BSA, including the bank-to-bank area. One culvert was detected which carries flowing water during rainfall events. This culvert likely also qualifies as waters of the State. Because work will be conducted from the top of banks of the Jalama Creek, wetlands and waters of the U.S. do not occur within the CIA.

- Nearly all of the 3.89 acres subject to CDFW jurisdiction are outside the CIA. One small area at the retaining wall site is in CDFW jurisdiction and a California Fish and Game Code, Section 1602 permit will need to be obtained for that area. This area is characterized by existing disturbance, non-native grassland, and Central Coast sage scrub. The areas of the two natural vegetation types are not expected to exceed 0.01 acre each.

Impact Discussion:

The project may result in the following significant, but mitigable, impacts:

- Three mature coast live oak trees, protected under the County Coastal Zoning Ordinance may be removed due to grading impacts greater than 20% to their critical root zone (CRZ) or be significantly pruned. The project would also cause a temporary loss of 0.03 acre of Coast live oak woodland, requiring mitigation under Public Resources Code Section 21083.4: Oak Woodland Mitigation and Article II of the Santa Barbara Coastal Zoning Ordinance.
- Temporary and permanent impacts to 0.25 acre of Central Coast sage scrub and 0.88 acre of non-native grassland. Non-native grassland is a common and widespread man-induced habitat and no mitigation is proposed aside from post construction re-seeding of the staging area with grasses for cattle grazing (current use of the area). Mitigation would occur incidentally through the revegetation of disturbed areas (including Central Coast sage scrub), as proposed in the restoration plan. Central Coast sage scrub habitat will be restored at an offsite location on Jalama Road to the east. Following prescriptions in the Restoration Plan prepared for this project. The Restoration Plan, which is provided under separate cover and available for review in the project file.
- Potential significant impacts to habitats of Species of Special Concern.
- Potential significant impacts to Species of Special Concern, including sensitive wildlife species.
- Potential construction-related disturbance to nesting birds, including southern California rufous-crowned sparrow, grasshopper sparrow, Bell's sage sparrow, and raptors and other species covered under the federal Migratory Bird Treaty Act (16 USC §§ 703 - 711; 50 CFR Subchapter B); California Fish and Game Code (§3513); and adoption of the federal Migratory Bird Treaty Act, and California Fish and Game Code (§3503.5) for the Protection of Raptors, and California Fish and Game Code § 3503, § 3513, and § 355 – 357 for the possession or taking of nests or eggs.
- Potential construction-related disturbance to bats.
- Potential temporary impacts to water quality from construction in close proximity to the stream.

Construction impacts to federally-listed species were avoided or greatly reduced through the redesign of the project from a seismic retrofit to the currently proposed bridge replacement. Under the revised design, no impacts to southern steelhead or their habitat would result as no work would occur below the ordinary high water mark of the stream. Impacts to California red-legged frog habitat have been reduced to 0.23 acre of temporary impacts and 0.02 acre of permanent impacts to dispersal habitat. Impacts to southwestern willow flycatcher and least Bell's vireo are not expected because there will be no impacts to riparian habitat.

Unless avoidance and minimization measures are implemented, other special-status species observed would be potentially affected by construction near the creek. Without implementation of the avoidance and minimization measures, discussed below, indirect impacts are also likely, including temporary impacts to water quality, which can indirectly affect aquatic species. A complete list of all special-status species considered during the surveys, and detailed species accounts, are provided in the Biological Resources Report (Garcia and Associates 2014), provided under separate cover.

Impacts to specific plant communities and habitats that occur in both the BSA and CIA are quantified in Table 4.4-2, below:

Table 4.4-2 Summary Impacts to Natural Communities in the Construction Area

Natural Community/Land Use Type	Acreage in the Project Area Subject to Impacts		
	Temporary	Permanent	Total
Coast live oak woodland	0.03	0.00	0.03
Central Coast sage scrub	0.23	0.02	0.25
Non-native grassland	0.86	0.02	0.88
TOTAL	1.12	0.04	1.16

The following discussion summarizes the project impacts relative to items (a) through (k) of the checklist for biological resources:

(a.) The project was redesigned from a seismic retrofit to a pre-fabricated bridge replacement to avoid work within the channel of Jalama Creek. No waters of the U.S., including wetlands, will be affected. Nor will any other rare, unique, or threatened plant community be affected. However, three mature coast live oak trees will require significant pruning for clearance , CRZ impacts and may require removal. These oaks do not occur within the "riparian zone" (the zone influenced by the flow of water) but they do occur on the top of the channel bank. Oak tree replacement, at a ratio of 10:1, is included in the biological resource mitigation measure **BIO-14** (Restoration) to offset this impact. The restoration plan is provided under separate cover and is available for review in the project file**. BIO-15** (Protection of Trees) will avoid or minimize any potential accidental or indirect impacts to preserved oaks in close proximity to construction.

(b.) The project would not result in permanent impacts to any rare or special-status plant species. However, one species –black-flowered figwort – was found in Central Coast sage scrub habitat just outside the BSA during 2011 surveys. Although it was not found within the CIA, there is suitable habitat for this CRPR List 1B (non-listed) taxon within the CIA. By implementing **BIO-8 (**pre-construction surveys) for black-flowered figwort, potential impacts to this taxon will be avoided wherever possible or minimized through its addition to the species list in the restoration plan (**BIO-14**).

(c.) The project would result in temporary and permanent impacts to 0.25 acre of coastal sage scrub and 0.88 acre of non-native annual grassland. These are common and widespread native plant communities that are not currently considered rare by the state or CNDDB. Nevertheless, they still provide valuable habitat, including breeding habitat, for a wide variety of special-status species. These impacts would be compensated through the reseeding required in the project

restoration plan (**BIO-14**). The temporary impacts, as shown in Table 4.4-2, and indirect impacts (i.e., impacts occurring at a different time or place) will minimized through the measures in **BIO-2** (Minimization of Disturbance) and **BIO-16** (Weed Minimization Measures).

(d.) The non-native grassland does provide habitat for a wild variety of wildlife, including raptors, grasshopper sparrow, mountain plover, a variety of nesting birds, small mammals and their predators (see section 4.4.2 "Results of Biological Resource Surveys"). The temporary and direct impacts to the habitat will be minimized through the measures in **BIO-2** (Minimization of Disturbance). Indirect impacts to wildlife using non-native annual grassland on-site or within the immediate vicinity will be minimized through **BIO-1** (Timing of Construction and Vegetation Removal), **BIO-3** (Restriction on Night Work and Night Light), **BIO-4** (Environmental Awareness Training), **BIO-5** (Restrictions on Firearms and Pets), and **BIO-7** (Control of Litter).

(e.) It is unclear at this time whether the three coast live oaks near construction can be saved. Consequently, this analysis assumes the trees will be subject to CRZ impacts from grading of greater than 20% and mitigated for as it they were removed. The three oaks are "mature specimen trees" ranging in size from 12 inches to 25 inches diameter-at-breast-height. This impact is compensated at a ratio of 10:1 through the individual container plantings required in the restoration plan **(BIO-14)**. **BIO-15** (Protection of Trees) will ensure no additional specimen trees are directly or indirectly affected.

(f.) The project would not result in the introduction of pesticides, animal life, or human habitation. However, there is the possible use of the herbicide glysophate. If such use is necessary, the impact will be reduced by following practices described in the restoration plan (**BIO-14**) for safe herbicide use. In addition, soils disturbed by construction are rendered vulnerable to invasion by non-native plants, which can alter the existing habitat function and values in many ways. This potential indirect effect would be minimized through **BIO-4** (Environmental Awareness Training) and **BIO-16** (Weed Minimization Measures).

(g.) The project would result in either a reduction in the numbers, or a restriction in the range of the following special-status animals observed within the CIA: Yuma myotis, pallid bat, cliff swallows, raptors, and other nesting birds protected by the Migratory Bird Treaty Act. Additionally, several other species have potential for occurrence in or near the CIA based on known (or reported or likely) sightings nearby, or other factors. These include: California red-legged frog, western pond turtle, two-striped garter snake, yellow warbler, Southern California rufous-crowned sparrow, grasshopper sparrow, Bell's sage sparrow, and American badger. Without implementation of mitigation measures, there may be direct or indirect impacts to these species from construction. These will be avoided or minimized through the following mitigation measures:

Black-flowered figwort: **BIO-2** (Minimization of Disturbance for Construction and Staging); **BIO-8** (Pre-construction Surveys), and, if found and avoidance is not possible, **BIO-14** (Restoration);

Steelhead: BIO-6 (Minimize Potential for Concrete to Enter Creek); **BIO-8** (Pre-construction Surveys); **BIO-9** (Biological Monitoring); and **BIO-10** (Southern California Steelhead Protection Measures);

California red-legged frog: BIO-6 (Minimization of Potential for Concrete to Enter Creek); **BIO-8** (Pre-construction Surveys); **BIO-9** (Biological Monitoring); and **BIO-11** (California Red-legged Frog Protection Measures);

Western pond turtle: BIO-6 (Minimization of Potential for Concrete to Enter Creek); **BIO-8** (Pre-construction Surveys); **BIO-9** (Biological Monitoring), and the revegetation of disturbed upland habitats (potential nesting habitat) in **BIO-2 (**Minimization of Disturbance for Construction and Staging**)** and **BIO-14** (Restoration);

Two-striped garter snake: BIO-6 (Minimization of Potential for Concrete to Enter Creek); **BIO-8** (Pre-construction Surveys); **BIO-9** (Biological Monitoring);

Least Bell's vireo and southwestern willow flycatcher: Impacts to southwestern willow flycatcher and least Bell's vireo are not expected because there will be no impacts to riparian habitat. However, these species will be searched for during pre-construction survey of the CIA [**BIO-2** (Minimization of Disturbance for Construction and Staging) and **BIO-8** (Pre-construction Surveys)];

Yellow warbler, southern California rufous-crowned sparrow, grasshopper sparrow, Bell's sage sparrow, mountain plover, raptors, and nesting birds: BIO-1 (Timing of Construction and Vegetation Removal); **BIO-2 (**Minimization of Disturbance for Construction and Staging**); BIO-8** (Pre-construction Surveys); and **BIO-9** (Biological Monitoring);

American badger: BIO-8 (Pre-construction Surveys) and **BIO-9** (Biological Monitoring);

Bats (including Yuma myotis, California myotis, pallid bat, big brown bat, and Mexican free-tailed bat) and cliff swallows: BIO-8 (Pre-construction Surveys); **BIO-9** (Biological Monitoring); **BIO-12** (Cliff Swallow Protection Measures); and **BIO-13** (Bat Protection Measures).

(h.) The project will cause a minor reduction in the diversity or number of animals on-site (including mammals, birds, reptiles, amphibians, fish or invertebrates) because the footprint of the construction area is small, the area of affected natural habitat is minor, and the habitat impacts do not include aquatic or wetland or riparian habitats. There will be more substantial impacts to species likely to use the bridge or trees and vegetation removed for nesting, like common and special-status bats, cliff swallows, raptors, and other nesting birds, unless mitigation measures for avoiding and minimizing these impacts are implemented. There could also be indirect impacts from the spread of noxious weeds. These impacts would be addressed by **BIO-1** (Timing of Construction and Vegetation Removal); **BIO-3** (Restriction on Night Work and Night Light); **BIO-8** (Pre-construction Surveys); **BIO-9** (Biological Monitoring); **BIO-12** (Cliff Swallow Protection Measures); **BIO-13** (Bat Protection Measures); **BIO-14** (Restoration), **BIO-15** (Tree Protection Measures), and **BIO-16** (Weed Minimization Measures).

(i.) There may be deterioration of existing fish or wildlife habitat (for foraging, breeding, roosting, nesting, etc.) from the introduction and spread of noxious weeds, a temporary impact during construction from the unauthorized use of firearms, bringing pets to the worksite, littering during construction, night lighting and night work, the potential for fire, and allowing concrete to enter the creek. These impacts will be addressed through the implementation of the following

measures: **BIO-1** (Timing of Construction); **BIO-3** (Restriction on Night Work and Night Light); **BIO-4** (Environmental Awareness Training); **BIO-5** (Restrictions on Firearms and Pets); **BIO-7** (Control of Litter); and **BIO-16** (Weed Minimization Measures).

(j.) The project will not cause any permanent or temporary barriers to movement of any resident or migratory fish or wildlife species. No work will be done within the channel of Jalama Creek, including water diversions. The construction vehicles and equipment will not affect movement of any terrestrial species because the barrier is small and temporary and would not include the creek channel.

(k.) Human disturbance and temporary construction are expected to occur and could hinder the normal activities of wildlife using the site or immediate vicinity. These effects will be avoided or minimized through the following measures: **BIO-1** (Timing of Construction); **BIO-3** (Restriction on Night Work and Night Light); **BIO-4** (Environmental Awareness Training); **BIO-5** (Restrictions on Firearms and Pets); **BIO-7** (Control of Litter); and **BIO-9** (Biological Monitoring).

Mitigation and Residual Impact:

The mitigation measures described below are designed to avoid and minimize potential project-related impacts to biological resources resulting from the proposed bridge replacement project. Some measures are designed to avoid impacts; others will reduce the magnitude of impacts to habitats, the species of plants and wildlife that utilize the habitats, and specific special-status species. Some measures are designed for impacts to multiple species but where the species – or the appropriate mitigation – are similar, such as measures to mitigate impacts to bats and nesting birds, or guidelines for pre-construction surveys for a variety of species. Other measures are species-specific, including standardized measures for steelhead and CRLF developed in conjunction with NMFS and USFWS, respectively.

BIO-1: Timing of Construction and Vegetation Removal.
The work schedule for construction involving earth-moving, demolition and other heavy equipment shall coincide with the start of the dry season of the year when water levels in Jalama Creek are low. As such, the potential for offsite impacts to aquatic, riparian, and wetland resources will be minimized. Work that must be performed adjacent to the actual channel and banks of the creek shall be done during the dry season between May 1 and November 30. This will also be the time of year when steelhead would be least likely to travel through the area. Some construction tasks away from the banks may be completed between December 1 and April 30. Impacts to nesting birds shall be minimized by removing vegetation before February 15 or after August 15 (outside the nesting season for most birds). Cliff swallows using the sides of the bridge for nesting will likely have concluded nesting by the end of July. To ensure avoidance of active bird nests, pre-construction surveys shall also be conducted, as described below (BIO-8).

Plan Requirements and Timing: Mitigation measures shall be included in all specifications and bid packages for the project, and shall be shown on all plans prior to issuance of the follow-on Coastal Development Permit. **Monitoring:** The County Senior Environmental Planner and the County Resident Engineer shall observe and document the contractor's compliance with this measure. A draft construction schedule shall be provided to the County prior to the initiation of construction. Within one month following the termination of construction, and prior to the initiation of restoration activities, Department of Public Works (DPW) shall provide written documentation of the actual days and months of construction and vegetation removal to the County Department of Planning and Development (P&D).

BIO-2: Minimization of Disturbance for Construction and Staging.
The size of the construction area and staging area shall be limited to that necessary to complete the project. Reducing the amount of disturbance necessary for the project will minimize impacts to all the natural vegetation types represented in the CIA and the plants and wildlife that occupy the habitats. It will also reduce the amount of post-construction revegetation that will be necessary to mitigate permanent and temporary impacts to vegetation types.

The disturbance areas shall be marked with fencing, flagging, stakes, and/or other means to indicate the boundaries to workers. No project-related activities shall take place outside of the marked boundaries. Work will be conducted from the top of the bank to install abutments for the new bridge. No work shall occur in the creek channel and no vehicles or equipment shall enter the channel because: (a) demolition of the existing bridge shall be done from the banks; (b) construction of the new bridge shall be done from the banks; and (c) the old concrete in the channel shall not be removed to avoid impacts to California red-legged frogs and western pond turtles. Workers shall enter the channel only as necessary to retrieve debris from demolition of the existing bridge. A biological monitor shall accompany the workers when they enter the channel or riparian zone.

There will be no water diversion and no new access roads for this project.

The construction staging area shall be located above the top bank of the creek, northwest of the bridge. There shall be no refueling of vehicles within 200 feet of the stream channel containing flowing water.

The following best management practices (BMPs) for refueling vehicles and equipment shall be followed:

- When fueling, tanks shall not be topped off.
- When fueling, secondary containment, such as drip pans, shall be used to catch spills.
- Fueling and servicing shall only be done in designated areas that are enclosed by spill-containing berms.
- Employees and subcontractors shall be trained in proper fueling, servicing, and clean-up procedures.
- All fluid spills shall be reported immediately to the County.

A spill contingency plan that covers possible leaks and spills of hazardous materials into Jalama Creek shall be developed by the contractor prior to the start of construction and implemented, as necessary.

Plan Requirements and Timing. Mitigation measures shall be included in all specifications and bid packages for the project, and shall be shown on all plans prior to issuance of the follow-on Coastal Development Permit. To ensure compliance with the restriction on size of work and staging areas, barrier fencing shall be installed prior to the start of construction. This condition shall be presented in the environmental awareness training at the beginning of the project and reinforced during start-of-day meetings throughout the duration of the project. **Monitoring:** A qualified biologist shall observe and document the placement and removal of the exclusion fence. The biologist shall periodically inspect the fence and shall document its installation, maintenance, and removal with photographs. The County Resident Engineer shall ensure that work-related activities do not occur outside of the fenced areas and that BMPs are followed. The County Resident Engineer shall document incidents of non-compliance.

BIO-3: Restriction on Night Work and Night Light.
The Jalama Road will need to be closed where it intersects with Bridge 17 during the installation of girders. Because there are residents and visitors to Jalama Beach County Park on a regular basis, the road needs to be closed when there will be the least amount of traffic. As such, night work will be necessary. Night work shall be limited to six nights, including three consecutive nights in each of two phases. Night lighting shall be used for this project only in association with the night work (six nights total). The amount of night lighting shall be restricted to that necessary for safety and security, and shall be directed inward toward the work area. These limitations on night work and night lights will reduce impacts to animals active at night, such as CRLF and species of bats. It will also reduce impacts to species that utilize the creek for foraging and travel at night, such as mule deer, coyote, and gray fox.

Plan Requirements and Timing: Mitigation measures shall be included in all specifications and bid packages for the project, and shall be shown on all plans prior to issuance of the follow-on Coastal Development Permit. **Monitoring:** The County Senior Environmental Planner and the County Resident Engineer shall ensure compliance with this measure.

BIO-4: Environmental Awareness Training.
An environmental awareness program shall be presented to construction crews before project initiation. The education program shall include a brief review of the federally- and state-listed species, as well as other species and habitats of concern that occur in and near the project area. The information shall include life history and habitat requirements, the potential to occur in the project area, and their legal status and protection under the Federal and California Endangered Species acts, California Environmental Quality Act, and other policies and codes, such as the California Fish and Game Code.

The program shall also cover the restrictions and guidelines that must be followed by all construction personnel to reduce or avoid effects on these species during project implementation. The importance of preventing the spread of invasive plant species will be discussed, as well as measures that can be implemented to ensure that introductions of invasive plants do not occur. The crew foreman shall be responsible for ensuring that crew members adhere to the guidelines and restrictions. Restrictions and guidelines that must be followed by construction personnel shall include such activities as limiting the amount of disturbance to natural vegetation and staying out of the creek bed.

Plan Requirements and Timing: Mitigation measures shall be included in all specifications and bid packages for the project, and shall be shown on all plans prior to issuance of the follow-on Coastal Development Permit. The presentation shall be given by a qualified biologist prior to the start of work to all construction personal. The presentation shall be repeated, as necessary, when new personnel come onto the project. **Monitoring:** A qualified biologist shall prepare and present the Environmental Awareness Training. The County Senior Environmental Planner shall ensure compliance with this measure.

BIO-5: Restriction on Firearms and Pets.
Persons in the project area who are under County or contractor control shall not carry firearms nor will they engage in hunting or fishing. No pets shall be allowed in the project area.

Plan Requirements and Timing: Mitigation measures shall be included in all specifications and bid packages for the project, and shall be shown on all plans prior to issuance of the follow-on Coastal Development Permit. **Monitoring:** The County Senior Environmental Planner and the County Resident Engineer shall ensure compliance with this measure.

BIO-6: Minimization of Potential for Concrete to Enter the Creek.
The following measures shall be taken to minimize the potential for concrete to enter Jalama Creek:

- Tarps shall be placed on the tops of creek banks to keep spilled concrete from reaching the channel surface. Tarps shall be collected and disposed properly at the end of concrete pouring.

- Silt fencing and other barriers shall be used to keep concrete in the pour area of the CIA.

- The washing of concrete trucks shall occur only in an area where concrete and concrete-affected water can be contained for subsequent removal from the site. Wash water shall not be discharged to the creek or road drains. The area designated for washing functions shall be at least 200 feet from road drains and the creek channel containing flowing water, and shall not be in a location from where a spill would drain directly toward aquatic habitat. The location of the washout area shall be clearly noted at the construction site with signs.

Plan Requirements and Timing: Mitigation measures shall be included in all specifications and bid packages for the project, and shall be shown on all plans prior to issuance of the follow-on Coastal Development Permit. **Monitoring:** The County Resident Engineer and a qualified biologist shall observe and approve placement of spill-prevention materials such as tarps and silt fencing. The County Resident Engineer shall ensure compliance with this measure.

BIO-7: Control of Litter.
Litter and trash can attract and concentrate native (such as raccoons) and non-native (dogs) animals to the vicinity of the project. These animals could potentially prey on common and special-status wildlife in and near the project area. The project area shall be kept free from litter at all times by providing closed containers for trash and all construction-generated material wastes. These containers shall be emptied at regular intervals and the contents properly disposed.

Plan Requirements and Timing: Mitigation measures shall be included in all specifications and bid packages for the project, and shall be shown on all plans prior to issuance of the follow-on Coastal Development Permit. **Monitoring:** The County Resident Engineer shall ensure compliance with this measure.

BIO-8: Pre-construction Surveys.
To further reduce the likelihood and magnitude of impacts to species of special concern, including black-flowered figwort, steelhead, arroyo chub, California red-legged frog, western pond turtle, two-striped garter snake, least Bell's vireo, southwestern willow flycatcher, yellow warbler, raptors, nesting birds, and American badgers, a pre-construction survey shall be conducted. To avoid initiation of nests following surveys, the surveys shall be conducted within 2 weeks of the start of construction. For black-flowered figwort, the surveys shall be conducted during the flowering season between April and July. The following actions shall be taken if one or more of the following are found in the CIA during the pre-construction survey:

> ***Black-flowered figwort –*** If individual plants are found in the CIA, they shall be marked for avoidance. If any of the plants cannot be avoided, their removal shall be documented and the revegetation plan revised to include this species.

Steelhead and arroyo chub – If individuals of steelhead or arroyo chub are observed, the biologist will continue to monitor their presence through the construction phase. The implementation of additional measures, including translocation, shall not be necessary because no work will occur in or near the stream channel. See also Mitigation Measure **BIO-10** for additional steelhead protective measures provided by Matthew McGoogan of NMFS to Padre Associates that were incorporated into the Biological Assessment (Padre 2003a).

California red-legged frog – If individuals of red-legged frog are observed in or near the work areas and could potentially be affected by construction activities, they shall be moved out of harm's way to a pre-approved location by a biologist with approval from USFWS. Other measures from the Programmatic BO (USFWS 2011) for the protection of California red-legged frog are listed in **BIO-11**. In addition, consistent with measures in the Programmatic Biological Opinion (8-8-10-F-58) issued by USFWS to Caltrans in 2011:

- The biological monitor will identify translocation habitat near the project area in the event that CRLF need to be moved out of the project area.

- The monitor will photograph CRLFs handled and will make written descriptions on monitoring data sheets or field notes. Information collected will include life stage (adult, subadult, and larvae), identifying features, location of collection, and a description of the translocation site. Data collected on CRLFs handled will be included in an end-of-project monitoring report.

These last two measures shall be needed only if relocation of California red-legged frogs is necessary. The likelihood of that occurring is minimal because workers will enter the riparian zone and vicinity of the creek channel only to retrieve debris from the demolition of the old bridge. Moreover, existing concrete in the channel that is being used by red-legged frogs as cover will not be removed, thus further minimizing the need to handle and relocate this species. It is also possible, but unlikely, to encounter red-legged frogs in other locations, such as the parking/laydown areas, and the upper banks of the creek near the abutments for the new bridge. If red-legged frogs are observed in or near the work areas and could potentially be affected by construction activities, they shall be moved out of harm's way to a pre-approved location by a biologist with approval from USFWS.

Western pond turtle and two-striped garter snake – If individuals of either species are found, they shall be translocated to a pre-approved location. The individual animals translocated shall be photographed and notes taken similar to those described for translocation of CRLF (**BIO-11**). If a nest of a western pond turtle is found, a plan for avoidance will be prepared and submitted DPW, Caltrans and CDFW for review and approval.

Least Bell's vireo and southwestern willow flycatcher - In the event that active nests of least Bell's vireo or southwestern willow flycatcher are found, they shall be avoided by at least 250 feet. If active nests are closer than 250 feet to the nearest work site, a plan to avoid disturbance to the nest and the nesting birds during construction shall be prepared and submitted to DPW, Caltrans, USFWS, and CDFW for review and approval.

Nesting common and special-status species and raptors –Special-status species included in this measure are yellow warbler, southern California rufous-crowned sparrow,

grasshopper sparrow, Bell's sage sparrow, white-tailed kite, and Cooper's hawk. If active nests are found, the bird(s) using the nest will be identified to species and the distance to the closest point of project activity measured. No additional measures will be implemented if active nests are more than the following distances from the nearest work site: (1) 300 feet for raptors; and (2) 75 feet for other species. If active nests are closer than those distances to the nearest work site, a plan to avoid disturbance to the nest and the nesting birds during construction will be prepared and submitted to Caltrans and CDFW for review and approval.

Non-nesting special-status birds - If non-nesting special-status species are found (such as wintering mountain plovers, wintering sharp-shinned hawks, or foraging northern harriers) during the pre-construction survey in or near the CIA, the type of avoidance required will be evaluated and an avoidance plan will be prepared, if necessary, and submitted to Caltrans and CDFW for review and approval.

American badger – Badger burrows were not found during field surveys, but there is a low potential for one or more new burrows to be established prior to the start of construction. If a burrow is found in the CIA, its location will be reviewed by the project biologist relative to work activities. If the burrow can be avoided by at least 50 feet, it will be left intact, but periodically monitored by the biologist. If the burrow is closer than 50 feet, it shall be monitored for at least three nights. The area in front of the burrow entrance shall be smoothed and diatomaceous earth will be placed at the entrance. The diatomaceous earth shall be checked for three consecutive mornings for badger tracks. If no tracks are found, the burrow shall be excavated by hand to ensure no occupancy by badgers, then backfilled.

If tracks or other indicators of current occupancy are observed, the burrow shall be monitored for an additional three days. During the second three-day period, the entrance will be partially blocked with dirt, sticks and other small items. A greater proportion of the entrance will be blocked each night in an effort to encourage the badger to vacate the burrow. At the end of the second three-day monitoring period, the burrow shall be excavated by hand to ensure the badger does not remain in the burrow during disturbance.

Plan Requirements and Timing: Mitigation measures shall be included in all specifications and bid packages for the project, and shall be shown on all plans prior to issuance of the follow-on Coastal Development Permit. A qualified biologist shall ensure that the survey is conducted prior to the stated date. The biologist shall submit a pre-construction survey report to DPW Environmental Staff. The reports shall include recommendations, as appropriate, for reducing impacts to special-status plants and wildlife. **Monitoring:** DPW Environmental Staff shall ensure that the survey is completed before the stated date and that the report is received.

BIO-9: Biological Monitoring.
An agency-approved biologist shall be retained full-time to monitor during key times of demolition (abutment removal and removal of decking with a crane) and construction (installation of abutments, pouring of concrete, and construction of the retaining wall). At other times throughout the project, a biologist shall periodically monitor the project area, including the staging areas, to assess if mitigation measures and permit conditions are being implemented appropriately. This will help ensure that impacts are being minimized to both the common resources and federally-listed species. If any of the resources included in measure **BIO-8** above are found and could be affected by project activities, the appropriate actions described in **BIO-8** will be implemented.

Plan Requirements and Timing: Mitigation measures shall be included in all specifications and bid packages for the project, and shall be shown on all plans prior to issuance of the follow-on Coastal Development Permit. A qualified biologist shall monitor the construction and staging areas on a weekly basis, and full time during key times of work near the channel, such as abutment removal of the existing bridge, as well as installation of new abutments, pouring of concrete, and the start of construction of the retaining wall. **Monitoring:** A qualified biologist shall monitor for the occurrence of special-status biological resources and document the level of compliance with mitigation measures and permit conditions, and shall discuss incidents of non-compliance with the DPW Resident Engineer. The Resident Engineer shall work with the construction supervisor to make corrective actions, if necessary. A monitoring report shall be prepared and submitted to the County Senior Environmental Planner following construction.

BIO-10: Southern California Steelhead Protection Measures.
To offset potential effects to critical habitat of the Southern Steelhead the following measures will be implemented. (See Impact Discussion (j.) above.)

- Construction activities within Jalama Creek banks and associated Willow Riparian habitat will be conducted during the dry season (May to December).
- Maintenance of vehicles and other equipment and staging areas will occur at least 100 feet from the creek channel containing flowing water. Refueling of vehicles and equipment will be at least 200 feet from the creek channel containing flowing water. The County will ensure that contamination of habitat does not occur during fueling or maintenance operations. Prior to the onset of work, the contractor shall prepare a spill response plan to allow a prompt and effective response to any accidental spills. All workers shall be informed of the importance of preventing spills and of the appropriate measures to take should a spill occur.
- To control erosion during and after project implementation and potential increase of sedimentation and turbidity within Jalama Creek, the contractor will install silt fence, straw wattles or other erosion control devices down slope of all exposed slopes and/or soil piles. The erosion control devices will be monitored by the on-site biological monitor to ensure devices are in working order.
- To control the potential of an accidental spill of concrete during construction, containment devices such as spill containment berms or other devices shall be implemented during concrete pours,
- Exposed earth, slopes and the creek bank of the project site will be covered with a jute netting and compost blanket with a native seed mix when the project is complete.

Plan Requirements and Timing: Mitigation measures will be included in the project plans and specifications**. Monitoring:** The Resident Engineer will ensure compliance with these measures. A qualified biological monitor will be on-site as well to ensure compliance with the mitigation measures.

BIO-11: California Red-legged Frog Protection Measures.
To offset potential reduction, restriction of the California red-legged frog (a threatened species), or critical habitat of the species, measures from the Programmatic Biological Opinion for Projects Funded or Approved under the Federal Highway Administrative Aid Program (9-9-10-F-58) would be applied (see Impact Discussion (h.) above.). The following measures may be implemented from the Programmatic Biological Opinion if required:

- At least 15 days prior to ground disturbing activities, Caltrans will submit the names and credentials for biologist(s) to the U.S. Fish and Wildlife Service (USFWS) for approval to conduct the activities specified in the following measures. No project activities will begin until Caltrans has received approval from the agency that the biologist(s) is qualified to do the work.
- An agency-approved biologist will conduct surveys at the project site two weeks before project activities begin. If California red-legged frog adults, tadpoles, or eggs are found, the approved biologist will contact the USFWS to determine if moving frogs of any life stages is appropriate. In making this determination, the USFWS will consider if an appropriate relocation site exists.
- If the USFWS approves moving the animals, the approved biologist will be allowed sufficient time to move the frogs from the work site before work activities begin. Only approved biologists will participate in activities associated with the capture, handling and monitoring of California red-legged frogs.
- Within three days prior to construction activities, the agency-approved biologist(s) will inspect the project area and associated silt fences for California red-legged frogs. This will be done two times at night and two times during daylight hours. If any California red-legged frog adults or tadpoles are found within the project area, they will be moved to the nearest appropriate habitat and released by the agency-approved biologist. In addition, if any California red-legged frog adults or tadpoles are found during the surveys, the agency-approved biologist shall check the immediate project area for ten consecutive days prior to the start of each day's work. If no frogs are found during the ten consecutive days, then the immediate project area will be checked at the discretion of the agency-approved biologist. If activities cease for more than one week, a one-night search for California red-legged frogs will be conducted within 100 feet upstream and 250 feet downstream of the project area.
- Prior to commencing project activities, including excavation in upland areas, which could injure or kill individual California red-legged frog, a pre-construction survey will be conducted immediately preceding the activity. The agency-approved biologist will search all potential hiding spots for California red-legged frog. The agency-approved biologist will relocate any California red-legged frogs found within the project area to the nearest appropriate habitat.
- An agency-approved biologist will ensure that the spread or introduction of invasive exotic plant species will be avoided to the maximum extent possible. When practicable, existing invasive exotic plant species in the project area will be removed.
- An agency-approved biologist will permanently remove from the project area any individuals of exotic species, such as bullfrogs (*Rana catesbeiana*), crayfish, and centrarchid fishes, to the maximum extent possible. The agency-approved biologist will have the responsibility to ensure that project activities are in compliance with the California Fish and Game Code and the Lake and Streambed Alteration Agreement (LSAA).

Plan Requirements and Timing: Mitigation measures will be included in the project plans and specifications**. Monitoring:** The Resident Engineer will ensure compliance with these measures. A qualified biological monitor will be on-site as well to ensure compliance with the mitigation measures.

BIO-12: Cliff Swallow Protection Measures.
Cliff swallows have built mud nests on the bridge in past years. Therefore, the existing bridge shall be covered with exclusionary netting during February 15 to August 15 (the nesting season

for cliff swallows) to prevent the possibility of swallows nesting on the bridge. This measure will also minimize impacts to other bird species that could nest on or under the bridge, such as black phoebe and house finch.

Plan Requirements and Timing: Mitigation measures shall be included in all specifications and bid packages for the project, and shall be shown on all plans prior to issuance of the follow-on Coastal Development Permit. **Monitoring:** The DWP Project Manager shall ensure that the netting is installed on the bridges as required prior to February 15. The County-approved biologist shall inspect the netting to ensure that cliff swallows are not nesting.

BIO-13: Bat Protection Measures.
Based on results from surveys conducted in July 2009 and December 2013, it appears that up to five species of bats are known to, or could, use the underside of the bridge as roosting habitat: Yuma myotis, California myotis, pallid bat, big brown bat, and Mexican free-tailed bat. Based on Anabat results and observations of prey remains (insect parts) under the bridge, it appears that Yuma myotis, big brown bat, and pallid bat forage in the vicinity of the bridge. Potential roosting areas include a narrow opening in the deck on the west side of the bridge, old inactive cliff swallow nests, and the opposite ends of the bridge where insect parts were observed. The former two places could be day roosts, while the ends of the bridge could be used by pallid bats as night roosts.

To reduce the likelihood and magnitude of impacts to bat species, the narrow opening on the underside of the bridge will be examined by a qualified bat biologist, as will the opposite ends of the bridge near the existing abutments. This will be done prior to the installation of exclusionary netting for cliff swallows. If bats are found roosting under the bridge, such locations will be closed off when bats are not present. Materials to be used could potentially include visqueen or heavy plastic. After ensuring that no bats are utilizing the bridge and the closing off potential roost sites, the cliff swallow netting will be installed, thus preventing future use by either cliff swallows. The installation of both the netting and material to keep bats from returning to their roost will be done between November 1 and February 15 to avoid cliff swallow nesting season, as well as the March-October bat reproduction season. Based on results of the inspection of the underside of the bridge, the bat biologist may develop an alternate plan of exclusion that will ensure no loss of individual bats.

Plan Requirements and Timing: Mitigation measures shall be included in all specifications and bid packages for the project, and shall be shown on all plans prior to issuance of the follow-on Coastal Development Permit. A qualified bat biologist shall conduct the inspection and implement measures to exclude bats from using the underside of the bridge, as described above. Alternatively, the bat biologist will develop an alternate plan of excluding bats to avoid loss of bats due to the project. The inspection by the qualified bat biologist, and any revisions to the bat protection measures, shall be completed prior to the February 15 netting of the bridge for cliff swallows. **Monitoring:** A qualified bat biologist shall conduct inspections of the netting or exclusion measures to ensure efficacy or develop an alternate plan. The County-approved biologist will be responsible for the preparation and submission of a post-survey report to the County Senior Environmental Planner.

BIO-14: Restoration.
Following construction, areas of temporarily disturbed earth will be re-graded, returned to their natural slope, secured through erosion control measures, and revegetated after construction is completed. Revegetation shall be implemented according to the guidelines contained in the restoration plan (under separate cover and available for review in the project file), which includes a mix of native plant species comprising the vegetation type that was disturbed.

Materials such as a compost blanket with a native seed mix, straw wattles and fiber mats will be used, as necessary, to control erosion and offsite transport of sediment. The restoration plan will be implemented to mitigate for:

- Temporary disturbance of 0.23 acre of Central Coast sage scrub and 0.03 acre of Coast live oak woodland;
- Permanent disturbance of 0.02 acre of Central Coast sage scrub; and
- Pruning or removal of three coast live oak trees.

The restoration area is offsite to the east of the project site. Restoration areas were not selected at the project site because: (a) there was little space available; (b) it would require purchase of land by the County to implement restoration at or near the site; (c) there will be greater efficiency in the maintenance of a single, contiguous restoration area, thus increasing the likelihood of success. Prescriptions for revegetating and restoring the offsite area are included in the restoration plan. The prescriptions include seed mixes, appropriate container plant species and sizes, removal of invasive non-native plants, and possible use of hydroseed. A five-year monitoring plan is also described, as well as success criteria for planted trees and shrubs.

Plan Requirements and Timing: Mitigation measures shall be included in all specifications and bid packages for the project, and shall be shown on all plans prior to issuance of the follow-on Coastal Development Permit. **Monitoring:** A qualified native plant specialist shall conduct the native species planting and biological monitoring. The County Senior Environmental Planner shall ensure compliance with this measure.

BIO-15: Protection of Oak Trees.
Only designated trees shall be removed. Trees scheduled for removal shall be marked in the field, and include no more than three coast live oak trees with a diameter-at-breast-height of six inches or greater located within 10 feet of anticipated ground disturbance shall be temporarily fenced with orange plastic construction fencing throughout construction and demolition activities. The fencing shall be installed at a minimum of at the dripline of each tree. The loss of any protected coast live oak tree greater than 8" DBH shall be mitigated by planting coast live oaks at a mitigation ration of 10:1, such that 10 coast live oak trees would be planted for each one tree removed. Replacement coast live oak trees shall be planted within the Jalama Road right-of-way area east of the project location. One to five gallon container oaks will be used and should be propagated from genetic stock originating from the southern Santa Barbara County region. Each mitigation tree should be protected against ground disturbance, soil compaction, over irrigation and should be fenced or provided with herbivore protection (wire cages or equivalent). Mitigation trees shall be irrigation when natural moisture conditions are inadequate to ensure survival of the plants. Irrigation shall be provided for a period of at least two years from initial planting: 80% of plantings must survive for three an additional years without irrigation to be considered successful. All planting shall be installed between October 1 and April 30 to take advantage of the rainy season.

Plan Requirements and Timing: Mitigation measures shall be included in the project plans and specifications. **Monitoring:** The County approved biological monitor shall insure oak trees are properly fenced and fencing is maintained during construction. A qualified native plant specialist shall conduct the native tree planting and follow up biological monitoring. The County Senior Environmental Planner shall ensure compliance with this measure.

BIO-16: Weed Minimization Measures.
The project shall include specifications and requirements for establishing a cleaning station for removal of weed seed and weed plant parts from vehicles and equipment entering and leaving

unpaved areas at the site. Vehicles and equipment working in weed-infested areas (including previous job sites) shall be required to clean the equipment tires, tracks, and undercarriage before entering the project area and before leaving the site. Cleaning shall adequately remove all visible dirt and plant debris. Cleaning using hand tools, such as brushes, brooms, rakes, or shovels, is preferred. If water must be used, the water/slurry shall be contained to prevent seeds and plant parts from washing into adjacent habitat. All straw used for erosion and sediment control shall be certified weed–free.

Plan Requirements and Timing: Mitigation measures shall be included in all specifications and bid packages for the project, and shall be shown on all plans prior to issuance of the follow-on Coastal Development Permit. **Monitoring:** A qualified biologist will periodically monitor the implementation of this measure and will report non-compliances to the County Resident Engineer. The County Resident Engineer will ensure that incidents of non-compliance are corrected. Following construction, the County owned portion of the site shall be monitored once annually for one year by the local County Senior Environmental Planner to determine if new noxious weeds have established, or existing weeds on-site spread to new offsite locations nearby.

With the incorporation of these measures, residual impacts would be less than significant

Projects Contributing to Cumulative Effects to Biological Resources

Past and present projects in the Jalama Road area that have contribute -- even incrementally -- to cumulative impacts to biological resources found in the project study area include:

- Jalama Road (Bridges 13, 14, and 16). Bridge 13 is over Salsipuedes Creek (in a different watershed) more than eight miles away. Bridges 14 and 16 were seismic retrofit projects and the work has been completed. Bridge 14 is over Salsipuedes Creek, approximately 7.2 miles from the Bridge 17 project area. Bridge 16 is over Ramajal Creek, approximately 1.1 miles north of the Bridge 17 project area. One additional project was completed recently. Jalama Road was realigned about 1.1 miles north of the Bridge 17 project area. The realignment was adjacent to the scheduled Bridge 16 project described above.

- Other past, present, and foreseeable future projects in the local watershed, regional range of the species that have, or are likely to have similar impacts to the affected species include historical grazing and other infrastructure projects (roads and utilities).

This qualitative assessment of cumulative effects was based on a review of the project's permanent and temporary, direct and indirect impacts to biological resources, and impacts to similar biological resources from other infrastructure projects with similar impacts. In addition to the combined direct effects to species and habitats, there are a number of reasonably anticipated indirect effects that can be expected from projects of that type, that combine with similar effects from other past, present, and foreseeable future project that must be factored into the cumulative analysis. These include: erosion and sedimentation, temporary water quality issues, introduction and spread of invasive weeds; road kills; human disturbance; impacts to species nesting under the bridge and in adjacent riparian vegetation, and other factors contributing to a significant cumulative effect.

Construction of the proposed project will have direct and indirect effects on a number of biological resources that are individually limited, but cumulatively considerable: Coast live oak woodlands; Central coast sage scrub, wildlife using non-native grassland, and indirect impacts to several special status species: temporary human disturbance, potential increased risk of fire

from construction activities, erosion and sedimentation and their cumulative effects on water quality, etc. “Cumulatively considerable” means that the incremental effects of an individual project are significant when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects. However, cumulative impact assessments cannot conclude that contributions to cumulative impacts are not significant merely because the contributions represent a small percentage of the overall problem.

The project’s contribution to significant cumulative effects to biological resources is not cumulatively considerable *after* the implementation of the mitigation intended to minimize or fully mitigate those impacts with one exception: the introduction and spread of noxious weeds and other invasive non-native plants. Transportation, railroad, and utility corridors are primary vectors for the spread of weeds. Introduction at one small location can be carried hundreds of miles on tires, tracks and rails. The tires or undercarriage of vehicles and equipment working in infested areas can inadvertently pick up and transport noxious weed seed and/or stolons. Erosion control measures such as use of contaminated straw bales and seed can also result in the inadvertent introduction of new invasive plants to the project area, which can, in turn, spread into adjacent undisturbed woodlands or adjacent agricultural lands or residences.

Construction activities such as soil disturbance at staging areas, along road shoulders, and temporarily-disturbed slopes render the habitat more vulnerable to weed invasion. Much of this is addressed by the reseeding plans in the project restoration plan (**BIO-14)**. But construction could result in the introduction and spread of noxious weeds into areas that are currently not infested, as well as the potential spread of existing infestations into new areas. Invasive weeds can increase fire hazards and have adverse effects on native plant communities and the wildlife (or livestock) that depend on them, and on the value of agricultural lands. The most aggressive exotic plants degrade natural areas because they can exclude native species, displace natural communities, promote faunal change, reduce biological diversity, disrupt ecosystem processes, alter fire frequencies, reduce recreational values, threaten endangered species, and fundamentally alter the unique character of California’s flora.

The mitigated effect was considered to determine whether *new* mitigation measures were needed to address this residual potential to contribute to the introduction and spread of noxious and other invasive non-native plants. A new measure was added to specifically address this significant cumulative effect: **BIO-16** (Weed Minimization Measures). With the implementation of **BIO-16**, **BIO-4** (Environmental Awareness Training), and the reseeding of disturbed areas required in **BIO-14** (Restoration), the project’s contribution to a significant cumulative effect is less than cumulatively considerable.

4.5 CULTURAL RESOURCES

Will the proposal result in:	Poten. Signif.	Less Than Signif w/ Mitigation	Less Than Signif	No Impact	Reviewed Under Previous Document
• **Archaeological Resources**					
a. Disruption, alteration, destruction, or adverse effect on a recorded prehistoric or historic archaeological site (note site number below)?				X	

Will the proposal result in:	Poten. Signif.	Less Than Signif w/ Mitigation	Less Than Signif	No Impact	Reviewed Under Previous Document
b. Disruption or removal of human remains?			X		
c. Increased potential for trespassing, vandalizing, or sabotaging archaeological resources?			X		
d. Ground disturbances in an area with potential cultural resource sensitivity based on the location of known historic or prehistoric sites?		X			
• **Ethnic Resources**					
e. Disruption of or adverse effects upon a prehistoric or historic archaeological site or property of historic or cultural significance to a community or ethnic group?				X	
f. Increased potential for trespassing, vandalizing, or sabotaging ethnic, sacred, or ceremonial places?				X	
g. The potential to conflict with or restrict existing religious, sacred, or educational use of the area?				X	

Environmental Setting and Background:
The project site was surveyed by Applied Earthworks Inc. on September 19 and 24, 2004 (Applied Earthworks 2004). In 2004, Applied Earth Works Inc. prepared a cultural resources study in support of the previously approved project, including a Historic Property Survey Report and an Archaeological Survey Report. Since that time, additional staging and restoration areas have been proposed, thereby expanding the project footprint. Since the project scope has changed, additional information is required in order to determine if there are any additional impacts associated with the proposed project changes.

The new approximately 10-acre study area includes the existing structure and the roadway and adjacent land extending 800 feet east and 1,000 feet west of Jalama Creek. A pedestrian survey of the study area was completed on 4 March 2011. In addition to the study area, the archaeologist examined an approximately 2-acre portion of the livestock pasture north of the bridge and the banks on both sides of Jalama Creek. Three north-south dirt roads cross this area; one is west of Jalama Creek and the other two are to the east. During the survey, no cultural resources were observed. Additional survey to accommodate project design changes on 10 May 2011 did not identify any cultural resources.

Prior to the field survey, a records search was conducted at the Central Coast Information Center (CCIC) of the California Historical Resources Information System by CCIC staff on January 27, 2011. The CCIC, an affiliate of the State of California Office of Historic Preservation, is the official state repository of archaeological and historic records and reports for a two-county area that includes Santa Barbara County and is housed at the University of California, Santa Barbara. Additional research was conducted by Applied Earthworks using the files and literature on file at offices in Lompoc and San Luis Obispo. The records search and literature review for this study was done to (1) determine whether known cultural resources had been recorded within or adjacent to the study area; (2) assess the likelihood of unrecorded cultural resources based on archaeological, ethnographic, and historical documents and literature; and (3) review the distribution of nearby archaeological sites in relation to their environmental setting.

The records search also revealed that although no cultural resources have been previously

identified within the study area, one prehistoric archaeological resource (CA-SBA-1663) has been recorded within the 0.25-mile records search radius.

Applied Earthworks contacted the Native American Heritage Commission (NAHC) on February 8, 2011 to request pertinent cultural resources information available for the project study area. On February 11, 2011, the NAHC replied that a search of their Sacred Lands Inventory failed to indicate the presence of Native American cultural resources in the immediate project area. The NAHC also provided contact information for individuals/ organizations that may have knowledge of cultural resources in the project area.

A new Historic Property Survey Report and an Archaeological Survey Report were finalized on October 30, 2013. The results of the Historic Property Survey Report and the Archeological Survey Report indicate that no cultural resources have been identified within the area studied. CA-SBA-1663 is mapped outside of the study area and is described as a prehistoric archaeological site consisting of a single large chert biface fragment (Van Horn 1979). Although the proposed bridge replacement will require substantial ground disturbance, road and creek cuts provided subsurface exposures in several areas. Examination of these exposures revealed shallow soils over near-surface bedrock and did not reveal any buried cultural remains. Thus, it is unlikely that subsurface archaeological deposits are preserved within the area of potential effect.

There are no tribal lands in the vicinity of the project.

Impact Discussion:

(a.) The are no recorded historic or prehistoric archaeological sites in the proposed project-affected area. Therefore, no impacts to the recorded prehistoric or historic archaeological site would occur.

(b.) There are no known cultural burial sites at the projects site. The potential areas of disturbance have been surveyed by a qualified Archaeologist with negative findings. Thus, a finding of human remains during the project is very unlikely. However, mitigation measures **CR-1** and **CR-2** are proposed to mitigate this unlikely impact should it occur.

(c, d.) As stated above, the proposed project is not expected to adversely affect any archaeological or historically significant resources. Soil work will only be necessary next to Jalama Road on either side of the existing bridge, and for the retaining wall installation. All of the proposed soil work areas are located outside the limits of known sensitive archaeological sites. No new access trails to the site will be created by the proposed project. Therefore, impacts to recorded prehistoric or historic archaeological sites are not expected. The project will not result in an increased potential for trespassing or vandalism of any known archaeological resources. In the unlikely case that an unknown archaeological resource is discovered during the project, mitigation measures **CR-1** and **CR-2** are proposed to reduce the potential impact to less than significant.

(e, f, g.) In the area that will be affected by the project, there are no known cultural, prehistoric or historic sites that are significant or important to an ethnic group. An archaeological survey has determined absence of any such sites (see above discussion). Thus, no impacts to ethnic resources are expected. If any unknown ethnically-significant archaeological sites are discovered during the project, mitigation measures CR-1 and CR-2 would ensure that these impacts are less than significant.

Mitigation and Residual Impact:

CR-1 Discovery of Archaeological Remains.
In the event archaeological remains are encountered during grading, work in the vicinity of the find shall be stopped immediately or redirected until a County qualified archaeologist and Native American representative are retained to evaluate the significance of the find pursuant to Phase 2 investigations of the County Archaeological Guidelines. If remains are found to be significant, they shall be subject to a Phase 3 mitigation program consistent with County Archaeological Guidelines and funded by the applicant.

Plan Requirements and Timing: This condition shall be printed in the project specifics and included with the plans. **Monitoring:** A County qualified archeologist shall evaluate the significance of any archaeological remains and conduct the required investigation. The County Senior Environmental Planner shall ensure compliance with this measure.

CR-2 No Disturbance of Human Remains.
If human remains are unearthed, State Health and Safety Code Section 7050.5 requires that no further disturbance shall occur until the County Coroner has made the necessary findings as to origin and disposition pursuant to Public Resource Code Section 5097.98. If the remains are determined to be of Native American decent, the coroner has 24 hours to notify the Native American Heritage Commission.

Plan Requirements and Timing: This condition shall be printed in the project specifics and included with the plans. **Monitoring:** A County qualified archeologist shall evaluate the significance of any archaeological remains and conduct the required investigation. The County Senior Environmental Planner shall ensure compliance with this measure.

With the incorporation of this measure, residual impacts would be less than significant. There will be no long-term cultural impacts and no cumulative impacts.

4.6 ENERGY

Will the proposal result in:	Poten. Signif.	Less Than Signif w/ Mitigation	Less Than Signif	No Impact	Reviewed Under Previous Docum.
a. Substantial increase in demand, especially during peak periods, upon existing sources of energy?			X		
b. Requirement for the development or extension of new sources of energy?			X		

Environmental Setting:

Currently, there are no energy uses associated with the bridge.

Impact Discussion:

Only mobile and portable equipment will be used to execute the bridge replacement work. The project machinery and commuter vehicles will use fossil fuels (gasoline and diesel) for the duration of the project. Electricity from the distribution grid will not be used. These impacts are short term and small in scope.

(a, b.) There are no additional structures proposed as part of the project; thus, no increase in the demand or development/extension of new sources of energy will be required, and impacts to energy resources will be less than significant.

Mitigation and Residual Impact:

No mitigation is necessary, given that residual impacts are less than significant. There will be no long-term impacts and not cumulative impacts.

4.7 FIRE PROTECTION

Will the proposal result in:	Poten. Signif.	Less Than Signif w/ Mitigation	Less Than Signif	No Impact	Reviewed Under Previous Docum.
a. Introduction of development into an existing high fire hazard area?		X			
b. Project-caused high fire hazard?		X			
c. Introduction of development into an area without adequate water pressure, fire hydrants or adequate access for firefighting?				X	
d. Introduction of development that will hamper fire prevention techniques such as controlled burns or backfiring in high fire hazard areas?				X	
e. Development of structures beyond safe Fire Dept. response time?				X	

Environmental Setting:

The project site is within a designated high or extreme fire hazard area (Santa Barbara County 2009). Fire protection services are provided by Santa Barbara County Fire Station No. 51, located at 749 Burton Mesa Blvd in Lompoc, California. Back-up service can be provided by Santa Barbara County Fire Station No. 31, located at 168 W. Highway 246. The project site is located approximately 18.2 miles from Station No. 51, thus, response time to the site from either station is approximately 25 minutes.

Impact Discussion:

(a, b.) The proposed project would not introduce new structures into the area; however, the project would involve the use of machinery in a high or extreme fire hazard area, per the County Seismic Safety and Safety Element. To decrease the potential of a construction-related fire, mitigation measure **F-1** has been proposed.

Project activities at the site will be executed in a manner that minimizes the risk of a fire. Overgrown vegetation in access pathways, and staging areas will be mowed or trimmed prior to work to reduce the chance of a vehicle-induced brush fire. The trimming or mowing of vegetation will be conducted in consultation with a County-approved biologist and will be performed in a manner that minimizes disturbances to sensitive habitat types to the maximum extent possible (see Section 4.4, Biological Resources, for the details).

Jalama Road serves as the main access to the residences and recreational areas west of the project site. At least one lane on Jalama Road will be open for traffic during the entire project. Thus, the project will not impede access for the fire trucks/engines or other emergency vehicles if they need to access areas west of the project site.

The following potentially significant impacts could occur during the project. Welding will be utilized during the project, which presents fire risk in a high or extreme fire hazard area. On a short-term basis, equipment and machinery fuelled and lubricated with flammable materials (e.g., gasoline, diesel, and lubricating oils) will be introduced into the project area. The project will involve on-site fueling of the project machinery. Although unlikely, potential exist for leaks or spills of the oils and fuels during refueling or during construction because of poor maintenance or damage. Fire could be started by sparks or due to smoking. Smoking in the vicinity of flammable fuels or dry vegetation could potentially create a fire hazard. The project site is located 25 minutes away from the closest Fire Station; therefore, response to any fire would be delayed. Fire prevention measures are proposed below to minimize the risk of a project-caused fire, and reduce these potential fire impacts to a less than significant level.

(c, d, e.) The proposed bridge replacement will not introduce new development into the project area. The temporary work proposed would not hamper fire prevention techniques in the area or restrict emergency ingress/egress at the site. Thus, no impacts from the development are expected.

Mitigation and Residual Impact:

F-1 Preparation of Fire Awareness and Avoidance Plan.
To minimize potential construction-related fire hazards, a Fire Awareness and Avoidance Plan shall be prepared. The Plan shall include the following:

- Fire preventative measures addressing cutting, grinding and welding or other types of work that could cause a fire;
- Fire extinguishers shall be required in every vehicle on site;
- Maintaining a water truck on site at all times;
- No construction activity during red flag alerts;
- Communication with emergency response agencies;
- Fueling of equipment outside of the specially designated and covered areas shall not be permitted;
- In order to minimize the potential for a vehicle-induced brush fire, vegetation at the work area(s) (such as vehicle refueling, staging areas, and welding areas) shall be mowed or trimmed where necessary prior to equipment access;
- Fire extinguishing equipment (fire extinguishers, shovels, etc.) shall be maintained at the site at all times and easily accessible to assure first fire response is available for small fires;
- At all times, the project foreman or another designated responsible individual at the site shall have working communication means (e.g., cell or satellite phones with verified connectivity to the network) to enable contact with the Fire Department in case of a fire; and

- Smoking shall be prohibited on-site, or only allowed in areas where there is no chance of accidentally starting a fire; these areas must be visibly designated with “smoking in this area only” signage and include ashcans or other cigarette disposal containers. Fire extinguishing equipment (fire extinguishers, shovels, etc.) shall be maintained at the location at all times and easily accessible to assure first fire response is available for small fires.

Plan Requirements and Timing: This condition shall be printed in the project specifics and included with the plans. **Monitoring:** The County on-site Resident Engineer (RE) shall ensure compliance with this measure.

With the incorporation of these measures, residual impacts would be less than significant. There will be no long-term fire protection impacts and no cumulative impacts

4.8 GEOLOGIC PROCESSES

Will the proposal result in:	Poten. Signif.	Less Than Signif w/ Mitigation	Less Than Signif	No Impact	Reviewed Under Previous Docum.
a. Exposure to or production of unstable earth conditions such as landslides, earthquakes, liquefaction, soil creep, mudslides, ground failure (including expansive, compressible, collapsible soils), or similar hazards?			X		
b. Disruption, displacement, compaction or overcovering of the soil by cuts, fills or extensive grading?			X		
c. Permanent changes in topography?			X		
d. The destruction, covering or modification of any unique geologic, paleontologic or physical features?				X	
e. Any increase in wind or water erosion of soils, either on or off the site?			X		
f. Changes in deposition or erosion of beach sands or dunes, or changes in siltation, deposition or erosion, which may modify the channel of a river, or stream, or the bed of the ocean, or any bay, inlet or lake?			X		
g. The placement of septic disposal systems in impermeable soils with severe constraints to disposal of liquid effluent?				X	
h. Extraction of mineral or ore?				X	
i. Excessive grading on slopes of over 20%?				X	
j. Sand or gravel removal or loss of topsoil?				X	
k. Vibrations, from short-term construction or long-term operation, which may affect adjoining areas?			X		
l. Excessive spoils, tailings or over-burden?				X	

Environmental Setting:

The closest fault to the project area is the Pacifico fault, which is considered to be active, per the Santa Barbara County Seismic Safety and Safety element (August 2010). This fault trends east-west 13 miles at the western end of the Santa Ynez Mountains and meets the ocean near the mouth of Jalama Creek. It is considered to be a member of the Santa Ynez fault zone

because of its similar trend and location directly west of the intersection of the north and south branches of the Santa Ynez fault. The north branch of the Santa Ynez fault intersects the Pacifico fault 10 miles from the ocean. A magnitude 7.5 earthquake occurred off of Point Arguello in 1927. This epicenter is aligned with the Pacifico fault, which is a member of the Santa Ynez fault zone.

The proposed bridge replacement project is specifically designed to withstand potential worst case seismic activities in the area.

Impact Discussion:

(a.) There would not be any exposure to or production of unstable earth conditions such as landslides, earthquakes, liquefaction, soil creep, mudslides or ground failure resulting from the proposed project. In fact, the project aims at replacing the existing bridge in order to meet the current seismic standards.

(b.) The project will involve minimal grading work. The proposed replacement bridge will be a single-span pre-cast and pre-stressed concrete Bulb-Tee Girder Bridge; with the proposed traffic barriers, the overall bridge deck width is proposed to be 36 feet, 10 inches and the proposed length is 160 feet. The new abutments will be founded on cast-in-place concrete piles and set back sufficiently from the tops of the existing incised creek banks to minimize temporary construction impacts to the creek bank and to provide additional protection against potential future erosion of the banks. Because construction will be done from the tops of banks, disturbance to creek banks and the riparian zone is not anticipated. There will be little disturbance to the creek banks.

Due to the constraints of the existing approach roadways, the new bridge will be located essentially on the same alignment as the existing bridge. The sizes and locations of staging areas will be similar to those evaluated previously by Padre and Garcia and Associates (Padre 2003 a & b; and GANDA 2013).

In addition, a retaining wall will be constructed along Jalama Road, on the east side of the bridge and the south side of the road to contain slip-out that has occurred. The size of the retaining wall will be approximately 100 feet long by 12 feet tall at its highest point. Areas of temporary and permanent impacts due to construction of the new retaining wall will result in less than 0.01 acre each of permanent and temporary impacts to Central coast sage scrub on the upper bank of Jalama Creek. This area will require a Streambed Alteration Agreement from the California Department of Fish and Wildlife.

The bridge replacement design has been prepared by a certified professional engineer. It will be necessary to trim back some vegetation to provide equipment access; however, no significant erosion that could cause landslides or soil creep is anticipated. The site will be restored following the completion of the project. The project has been designed to avoid disturbance to the creek to the maximum extent possible. Mitigation measures that have been incorporated into the project design, such as the use of silt fences when working near the creek that will minimize the potential for siltation and erosion, and these impacts will be less than significant.

(c, d, g, h, i.) No permanent changes to topography will result from the project. There are no unique geologic, paleontologic or physical features in the project area, no such features would be altered during the project, and thus there will be no impacts to those features. The project does not propose construction of a septic disposal system. The project does not propose extraction of a mineral ore. The project does not propose excessive grading on slopes over 20%, and there will be minimal grading with the project implementation. Thus, the project will not have impacts from these activities.

(e.) Water or wind erosion are not expected because the project will not expose uncovered soils to wind or water, and there will be no impacts to the creek water channel or amounts of creek water. A retaining wall will be constructed along Jalama Road, on the east side of the bridge and the south side of the road to contain slip-out that has occurred due to water erosion which should eliminate further erosional occurrences in this area.

(f.) The project has been designed to avoid disturbance to the creek to the maximum extent possible. The new abutments will be founded on cast-in-place concrete piles and set back sufficiently from the tops of the existing incised creek banks to minimize temporary construction impacts to the creek bank and to provide additional protection against potential future erosion of the banks. Because construction will be done from the tops of banks, disturbance to creek banks and the riparian zone is not anticipated. There will be little disturbance to the creek banks; no construction or demolition in or near the stream channel is proposed.

The two existing reinforced concrete pile-supported pier walls which support the existing steel columns are proposed to remain. The existing concrete pier walls substructure are proposed to be left in place to avoid creek disturbance from their removal and to avoid additional emplacement of rock slope protection to amour the creek banks from scour. The existing abutment pilings are also proposed to remain in place. However, the existing bridge abutments above the pilings will be removed, as will the existing wingwalls. The area involved in the removal of the abutments and wingwalls is more than 0.2 acre, but only 0.002 acre of natural habitats.

The existing bridge's reinforced concrete deck and steel girders are proposed to be longitudinally saw-cut between the girders and removed in sections with cranes and placed onto trucks for recycling and disposal. All bridge removal work will be done from the top of banks. The only potential disturbance to creek banks or in the riparian zone will be caused by workers retrieving debris.

(j.) No excessive grading is proposed. The lanes and shoulders will taper to match the existing roadway. The northwest side will include a varying width, approximate 1-foot-deep ditch and 2:1 slopes. The southwest side slopes will vary from 2:1 to 1:1 and include 80 feet of Geosynthetic Reinforced Embankment. All slopes and ditches will have erosion control applied.

The northeast side will include 3-foot unpaved shoulders, a varying width of approximate 1 foot deep ditch and 2:1 slopes. On the southeast side of the bridge, the unpaved shoulders will vary from 2 to 5 feet in width and include 130 feet of vegetation control (where the road shoulder will be paved). All proposed slopes on the east side will be 2:1. All slopes and ditches will have erosion control applied.

The roadway drains from east to west and the road has a superelevation with a cross slope draining to the north. The ditch west of the structure drains in an easterly direction. Both ditches end with pipes draining onto the existing riprap on the bank of the creek.

(k.) There will be no vibrations from construction work that would affect adjoining areas.

(l.) There will be no spoils, tailings or over-burden. The project will involve limited excavation work.

Cumulative Impacts:

Since the project would not result in significant geologic impacts, it would not have a cumulatively considerable effect on geologic hazards within the County.

Mitigation and Residual Impact:

Mitigation for potentially significant erosion and siltation impacts are addressed under Water Resources (Section 4.16). Residual impacts would be less than significant. With the incorporation of these measures, residual impacts would be less than significant.

4.9 HAZARDOUS MATERIALS / RISK OF UPSET

Will the proposal result in:	Poten. Signif.	Less Than Signif w/ Mitigation	Less Than Signif	No Impact	Reviewed Under Previous Docum.
a. In the known history of this property, have there been any past uses, storage or discharge of hazardous materials (e.g., fuel or oil stored in underground tanks, pesticides, solvents or other chemicals)?				X	
b. The use, storage or distribution of hazardous or toxic materials?			X		
c. A risk of an explosion or the release of hazardous substances (e.g., oil, gas, biocides, bacteria, pesticides, chemicals or radiation) in the event of an accident or upset conditions?		X			
d. Possible interference with an emergency response plan or an emergency evacuation plan?			X		
e. The creation of a potential public health hazard?			X		
f. Public safety hazards (e.g., due to development near chemical or industrial activity, producing oil wells, toxic disposal sites, etc.)?				X	
g. Exposure to hazards from oil or gas pipelines or oil well facilities?				X	
h. The contamination of a public water supply?			X		

Environmental Setting:

Due to the nature of the surrounding land uses (agricultural), there is a low probability for the presence of hazardous waste materials in the soils surrounding the bridge. The County environmental health database contains no records of spills or hazardous materials in this area.

Impact Discussion:

(a.) There has been no known use or storage of hazardous materials in the vicinity of the bridge and project site. Thus, no impact from releases of the hazardous materials previously used at the site is expected.

(b, c.) The project does not propose bulk storage or distribution of hazardous materials. The project will not use or store toxic or hazardous materials except for fuels and lubricating oils, paint and painting related chemicals, and concrete. Explosives, oil and gas, biocides, bacteria, pesticides, or radiation will not be used. Limited fuel storage, limited fueling and maintenance (e.g., lubrication) of the machinery and equipment, used for the project execution, will occur in designated areas, protected with tarps, assuring any spill of fuel are contained. There is a very low likelihood of a fuel release from the machinery used for the project execution.

Implementation of the measures to tarp the fueling areas and construct sorbent barriers to prevent any potential spills leaving the tarped areas will ensure that impacts from storage or used of fuels are less than significant.

The project area does not have a known history of past uses that involved storage or discharge of hazardous materials (e.g., fuel or oil stored in underground tanks, pesticides, solvents or other chemicals). Encountering soils impacted with such materials is highly unlikely. To ensure that there would not be any impacts if such soils are encountered during the project work, Mitigation Measure HAZ-1 is proposed, after implementation of which impacts will be less than significant.

(d.) Due to the partial Jalama Road closure, passage of emergency vehicles through the bridge could be slowed down. However, at least on lane will be opened most of the time during the proposed work, and emergency passage through the bridge will not be restricted. Full closure of the bridge is proposed over short periods of time during night time. These closures could create impacts to the emergency vehicle access. However, closures will be done according to an approved traffic control plan, and emergency access could be restored in a short period of time. Mitigations are proposed for this potential impact. After implementation of these measures, impacts are less than significant.

(e.) Except for the fuels, no other hazardous materials will be used. Naturally Occurring Asbestos (NOA) is not likely in the project area. The “General Location Guide for Ultramafic Rocks in California - Areas More Likely to Contain Naturally Occurring Asbestos,” published by the California Department of Conservation, Division of Mines and Geology (California Department of Conservation 2000) does not show any suspected areas with NOA in the vicinity of the proposed project. Because the bridge will undergo demolition, an Asbestos Notification Form may need to be filed with the Santa Barbara APCD. Mitigation Measure HAZ-2 is proposed, after implementation of which impacts will be less than significant.

The project will not create a potential public health hazard, because the project is a short-term project and will not manufacture or use toxic chemicals that can be released and impact public health. Thus, impacts to public health are less than significant.

(f, g.) The project does not involve an industrial, chemical manufacturing or oil or gas production activities or oil or gas pipelines, thus no impacts will occur in these issue areas. The project area is not located close to any industrial facilities or chemical plants.

(h.) Jalama Creek is not used as a public water supply. Thus, the project does not have the potential to contaminate a public water supply. Potential for contamination of Jalama Creek is minimal. Thus, these impacts are less than significant.

Cumulative Impacts:

Since the project would not create significant impacts with respect to hazardous materials and/or risk of upset, it would not have a cumulatively considerable effect on safety within the County.

Mitigation and Residual Impact:

To minimize potential significant impacts from the proposed use and disturbance of potentially hazardous substances, the following measures would be implemented.

HAZ-1 Preparation of a Sediment Disposal Plan.
The Contractor shall prepare a Sediment Disposal Plan to determine the proper handling and disposal methods of any contaminated excavated soils. Potentially contaminated soils will be identified by noticeable soil texture or color changes indicating fuel or oil spill (e.g., dark, sticky or impacted with viscous liquid) or unusual hydrocarbon or solvent-like smell. The plan shall require sampling for various constituents in the soils to determine appropriate disposal alternatives. The plan shall be submitted to the County RE for review and approval of recommended sediment handling and disposal methods and locations. If the plan determines that soil sampling is necessary to determine the level of contaminants in on-site sediments, preliminary soil sampling reports shall be prepared for review and approval by the County RE prior to initiation of grading or excavation activities.

Plan Requirements: These requirements shall be noted in plan specifications. The Sediment Disposal Plan shall be prepared by the project contractor. **Timing**: Plans shall be reviewed for consistency with these requirements by the County RE prior to construction. Implementation of the Plan shall occur prior to and during construction. **Monitoring**: The Sediment Disposal Plan shall be approved by the County RE prior to the initiation of project construction. The County RE shall perform periodic site inspections to ensure compliance with the plan requirements.

HAZ-2 Preparation of a Hazardous Material Spill Prevention Plan.
Prior to construction, the Contractor shall prepare a Hazardous Material Spill Prevention, Control and Countermeasure Plan to minimize the potential for, and effects of, spills of hazardous or toxic substances during construction of the project. The plan shall be submitted for review and approval by the County Public Works Resident Engineer, and shall include, at minimum, the following:

1. A description of storage procedures and construction site maintenance and upkeep practices;
2. Identification of a person or persons responsible for monitoring implementation of the plan and spill response;
3. Identification of Best Management Practices (BMPs) to be implemented to ensure minimal impacts to the environment occur, including but not limited to the use of containment devices for hazardous materials, training of construction staff regarding safety practices to reduce the chance for spills or accidents, and use of non-toxic substances where feasible;
4. A description of proper procedures for containing, diverting, isolating, and cleaning up spills, hazardous substances and/or soils, in a manner that minimizes impacts on surface and groundwater quality and sensitive biological resources;
5. A description of the actions required if a spill occurs, including which authorities to contact and proper clean-up procedures; and
6. A requirement that all construction personnel participate in an awareness training program conducted by qualified personnel approved by the County RE. The training must include a description of the Hazardous Materials Spill Prevention, Control and Countermeasure Plan, the plan's requirements for spill prevention, information regarding the importance of preventing spills, the appropriate measures to take should a spill occur, and identification of the location of all clean-up materials and equipment.

Plan Requirements: These requirements shall be noted in plan specifications and the Hazardous Materials Spill Prevention, Control and Countermeasure Plan shall be included with the project plans. **Timing:** Measures in the Plan shall be implemented, as appropriate, through the duration of the construction activities. Implementation of the Plan shall occur prior to and during construction. **Monitoring**: Plans shall be reviewed for consistency with these requirements by the County RE prior to construction. Construction personnel training shall be confirmed by the County RE prior to construction by review of appropriate documentation of the training, including a list of the training attendees. The County RE shall perform periodic site inspections to ensure compliance with these requirements.

With the incorporation of these measures, residual impacts associated with hazardous materials / risk of upset would be less than significant.

4.10 HISTORIC RESOURCES

Will the proposal result in:	Poten. Signif.	Less Than Signif w/ Mitigation	Less Than Signif	No Impact	Reviewed Under Previous Docum.
a. Adverse physical or aesthetic impacts on a structure or property at least 50 years old and/or of historic or cultural significance to the community, state or nation?			X		
b. Beneficial impacts to a historic resource by providing rehabilitation, protection in a conservation/open easement, etc.?				X	

Environmental Setting:
The Jalama Road bridge 51C-017 bridge will be replaced to meet the current seismic standards. It was constructed in 1951. The Caltrans Historic Bridge Inventory, which was updated in 2006, determined that Bridge 51C-017 is not eligible for listing on the National Register of Historic Places, despite the fact it was over 50 years old at the time of the survey. Conditions at the

bridge have not changed since the survey and it is still considered ineligible for listing on the National Register.

Impact Discussion:

(a, b.) The Jalama Road Bridge #17 is more than 50 years old; however, it is not considered to be of historical significance. No other historic structures will be affected during the proposed project. A Historic Property Survey Report (HPSR) was completed by Applied Earthworks on October 30, 2013. The HPSR determined that no historic properties or resources would be affected by the project.

Mitigation and Residual Impact:

No mitigations are necessary, and no residual impacts would result. There will be no long-term historic impacts and no cumulative impacts.

4.11 LAND USE

Will the proposal result in:	Poten. Signif.	Less Than Signif w/ Mitigation	Less Than Signif	No Impact	Reviewed Under Previous Docum.
a. Structures and/or land use incompatible with existing land use?				X	
c. 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?				X	
c. The induction of substantial growth or concentration of population?				X	
d. The extension of sewer trunk lines or access roads with capacity to serve new development beyond this proposed project?				X	
e. Loss of existing affordable dwellings through demolition, conversion or removal?				X	
f. Displacement of substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?				X	
g. Displacement of substantial numbers of people, necessitating the construction of replacement housing elsewhere?				X	
h. The loss of a substantial amount of open space?				X	

Will the proposal result in:	Poten. Signif.	Less Than Signif w/ Mitigation	Less Than Signif	No Impact	Reviewed Under Previous Docum.
i. An economic or social effect that would result in a physical change? (I.e. Closure of a freeway ramp results in isolation of an area, businesses located in the vicinity close, neighborhood degenerates, and buildings deteriorate. Or, if construction of new freeway divides an existing community, the construction would be the physical change, but the economic/social effect on the community would be the basis for determining that the physical change would be significant.)				X	
j. Conflicts with adopted airport safety zones?				X	

Environmental Setting:

The areas surrounding the bridge are zoned Agricultural (AG-II-320). The land is used for cattle grazing. A horse ranch is located on the south side of Jalama Road, southwest from the bridge. No other agricultural uses are evident in the land affected by the project. The nearest residences are over 1 mile (5,280 feet) northwest from the project site (1.5 miles via road).

Impact Discussion:

(a, b, c, d, e, f, g, h, i, j.) The proposed project entails replacement of the existing bridge with a bridge that meets current seismic standards. The project is not expected to adversely impact any existing or proposed land uses. No adverse impacts to residences are expected, because of the temporary nature of the project and distance to the nearest residence. No impacts to housing, population growth, loss of affordable dwellings, loss of open space, displacement of existing housing or people will result.

The project does not necessitate construction of a new sewer or access road, since the existing access roads will be used during the project. The project does not conflict with any land use plan, policy or regulation. The work will be performed in a manner that protects existing resources and complies with the land use goals and policies. A replacement bridge that meets current seismic standards is consistent with the land use policies of the County and the Local Coastal Plan. No permanent road closures or business isolation would occur as a result of the project. The project is not within an airport zone, and thus there will be no impacts to airport safety zones.

No short or long-term adverse impacts to land uses would result from the proposed project.

Mitigation and Residual Impact:

No mitigations are necessary, and no residual impacts would result. There will be no long-term land use impacts and no cumulative impacts.

4.12 NOISE

Will the proposal result in:	Poten. Signif.	Less Than Signif w/ Mitigation	Less Than Signif	No Impact	Reviewed Under Previous Docum.
a. Long-term exposure of people to noise levels exceeding County thresholds (e.g. locating noise sensitive uses next to an airport)?				X	
b. Short-term exposure of people to noise levels exceeding County thresholds?			X		
c. Project-generated substantial increase in the ambient noise levels for adjoining areas (either day or night)?			X		

Environmental Setting:

Currently, primary noise sources in the project area include vehicle traffic on Jalama Road, wind, birds, and infrequent air traffic.

The duration of noise and the time period at which it occurs are important factors in determining the impact of noise on sensitive receptors. Noise is more disturbing at night than during the day and noise indices have been developed to account for the varying duration of noise over time as well as human response to them. The Day-Night Average Level (Ldn) uses time-weighted average values based on the equivalent sound level (Leq). The Ldn penalizes nighttime noise levels by weighting noise that occurs during the nighttime (10:00 PM to 7:00 AM) by 10 decibels.

The Santa Barbara County Environmental Thresholds Manual (Santa Barbara County 2008) identifies several land uses that are considered to be sensitive noise receptors. These receptors include schools, residential development, commercial lodging facilities, hospitals or care facilities, libraries, and churches. At these receptor's location, the maximum threshold for exterior noise exposure compatible with these noise-sensitive uses is 65 dB Day-Night Average Level (L_{dn}). According to the Santa Barbara County Comprehensive Plan Noise Element (cited in County of Santa Barbara Environmental Thresholds Manual), without mitigation, exterior daytime and nighttime noise levels associated with grading and construction activities within 1,600 feet of sensitive receptors could result in a potentially significant impact.

Impact Discussion:

(a.) The project has only a construction phase (320 work days). The 320 working days are necessary because the project will be constructed over parts of two years. Work near the creek will be done only during the dry season. There will be limited project work during the rainy season (approximately November through April). No long-term noise sources would be created by the proposed project.

(b, c.) The highest potential for noise generation is from the engines of the equipment used for the project implementation such as the drilling rig, bulldozer, crane, excavator, backhoe, air compressor, trucks and commuter vehicles. There are no sensitive receptors in the immediate project area. The nearest sensitive receptors are residences over 1 mile (5,280 feet) northwest from the project site (1.5 miles via road). Only the motorists crossing the Jalama Road bridge during the day work hours are expected to hear the noise generated by the project construction

machinery. Because the sensitive receptors are located at such a significant distance, noise from the project will not likely to be heard at those locations.

No noise impacts to sensitive receptors are anticipated.

Mitigation and Residual Impact:

No mitigation is necessary; residual impacts are less than significant. There will be no long-term noise impacts and no cumulative impacts.

4.13 PUBLIC FACILITIES

Will the proposal result in:	Poten. Signif.	Less Than Signif w/ Mitigation	Less Than Signif	No Impact	Reviewed Under Previous Docum.
a. A need for new or altered police protection and/or health care services?				X	
b. Student generation exceeding school capacity?				X	
c. Significant amounts of solid waste or breach any national, state, or local standards or thresholds relating to solid waste disposal and generation (including recycling facilities and existing landfill capacity)?			X		
d. A need for new or altered sewer system facilities (sewer lines, lift-stations, etc.)?				X	
e. The construction of new storm water drainage or water quality control facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?				X	

Environmental Setting:

The project is located in rural area, zoned for agriculture. No public facilities exist in the area.

Impact Discussion:

(a, b, d, e.) This is a bridge replacement project to meet current seismic standards. No increase in population or student population will result. The project will neither result in construction of a new sewer system, nor increase use of any existing sewer systems. The project will not result in construction of new storm water drainage or water quality control facilities. Therefore, no impacts to the police protection, health care, schools, sewer or storm water systems will result.

(c.) The project will involve removal of portions of the original bridge . Recycling of the resulting waste concrete, steel and other materials will be maximized to the extent feasible. Any waste materials that cannot be recycled are planned to be landfilled at the Santa Maria municipal landfill. The project is small. The applicant will recycle the waste concrete to the highest extent feasible. Thus, the amount of materials that will be landfilled will be small and thus impact on the landfill capacity would be negligible.

As discussed in Section 4.9 (Hazardous Materials/Risk of Upset), if any hazardous materials such as petroleum-contaminated soils are encountered during the project soil work, this material would be transported to a recycling center for reuse as road base, or to an approved and licensed waste facility for proper disposal, if necessary. The closest local facilities will be used when available to minimize the costs and impacts from transportation/air emissions.

Mitigation and Residual Impact:

The project has been designed to minimize the volume of material that would need to be landfilled. No additional mitigation is considered necessary. The residual impacts are less than significant. There will be no long-term impacts to public facilities and no cumulative impacts.

4.14 RECREATION

Will the proposal result in:	Poten. Signif.	Less Than Signif w/ Mitigation	Less Than Signif	No Impact	Reviewed Under Previous Docum.
a. Conflict with established recreational uses of the area?				X	
b. Conflict with biking, equestrian and hiking trails?				X	
c. Substantial impact on the quality or quantity of existing recreational opportunities (e.g., overuse of an area with constraints on numbers of people, vehicles, animals, etc. which might safely use the area)?			X		

Environmental Setting:

The closest recreational area is Jalama Beach and Camp Ground. Jalama Road serves as the main access to a beach recreational area – Jalama Camp Ground. The campground is approximately 5 miles to the west of the project site. No recreational facilities exist in the immediate project area.

Impact Discussion:

(a, b, c.) The land that will be affected by the project or surrounds the project area is not an established recreation area. There are no designated or established biking, equestrian or hiking trails in the project area. There could be some opportunistic hikers, bikers or horse riders in the area. Also, several private trails in the area are used for horseback riding. However, because most of the area is fenced and is a private property, those recreational opportunistic uses are rare occurrences. In addition, the proposed project activities are short term and are expected to continue only for 320 work days. Thus, the project will not conflict with recreational uses, hiking, biking or equestrian trails.

Transportation to the Jalama Beach area will be temporarily affected by the project because of partial road closures and presence of the project-related traffic, such as commuter vehicles, trucks and equipment and materials deliveries. However, there will be no full road closures of Jalama Road, the road will be passable at all times, and because the project is short term, these impacts will only be temporary. Thus, no substantial impact on the quality or quantity of existing recreational opportunities will occur due to the project.

Recreational impacts would be less than significant.

Mitigation and Residual Impact:

Residual impacts are less than significant. There will be no long-term impacts to recreation and no cumulative impacts.

4.15 TRANSPORTATION / CIRCULATION

Will the proposal result in:	Poten. Signif.	Less Than Signif w/ Mitigation	Less Than Signif	No Impact	Reviewed Under Previous Docum.
a. Generation of substantial additional vehicular movement (daily, peak-hour, etc.) in relation to existing traffic load and capacity of the street system?			X		
b. A need for private or public road maintenance, or need for new road(s)?			X		
c. Effects on existing parking facilities, or demand for new parking?				X	
d. Substantial impact upon existing transit systems (e.g. bus service) or alteration of present patterns of circulation or movement of people and/or goods?		X			
e. Alteration to waterborne, rail or air traffic?				X	
f. Increase in traffic hazards to motor vehicles, bicyclists or pedestrians (including short-term construction and long-term operational)?		X			
g. Inadequate sight distance?				X	
ingress/egress?				X	
general road capacity?			X		
emergency access?			X		
h. Impacts to Congestion Management Plan system?				X	

Environmental Setting:

The two major characteristics of traffic conditions are level of service (LOS) and volume to capacity ratios (V/C). Level of service is classified with letters from A (low traffic with the best conditions) to F (the most congested traffic conditions). V/C ratios are calculated by dividing current road traffic volume by the road capacity, which is different depending on the road classification, number of lanes and if the opposite lanes have a central divider.

The County of Santa Barbara Environmental Thresholds and Guidelines Manual provides threshold criteria to assist in assessing the potential significance of project-related impacts (County of Santa Barbara 2008). A significant traffic impact would occur when:

- The addition of project traffic to an intersection would increase the road V/C ratio by the value provided in the table below, or add at least 5, 10, or 15 trips to an intersection at LOS F, E, or D, respectively.

Level of Service (LOS)	Project Increase in V/C Ratio Greater Than
A	0.20
B	0.15
C	0.10
	Or the Addition of:
D	15 trips
E	10 trips
F	5 trips

- Project access to a major road or arterial road would require a driveway that would create an unsafe situation or a new traffic signal or major revisions to an existing traffic signal.
- Project would add traffic to a roadway that has design features (for example, narrow width, road side ditches, sharp curves, poor sight distance, or inadequate pavement structure) or receive use that would be incompatible with substantial increases in traffic (for example, rural roads with use by farm equipment, livestock, horseback riding, or residential roads with heavy pedestrian or recreational use) that would become potential safety problems with the addition of project or cumulative traffic.
- Project traffic would utilize a substantial portion of an intersection(s) capacity where the intersection is currently operating at acceptable LOS (A through C) but with cumulative traffic would degrade to or approach LOS D (V/C = 0.81) or lower. Substantial is defined as a minimum change of 0.03 for intersections that would operate from 0.80 to 0.85; and a change of 0.02 for intersections that would operate from 0.86 to 0.90; and 0.01 for intersections operating at anything lower. In other words, there is a sliding scale that defines a significant volume of new traffic, depending on the LOS. If the thresholds are exceeded, construction of improvements or project modifications to reduce the levels of significance to insignificance is required.

Access to the Jalama Road Bridge 51C-017 is from State Route 1 (also known as Pacific Coast Highway, Highway 1, Cabrillo Highway, Route 1 or SR-1), west on Jalama Road. This road is mostly used by the local motorists to access sparsely located residences west of the intersection with SR-1 and the recreational traffic to the Jalama Beach Campground. Route SR-1 splits from U.S. Highway 101 south of Buellton and passes through the coastal cities of Lompoc, Guadalupe, and Grover City before joining U.S. Highway 101 again at Pismo Beach. According to traffic counts conducted by Caltrans, SR-1 carries an average of 7,900 vehicles per day in the vicinity of Jalama Road (Caltrans 2007). The posted speed varies depending on the location.

Jalama Road is a two-lane local road. Santa Barbara County Public Works Transportation Division reported only one traffic count for Jalama Road obtained in September 2000: Average Daily Traffic (ADT) on Jalama Road west of SR-1 was 544 (Santa Barbara Public Works Transportation Division 2009). The County confirms that the traffic probably has not changed significantly since the year 2000 reading.

The Santa Barbara Public Works developed a screening table to estimate LOS of the County roads. Per this table, a two-lane local road design capacity is 1,875 ADT. For this type road, an LOS A would be maintained at or below 750 ADT. Thus, Jalama Rd LOS is A with a V/C of 29.

Impact Discussion:

(a, g.) The project will generate additional traffic for the duration of the project for the maximum of 320 work days. This additional traffic will consist of commuter vehicles (20 roundtrips/day), trucks (5 roundtrips/day) and deliveries of materials (2 roundtrips/day) as a worst case scenario; for a total of 54 one-way trips per day. This traffic would increase the V/C of Jalama Road by 0.03 when both lanes are open. This impact is less than significant. The project will not change sight distance, ingress or egress. The project will temporarily affect the general road capacity and passage of emergency vehicles; however, because one lane of Jalama Road will always be open and the project is short term, these impacts are less than significant.

(b.) Construction machinery and construction traffic will use Route SR-1 and Jalama Road. Some damage to these roads could occur due to the increased construction traffic, presence of heavy construction machinery, and deliveries of construction materials. These routes already handle traffic from heavy farm equipment, cattle hauling operations and delivery trucks. Impacts to the affected road's condition and impacts due to standard road maintenance would be less than significant.

(c, e, h.) The project will not impact existing parking. The project will not require construction of any new roads or parking areas. Equipment and workers will make use of existing access roads. Temporary parking will be by the side of Jalama Road and at the selected staging area. Two staging areas have been preliminarily identified on the northwest of the bridge, and along the existing access road on the northeast of the bridge. Only one of the two will be selected and used for the project equipment staging.

The project will have no effect on access to properties or driveways; no detours or changes in access control are necessary to complete the project; no temporary roads, detours, or ramp closures are necessary to complete the project. Because no new structures are proposed, existing parking would not be impacted, and no new parking would be required.

There will be no impacts on waterborne, railroad or air traffic. Jalama Creek is not navigable, there are no airports in the vicinity of the project area, and new tall structures that are able to impact air traffic are not proposed. There are no railroads in the project area; the closest railroad is 5 miles west and tracks the coastline.

There will be no impacts to Congestion Management Plan system, because the project would not impact population and not generate additional permanent traffic. The project will only have short-term construction traffic for the proposed 320-day period.

(d.) Lane closures of Jalama Road will be temporary, and one lane will always be open to traffic during the day. Night work requiring a full road closure is expected for 6 hours for three consecutive nights in each phase of the project (six nights total). The Contactor and County on-site Resident Engineer will have a satellite phone for communication with emergency service in case of fire or medical emergency. Thus, the impacts to transit, or present patterns of circulation and traffic is less than significant with mitigation measure TR-1**.**

(f.) Construction machinery and construction traffic will be present on the narrow two-lane Jalama Road. Traffic hazards would increase because of partial lane closures, increased construction traffic, presence of heavy construction machinery, commuter vehicles parked on

the side of the road, and deliveries of construction materials via trucks. In order to minimize these impacts to the safety of vehicles, bicyclists and pedestrians that use Jalama Road, Mitigation Measures TR-2 and TR-3 are proposed, with implementation of which, project impacts would be less than significant.

Mitigation and Residual Impact:

TR-1 Traffic Control Plan.
The Contractor shall communicate with the Fire Department /Ambulance and Jalama Beach County Park on-duty Ranger in advance of full bridge closures to warn them about the road closure and potential delays for access. A Traffic Control Plan is required to be developed to allow for most expeditious opening of the access for emergency vehicles during the full closures, if an emergency occurs. Message Boards will be placed at the Highway 1 and Jalama Road intersection and at Jalama Beach County Park warning of the night closures with an emergency contact number.

Plan Requirements: The requirements of the nighttime road closure traffic control plan shall be detailed in plans and specifications. **Timing:** Measures in the Traffic Control Plan shall be implemented prior to the beginning and through the duration of the nighttime construction activities. Implementation of the Plan shall occur prior to and during construction. **Monitoring**: The nighttime traffic control plan shall be reviewed for consistency with the requirements by the County RE prior to construction. The County RE shall ensure compliance with these requirements.

TR-2 One Lane Open At All Times.
One lane of Jalama Road shall remain open at all times during the daylight hours of project construction. The will be the six nights of six-hour closures; otherwise, the road shall be passable for motor vehicles, bicycles, horses and pedestrians. Flagmen shall be present during all lane closures or heavy equipment backing up or maneuvering within the roadway. During lane closures, Jalama Road shall allow for passage of the public using any of the above modes of transportation. If at any time one lane is to be left un-passable overnight, an appropriate means of ensuring safe traffic flow within the remaining single open lane (temporary signal lights, appropriate signage, etc.) shall be installed and remain in place for the duration of the lane closure.

Plan Requirements: The requirements to maintain one lane of Jalama Road open shall be detailed in plans and specifications. **Timing:** The Traffic Control Plan shall be developed prior to the construction activities. Implementation of the Plan shall occur prior to and during construction. **Monitoring**: The nighttime traffic control plan shall be reviewed for consistency with the requirements by the County RE prior to construction. The County RE shall ensure compliance with these requirements.

TR-3 Carpooling.
The Applicant shall encourage the project workers to carpool to the site in order to reduce parking needs at the project site. Prior to construction, designated parking areas shall be established to minimize safety risk to motorists, pedestrians, horses and bicyclists.

Plan Requirements: The requirements for carpooling open shall be noted in plans and specifications. **Timing:** Implementation of carpooling shall occur prior during construction. **Monitoring**: The County RE shall ensure compliance with these requirements.

With implementation of these mitigation measures, residual impacts would be less than significant. There will be no long-term transportation impacts and no cumulative impacts.

4.16 WATER RESOURCES / FLOODING

Will the proposal result in:	Poten. Signif.	Less Than Signif w/ Mitigation	Less Than Signif	No Impact	Reviewed Under Previous Docum.
a. Changes in currents, or the course or direction of water movements, in either marine or fresh waters?		X			
b. Changes in percolation rates, drainage patterns or the rate and amount of surface water runoff?			X		
c. Change in the amount of surface water in any water body?				X	
d. Discharge, directly or through a storm drain system, into surface waters (including but not limited to wetlands, riparian areas, ponds, springs, creeks, streams, rivers, lakes, estuaries, tidal areas, bays, ocean, etc.) or alteration of surface water quality, including but not limited to temperature, dissolved oxygen, turbidity, or thermal water pollution?		X			
e. Alterations to the course or flow of flood water or need for private or public flood control projects?				X	
f. Exposure of people or property to water related hazards such as flooding (placement of project in 100 year flood plain), accelerated runoff or tsunamis?				X	
g. Alteration of the direction or rate of flow of groundwater?				X	
h. Change in the quantity of groundwater, either through direct additions or withdrawals, or through interception of an aquifer by cuts or excavations or recharge interference?				X	
i. Overdraft or overcommitment of any groundwater basin? Or, a significant increase in the existing overdraft or overcommitment of any groundwater basin?				X	
j. The substantial degradation of groundwater quality including saltwater intrusion?				X	
k. Substantial reduction in the amount of water otherwise available for public water supplies?			X		
l. Introduction of storm water pollutants (e.g., oil, grease, pesticides, nutrients, sediments, pathogens, etc.) into groundwater or surface water?		X			

Environmental Setting:

The Jalama Creek watershed is approximately 16,000 acres, and the stream length is 53.56 miles, of which the perennial length is 14.74 miles. Minimum precipitation in the watershed area, which supplies water into the creek, is 15 inches/year; maximum precipitation is 21 inches/year (Conception Coast Project 2009). The creek discharges to the Pacific Ocean approximately 5.0 miles west of the project area. The lowest water levels are from August through October.

Impact Discussion:

The proposed bridge replacement work is planned to be conducted in such a manner as to avoid and prevent any significant impact to water resources. Vegetation will be trimmed back or protected as needed and silt fencing will be used where necessary to prevent soil erosion into the creek. No heavy equipment is planned to enter flowing or standing water within the creek, thus no dewatering is necessary.

(a.) The project area is located 5.0 miles from the marine waters (Pacific Ocean) and thus no impacts would occur to the marine waters due to the project. The only affected water body would be Jalama Creek. The proposed project would not result in a permanent change in currents or the course or direction of water movements of Jalama Creek. Mitigation measures including the prohibition of work in the creek channel and work near the creek to be done during the dry season of the year) are proposed to assure that this impact would be less than significant. **(b.)** The proposed project would not result in a permanent change to percolation rates, drainage patterns or the rate or amount of surface water runoff. The project will utilize existing disturbed areas for staging of equipment, and the existing access road to access the creek area on the northwest of the bridge. No new surface compaction or pavement which could affect drainage, surface runoff or percolation rates is proposed. No grading is proposed. This excavation will not affect surface water.

(c.) The project does not have a potential to change amounts of water in the creek, thus there will be no impacts.

(d, l.) The project has been designed to minimize the potential for discharges to the creek. There is some potential for discharge of pollutants into the creek channels from the machinery fuel or lubricant leaks, or from the paint spills. However, refueling will only be conducted 200 feet away from the creek channel containing flowing water and it will be confined within the designated tarped area to prevent accidental spills. A mitigation measure is required to install absorbent material(s) to prevent potential spill runoff into the creek from the refueling areas. A very low likelihood exists that an accidental spill of fuel, paint materials or lubricant occurs into the creek bed while the machinery is operating within the creek or transported across the dewatered part of the creek. A mitigation measure is proposed to require an immediate cleanup of the spill and affected soil. Those portions of the bridge that will have new steel members will be spray-painted. To prevent paint particles from being discharged into the creek or creek banks, and contaminating the water, areas under the painted bridge parts will be covered with tarp.

Several mitigation measures are proposed within Sections 4.4 (Biological Resources) and 4.9 (Hazards and Hazardous Materials) to mitigate impacts related to potential water contamination. With implementation of the proposed measures, impacts to the water of Jalama Creek will be less than significant.

(e, f.) The project involves replacement of the existing bridge. The project will not alter the course of the flood water flow, and will not create a need for flood control projects. The proposed bridge replacement project will not expose people or property to flooding, accelerated runoff or tsunamis. The topography of the creek banks or creek itself will not be altered, and no grading, additional structures, or impermeable surfaces will be constructed. Covering of designated fueling areas with impermeable tarps will be temporary and all tarps will be removed

at the end of the project. Thus, the project does not have a potential for altering floodwater flows in the area.

(g, h, i, j.) The project is not expected to add or withdraw groundwater, or overcommit groundwater resources. The project will use limited amounts of water for dust suppression. Any water needed for dust suppression will be trucked in from a public source, this use will be temporary. Thus, there will be no impacts to groundwater.

(k.) Surface water of Jalama Creek is not used for public supply. The project will not use large amounts of water. Water from a public source will be used for dust suppression, if necessary. However, the necessary water quantity will be small and limited to suppress dust on less than 0.5 acre for no longer than 320 work days. Because water use will be small and short-term, the project will have a less than significant impact on public water supplies.

Mitigation and Residual Impact:

Many of the mitigation measures listed in Section 4.4 (Biological Resources), Section 4.8 (Geologic Processes), as well as in Section 4.9 (Hazardous Materials/Risk of Upset) will serve to protect water resources, specifically measures F-1, R-1 and R-2, B-5 through B-8, B-12, B-19, B-20, and B-21. An additional measure is proposed here.

WR-1 Preparation of a Water Pollution Control Plan.
The County shall prepare a Water Pollution Control Plan (WPCP), which shall include Best Management Practices (BMPs) to be implemented and monitored prior to and during construction. The following BMPs shall be incorporated into the WPCP to minimize potential water quality impacts.

1. All ground disturbance shall be limited to the dry season or periods when rainfall is not predicted, to minimize erosion and sediment transport to surface waters;
2. Disturbed areas shall be stabilized or re-vegetated prior to the start of the rainy season; Impacts to vegetation shall be minimized. The work area shall be flagged to identify its limits. Vegetation shall not be removed or intentionally damaged beyond these limits.
3. Construction materials and soil piles shall be placed in designated areas where they could not enter Jalama Creek or storm drains due to spillage or erosion.
4. Waste and debris generated during construction shall be stored in designated waste collection areas and containers away from watercourses, and shall be disposed of regularly.
5. During construction, washing of concrete trucks, paint, equipment, or similar activities shall occur only in areas where polluted water and materials can be contained for subsequent removal from the site. Wash water shall not be discharged to the storm drains, street, drainage ditches, creeks, or wetlands. The concrete washout area shall be isolated from Jalama Creek, and wash water and waste shall be removed from project site. The location of the washout area shall be clearly noted at the construction site with signs.
6. All fueling of heavy equipment shall occur in a designated area removed from Jalama Creek and other drainages, such that any spillage would not enter surface waters. The designated refueling area shall include a drain pan or drop cloth and absorbent materials to clean up spills. The location of the fueling area shall be clearly noted at the construction site with signs.
7. Vehicles and equipment shall be maintained properly to prevent leakage of hydrocarbons and coolant, and shall be examined for leaks on a daily basis. All

maintenance shall occur in a designated offsite area. The designated area shall include a drain pan or drop cloth and absorbent materials to clean up spills.

8. Any accidental spill of hydrocarbons or coolant that may occur on the construction site shall be cleaned up immediately. Absorbent materials shall be maintained on the construction site for this purpose.
9. Temporary placement of fill shall be located outside of any drainage ways.
10. Adequate measures shall be applied to all disturbed portions of the project site to control dust, such as daily watering or hydro-mulching until vegetation cover is well established. Any fill or stockpiling that is to be left more than 30 days shall be hydro-seeded or covered immediately upon completion of the fill or stockpiling work.
11. All fill material shall be "clean" and free of any potentially hazardous materials or hazardous waste.

Plan Requirements: These requirements shall be noted in plan specifications and the WPCP shall be included with project plans. **Timing.** The plan requirements shall be adhered to through all construction activities. **Monitoring**: Plans shall be reviewed for consistency with these requirements by the County RE prior to construction. The County RE shall perform periodic site inspections to ensure compliance with these requirements.

With the incorporation of these measures, residual impacts to water resources would be less than significant. With implementation of this mitigation measure and other mitigation measures proposed in Sections 4.4 (Biological Resources) and 4.9 (Risk of Upset / Hazardous Materials), residual impacts would be less than significant. There will be no long-term impacts to water resources and no cumulative impacts.

5.0 PROJECT (SHORT- & LONG-TERM) & CUMULATIVE IMPACT SUMMARY

There will be no long-term impacts from the project. The project involves a construction phase only (320 work days, short-term), and all impacts will be mitigated during the implementation of the bridge replacement work.

There will be no cumulative impacts from the project.

The project will have several short-term impacts that have a potential to be significant. However, all these impacts will be mitigated to less than significant levels. These impacts are summarized in the table below.

Impact	Mitigation(s)
Aesthetics / Visual	**V-1 Minimization of Disturbance from Night Work Lighting.** To prevent nuisance and glare from the proposed night work lighting: • lighting shall be minimized to only what is required for safe operation, and the lights shall have appropriate shields that enable the light only to point down at the specific work area without illuminating the adjacent areas.
Air Quality: Mandatory Mitigations in an non-attainment area	**AQ-1 Air Quality BMPs.** The following Best Management Practices shall be incorporated into the project to minimize potential air quality impacts: 1. Project-related dust shall be kept to a minimum with a goal of retaining dust on-site. During vegetation removal, mowing, earth moving, excavation, or transportation of materials, a water truck will be used as necessary to prevent dust from leaving the site. 2. The bridge replacement contractor shall designate a person to monitor the dust control program and to order increased watering, as necessary, to prevent transport of dust off-site. 3. The contractor shall use, whenever feasible: • heavy-duty diesel powered construction equipment manufactured after 1996 (with federally mandated "clean" diesel engines); • catalytic converters on gasoline-powered equipment or diesel catalytic converters if available; • electric equipment instead of diesel-powered equipment if grid power is available, (this measure is not applicable to the current project because grid power is not readily available at the site; however, it is listed for completeness); • minimum practical engine size of construction equipment; • smallest practical number of simultaneously operating construction equipment. 4. Construction equipment shall be maintained consistent with

Impact	Mitigation(s)
	manufacturer's specifications. All equipment shall be checked and tuned to ensure efficient operation. 5. Speed of travel on unpaved areas shall be limited to 15 mph or less. 6. The contractor shall implement carpooling and vehicle trip reduction mitigations to the extent possible. 7. Trucks transporting soil or other bulk materials (if any) to and from the site shall be tarped from the point of origin. 8. The contractor shall minimize visible roadway dust from track-out/carry-out and remove visible roadway dust at the conclusion of each work day. 9. Demolished structures will be directed inward toward the existing structure (this measure is not applicable to the current project; however, it is listed for completeness). 10. Soil stockpiled for more than two days shall be covered, kept moist, or treated with soil binders to prevent dust generation.
Biological Resources:	**BIO-1: Timing of Construction and Vegetation Removal.** The work schedule for construction involving earth-moving, demolition and other heavy equipment shall coincide with the start of the dry season of the year when water levels in Jalama Creek are low. As such, the potential for offsite impacts to aquatic, riparian, and wetland resources will be minimized. Work that must be performed adjacent to the actual channel and banks of the creek shall be done during the dry season between May 1 and November 30. This will also be the time of year when steelhead would be least likely to travel through the area. Some construction tasks away from the banks may be completed between December 1 and April 30. Impacts to nesting birds shall be minimized by removing vegetation before February 15 or after August 15 (outside the nesting season for most birds). Cliff swallows using the sides of the bridge for nesting will likely have concluded nesting by the end of July. To ensure avoidance of active bird nests, pre-construction surveys shall also be conducted, as described below **(BIO-8)**. **BIO-2: Minimization of Disturbance for Construction and Staging.** The size of the construction area and staging area shall be limited to that necessary to complete the project. Reducing the amount of disturbance necessary for the project will minimize impacts to all the natural vegetation types represented in the Construction Impact Area (CIA) and the plants and wildlife that occupy the habitats. It will also reduce the amount of post-construction revegetation that will be necessary to mitigate permanent and temporary impacts to vegetation types. The disturbance areas shall be marked with fencing, flagging, stakes, and/or other means to indicate the boundaries to workers. No project-related activities shall take place outside of the marked boundaries. Work will be conducted from the top of

Impact	Mitigation(s)
	the bank to install abutments for the new bridge. No work shall occur in the creek channel and no vehicles or equipment shall enter the channel because: (a) demolition of the existing bridge shall be done from the banks; (b) construction of the new bridge shall be done from the banks; and (c) the old concrete in the channel shall not be removed to avoid impacts to California red-legged frogs and western pond turtles. Workers shall enter the channel only as necessary to retrieve debris from demolition of the existing bridge. A biological monitor shall accompany the workers when they enter the channel or riparian zone. There will be no water diversion and no new access roads for this project. The construction staging area shall be located above the top bank of the creek, northwest of the bridge. There shall be no re-fueling of vehicles within 200 feet of the stream channel containing flowing water. The following best management practices (BMPs) for refueling vehicles and equipment shall be followed: o When fueling, tanks shall not be topped off. o When fueling, secondary containment, such as drip pans, shall be used to catch spills. o Fueling and servicing shall only be done in designated areas that are enclosed by spill-containing berms. o Employees and subcontractors shall be trained in proper fueling, servicing, and clean-up procedures. o All fluid spills shall be reported immediately to the County. A spill contingency plan that covers possible leaks and spills of hazardous materials into Jalama Creek shall be developed by the contractor prior to the start of construction and implemented, as necessary. **BIO-3: Restriction on Night Work and Night Light.** Night work shall be limited to six nights, including three consecutive nights in each of two phases. Night lighting shall be used for this project only in association with the night work (six nights total). The amount of night lighting shall be restricted to that necessary for safety and security, and shall be directed inward toward the work area. These limitations on night work and night lights will reduce impacts to animals active at night, such as CRLF and species of bats. It will also reduce impacts to species that utilize the creek for foraging and travel at night, such as mule deer, coyote, and gray fox.

Impact	Mitigation(s)
	BIO-4: Environmental Awareness Training. An environmental awareness program shall be presented to construction crews before project initiation. The education program shall include a brief review of the federally- and state-listed species, as well as other species and habitats of concern that occur in and near the project area. The information shall include life history and habitat requirements, the potential to occur in the project area, and their legal status and protection under the Federal and California Endangered Species acts, California Environmental Quality Act, and other policies and codes, such as the California Fish and Game Code. The program shall also cover the restrictions and guidelines that must be followed by all construction personnel to reduce or avoid effects on these species during project implementation. The importance of preventing the spread of invasive plant species will be discussed, as well as measures that can be implemented to ensure that introductions of invasive plants do not occur. The crew foreman shall be responsible for ensuring that crew members adhere to the guidelines and restrictions. Restrictions and guidelines that must be followed by construction personnel shall include such activities as limiting the amount of disturbance to natural vegetation and staying out of the creek bed. **BIO-5: Restriction on Firearms and Pets.** Persons in the project area who are under County or contractor control shall not carry firearms nor will they engage in hunting or fishing. No pets shall be allowed in the project area. **BIO-6: Minimization of Potential for Concrete to Enter the Creek.** The following measures shall be taken to minimize the potential for concrete to enter Jalama Creek: • Tarps shall be placed on the tops of creek banks to keep spilled concrete from reaching the channel surface. Tarps shall be collected and disposed properly at the end of concrete pouring. • Silt fencing and other barriers shall be used to keep concrete in the pour area of the CIA. • The washing of concrete trucks shall occur only in an area where concrete and concrete-affected water can be contained for subsequent removal from the site. Wash water shall not be discharged to the creek or road drains. The area designated for washing functions shall be at least 200 feet from road drains and the creek channel containing flowing water, and shall not be in a location from where a spill would drain directly toward aquatic habitat. The location of the washout area shall be clearly noted at the construction site with signs.

Impact	Mitigation(s)
	BIO-7: Control of Litter. Litter and trash can attract and concentrate native (such as raccoons) and non-native (dogs) animals to the vicinity of the project. These animals could potentially prey on common and special-status wildlife in and near the project area. The project area shall be kept free from litter at all times by providing closed containers for trash and all construction-generated material wastes. These containers shall be emptied at regular intervals and the contents properly disposed. **BIO-8: Pre-construction Surveys.** To further reduce the likelihood and magnitude of impacts to species of special concern, including black-flowered figwort, steelhead, arroyo chub, California red-legged frog, western pond turtle, two-striped garter snake, least Bell's vireo, southwestern willow flycatcher, yellow warbler, raptors, nesting birds, and American badgers, a pre-construction survey shall be conducted. To avoid initiation of nests following surveys, the surveys shall be conducted within 2 weeks of the start of construction. For black-flowered figwort, the surveys shall be conducted during the flowering season between April and July. The following actions shall be taken if one or more of the following are found in the CIA during the pre-construction survey: ***Black-flowered figwort –*** If individual plants are found in the CIA, they shall be marked for avoidance. If any of the plants cannot be avoided, their removal shall be documented and the revegetation plan revised to include this species. ***Steelhead and arroyo chub –*** If individuals of steelhead or arroyo chub are observed, the biologist will continue to monitor their presence through the construction phase. The implementation of additional measures, including translocation, shall not be necessary because no work will occur in or near the stream channel. See also Mitigation Measure **BIO-10** for additional steelhead protective measures provided by Matthew McGoogan of NMFS to Padre Associates that were incorporated into the Biological Assessment (Padre 2003a). ***California red-legged frog –*** If individuals of red-legged frog are observed in or near the work areas and could potentially be affected by construction activities, they shall be moved out of harm's way to a pre-approved location by a biologist with approval from USFWS. Other measures from the Programmatic BO (USFWS 2011) for the protection of California red-legged frog are listed in **BIO-11**. In addition, consistent with measures in the Programmatic Biological Opinion (8-8-10-F-58) issued by USFWS to Caltrans in 2011: • The biological monitor will identify translocation habitat near the project area in the event that CRLF need to be moved out of the project area.

Impact	Mitigation(s)
	• The monitor will photograph CRLFs handled and will make written descriptions on monitoring data sheets or field notes. Information collected will include life stage (adult, subadult, and larvae), identifying features, location of collection, and a description of the translocation site. Data collected on CRLFs handled will be included in an end-of-project monitoring report. These last two measures shall be needed only if relocation of California red-legged frogs is necessary. The likelihood of that occurring is minimal because workers will enter the riparian zone and vicinity of the creek channel only to retrieve debris from the demolition of the old bridge. Moreover, existing concrete in the channel that is being used by red-legged frogs as cover will not be removed, thus further minimizing the need to handle and relocate this species. It is also possible, but unlikely, to encounter red-legged frogs in other locations, such as the parking/laydown areas, and the upper banks of the creek near the abutments for the new bridge. If red-legged frogs are observed in or near the work areas and could potentially be affected by construction activities, they shall be moved out of harm's way to a pre-approved location by a biologist with approval from USFWS. ***Western pond turtle and two-striped garter snake –*** If individuals of either species are found, they shall be translocated to a pre-approved location. The individual animals translocated shall be photographed and notes taken similar to those described for translocation of CRLF (**BIO-11**). If a nest of a western pond turtle is found, a plan for avoidance will be prepared and submitted DPW, Caltrans and CDFW for review and approval. ***Least Bell's vireo and southwestern willow flycatcher -*** In the event that active nests of least Bell's vireo or southwestern willow flycatcher are found, they shall be avoided by at least 250 feet. If active nests are closer than 250 feet to the nearest work site, a plan to avoid disturbance to the nest and the nesting birds during construction shall be prepared and submitted to DPW, Caltrans, USFWS, and CDFW for review and approval. ***Nesting common and special-status species and raptors –*** Special-status species included in this measure are yellow warbler, southern California rufous-crowned sparrow, grasshopper sparrow, Bell's sage sparrow, white-tailed kite, and Cooper's hawk. If active nests are found, the bird(s) using the nest will be identified to species and the distance to the closest point of project activity measured. No additional measures will be

Impact	Mitigation(s)
	implemented if active nests are more than the following distances from the nearest work site: (1) 300 feet for raptors; and (2) 75 feet for other species. If active nests are closer than those distances to the nearest work site, a plan to avoid disturbance to the nest and the nesting birds during construction will be prepared and submitted to Caltrans and CDFW for review and approval. ***Non-nesting special-status birds*** - If non-nesting special-status species are found (such as wintering mountain plovers, wintering sharp-shinned hawks, or foraging northern harriers) during the pre-construction survey in or near the CIA, the type of avoidance required will be evaluated and an avoidance plan will be prepared, if necessary, and submitted to Caltrans and CDFW for review and approval. ***American badger –*** Badger burrows were not found during field surveys, but there is a low potential for one or more new burrows to be established prior to the start of construction. If a burrow is found in the CIA, its location will be reviewed by the project biologist relative to work activities. If the burrow can be avoided by at least 50 feet, it will be left intact, but periodically monitored by the biologist. If the burrow is closer than 50 feet, it shall be monitored for at least three nights. The area in front of the burrow entrance shall be smoothed and diatomaceous earth will be placed at the entrance. The diatomaceous earth shall be checked for three consecutive mornings for badger tracks. If no tracks are found, the burrow shall be excavated by hand to ensure no occupancy by badgers, then backfilled. If tracks or other indicators of current occupancy are observed, the burrow shall be monitored for an additional three days. During the second three-day period, the entrance will be partially blocked with dirt, sticks and other small items. A greater proportion of the entrance will be blocked each night in an effort to encourage the badger to vacate the burrow. At the end of the second three-day monitoring period, the burrow shall be excavated by hand to ensure the badger does not remain in the burrow during disturbance. **BIO-9: Biological Monitoring.** An agency-approved biologist shall be retained full-time to monitor during key times of demolition (abutment removal and removal of decking with a crane) and construction (installation of abutments, pouring of concrete, and construction of the retaining wall). At other times throughout the project, a biologist shall periodically monitor the project area, including the staging areas, to assess if mitigation measures and

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	permit conditions are being implemented appropriately. This will help ensure that impacts are being minimized to both the common resources and federally-listed species. If any of the resources included in measure **BIO-8** above are found and could be affected by project activities, the appropriate actions described in **BIO-8** will be implemented. **BIO-10: Southern California Steelhead Protection Measures.** To offset potential effects to the. critical habitat of the Southern Steelhead the following measures will be implemented. • Construction activities within Jalama Creek banks and associated Willow Riparian habitat will be conducted during the dry season (May to December). • All fueling of vehicles and other equipment will occur at least 200 feet from the creek channel containing flowing water. The County will ensure that contamination of habitat does not occur during fueling or maintenance operations. Prior to the onset of work, the contractor shall prepare a spill response plan to allow a prompt and effective response to any accidental spills. All workers shall be informed of the importance of preventing spills and of the appropriate measures to take should a spill occur. • To control erosion during and after project implementation and potential increase of sedimentation and turbidity within Jalama Creek, the contractor will install silt fence, straw wattles or other erosion control devices down slope of all exposed slopes and/or soil piles. The erosion control devices will be monitored by the on-site biological monitor to ensure devices are in working order. • To control the potential of an accidental spill of concrete during construction, containment devices such as spill containment berms or other devices shall be implemented during concrete pours. Exposed earth, slopes and the creek bank of the project site will be covered with a jute netting and compost blanket with a native seed mix when the project is complete. **BIO-11: California Red-legged Frog Protection Measures.** To offset potential reduction and/or restriction of the California red-legged frog (a threatened species) or critical habitat of the species, measures in the Programmatic Biological Opinion for Projects Funded or Approved under the Federal Highway Administrative Aid Program (9-9-10-F-58) will be applied, The following measures may be implemented from the Programmatic Biological Opinion if required: • At least 15 days prior to ground disturbing activities, Caltrans

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	will submit the names and credentials for biologist(s) to the U.S. Fish and Wildlife Service (USFWS) for approval to conduct the activities specified in the following measures. No project activities will begin until Caltrans has received approval from the agency that the biologist(s) is qualified to do the work. • An agency-approved biologist will conduct surveys at the project site two weeks before project activities begin. If California red-legged frog adults, tadpoles, or eggs are found, the approved biologist will contact the USFWS to determine if moving frogs of any life stages is appropriate. In making this determination, the USFWS will consider if an appropriate relocation site exists. • If the USFWS approves moving the animals, the approved biologist will be allowed sufficient time to move the frogs from the work site before work activities begin. Only approved biologists will participate in activities associated with the capture, handling and monitoring of California red-legged frogs. • Within three days prior to construction activities, the agency-approved biologist(s) will inspect the project area and associated silt fences for California red-legged frogs. This will be done two times at night and two times during daylight hours. If any California red-legged frog adults or tadpoles are found within the project area, they will be moved to the nearest appropriate habitat and released by the agency-approved biologist. In addition, if any California red-legged frog adults or tadpoles are found during the surveys, the agency-approved biologist shall check the immediate project area for ten consecutive days prior to the start of each day's work. If no frogs are found during the ten consecutive days, then the immediate project area will be checked at the discretion of the agency-approved biologist. If activities cease for more than one week, a one-night search for California red-legged frogs will be conducted within 100 feet upstream and 250 feet downstream of the project area. • Prior to commencing project activities, including excavation in upland areas, which could injure or kill individual California red-legged frog, a pre-construction survey will be conducted immediately preceding the activity. The agency-approved biologist will search all potential hiding spots for California red-legged frog. The agency-approved biologist will relocate any California red-legged frogs found within the project area to the nearest appropriate habitat. • An agency-approved biologist will ensure that the spread or introduction of invasive exotic plant species will be avoided to the maximum extent possible. When practicable, existing invasive exotic plant species in the project area will be removed. • An agency-approved biologist will permanently remove from the project area any individuals of exotic species, such as bullfrogs (*Rana catesbeiana*), crayfish, and centrarchid fishes, to the

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	maximum extent possible. The agency-approved biologist will have the responsibility to ensure that project activities are in compliance with the California Fish and Game Code and the Lake and Streambed Alteration Agreement (LSAA). **BIO-12: Cliff Swallow Protection Measures.** Cliff swallows have built mud nests on the bridge in past years. Therefore, the existing bridge shall be covered with exclusionary netting during February 15 to August 15 (the nesting season for cliff swallows) to prevent the possibility of swallows nesting on the bridge. This measure will also minimize impacts to other bird species that could nest on or under the bridge, such as black phoebe and house finch. **BIO-13: Bat Protection Measures.** Based on results from surveys conducted in July 2009 and December 2013, it appears that up to five species of bats are known to, or could, use the underside of the bridge as roosting habitat: Yuma myotis, California myotis, pallid bat, big brown bat, and Mexican free-tailed bat. Based on Anabat results and observations of prey remains (insect parts) under the bridge, it appears that Yuma myotis, big brown bat, and pallid bat forage in the vicinity of the bridge. Potential roosting areas include a narrow opening in the deck on the west side of the bridge, old inactive cliff swallow nests, and the opposite ends of the bridge where insect parts were observed. The former two places could be day roosts, while the ends of the bridge could be used by pallid bats as night roosts. To reduce the likelihood and magnitude of impacts to bat species, the narrow opening on the underside of the bridge will be examined by a qualified bat biologist, as will the opposite ends of the bridge near the existing abutments. This will be done prior to the installation of exclusionary netting for cliff swallows. If bats are found roosting under the bridge, such locations will be closed off when bats are not present. Materials to be used could potentially include visqueen or heavy plastic. After ensuring that no bats are utilizing the bridge and the closing off of potential roost sites, the cliff swallow netting will be installed, thus preventing future use by either cliff swallows. The installation of both the netting and material to keep bats from returning to their roost will be done between November 1 and February 15 to avoid cliff swallow nesting season, as well as the March-October bat reproduction season. Based on results of the inspection of the underside of the bridge, the bat biologist may develop an alternate plan of exclusion that will ensure no loss of individual bats. **BIO-14: Restoration.** Following construction, areas of temporarily disturbed earth will be re-graded, returned to their natural slope, secured through erosion control measures, and revegetated after

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	construction is completed. Revegetation shall be implemented according to the guidelines contained in the restoration plan (under separate cover and available for review in the project file), which includes a mix of native plant species comprising the vegetation type that was disturbed. Materials such as a compost blanket with a native seed mix, straw wattles and fiber mats will be used, as necessary, to control erosion and offsite transport of sediment. The restoration plan will be implemented to mitigate for: • Temporary disturbance of 0.23 acre of Central Coast sage scrub and 0.03 acre of Coast live oak woodland; • Permanent disturbance of 0.02 acre of Central Coast sage scrub; and • Pruning or removal of three coast live oak trees. The restoration area is offsite to the east of the project site. Restoration areas were not selected at the project site because: (a) there was little space available; (b) it would require purchase of land by the County to implement restoration at or near the site; (c) there will be greater efficiency in the maintenance of a single, contiguous restoration area, thus increasing the likelihood of success. Prescriptions for revegetating and restoring the offsite area are included in the restoration plan. The prescriptions include seed mixes, appropriate container plant species and sizes, removal of invasive non-native plants, and possible use of hydroseed. A five-year monitoring plan is also described, as well as success criteria for planted trees and shrubs. **BIO-15: Protection of Oak Trees.** Only designated trees shall be removed. Trees scheduled for removal shall be marked in the field, and include no more than three coast live oak trees with a diameter-at-breast-height of six inches or greater located within 10 feet of anticipated ground disturbance shall be temporarily fenced with orange plastic construction fencing throughout construction and demolition activities. The fencing shall be installed at a minimum of at the dripline of each tree. The loss of any protected coast live oak tree greater than 8” DBH shall be mitigated by planting coast live oaks at a mitigation ration of 10:1, such that 10 coast live oak trees would be planted for each one tree removed. Replacement coast live oak trees shall be planted within the Jalama Road right-of-way area east of the project location. One to five gallon container oaks will be used and should be propagated from genetic stock originating from the southern Santa Barbara County region. Each mitigation tree should be protected against ground disturbance, soil compaction, over irrigation and should be fenced or provided with herbivore protection (wire cages or equivalent). Mitigation trees shall be irrigation when natural moisture conditions are inadequate to ensure survival of the plants. Irrigation shall be

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	provided for a period of at least two years from initial planting: 80% of plantings must survive for three an additional years without irrigation to be considered successful. All planting shall be installed between October 1 and April 30 to take advantage of the rainy season.
Cultural Resources	**CR-1 Discovery of Archaeological Remains.** In the event archaeological remains are encountered during grading, work in the vicinity of the find shall be stopped immediately or redirected until a County-qualified archaeologist and Native American representative are retained to evaluate the significance of the find pursuant to Phase 2 investigations of the County Archaeological Guidelines. If remains are found to be significant, they shall be subject to a Phase 3 mitigation program consistent with County Archaeological Guidelines and funded by the applicant. **CR-2 No Disturbance of Human Remains.** If human remains are unearthed, State Health and Safety Code Section 7050.5 requires that no further disturbance shall occur until the County Coroner has made the necessary findings as to origin and disposition pursuant to Public Resource Code Section 5097.98. If the remains are determined to be of Native American decent, the coroner has 24 hours to notify the Native American Heritage Commission.
Fire Protection: Project-caused high fire hazard	F-1 **Preparation of Fire Awareness and Avoidance Plan.**To minimize potential construction-related fire hazards, a Fire Awareness and Avoidance Plan shall be prepared. The Plan shall include the following: • Fire preventative measures addressing cutting, grinding and welding or other types of work that could cause a fire; • Fire extinguishers shall be required in every vehicle on-site; • Maintaining a water truck on-site if working during fire season; • No construction activity during red flag alerts; • Communication with emergency response agencies; • Fueling of equipment outside of the specially designated and covered areas shall not be permitted; • In order to minimize the potential for a vehicle-induced brush fire, vegetation at the work area(s) (such as vehicle refueling, staging areas, and welding areas) shall be mowed or trimmed where necessary prior to equipment access; • Fire extinguishing equipment (fire extinguishers, shovels, etc.) shall be maintained at the site at all times and easily accessible to assure first fire response is available for small fires; • At all times, the project foreman or another designated responsible individual at the site shall have working

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	communication means (e.g., cell or satellite phones with verified connectivity to the network) to enable contact with the Fire Department in case of a fire; and • Smoking shall be prohibited on-site, or only allowed in areas where there is no chance of accidentally starting a fire; these areas must be visibly designated with "smoking in this area only" signage and include ashcans or other cigarette disposal containers. Fire extinguishing equipment (fire extinguishers, shovels, etc.) shall be maintained at the location at all times and easily accessible to assure first fire response is available for small fires.
Hazardous Materials / Risk of Upset: A risk of an explosion or the release of hazardous substances (e.g., oil, gas, biocides, bacteria, pesticides, chemicals or radiation) in the event of an accident or upset conditions.	**HAZ-1 Preparation of a Sediment Disposal Plan.** The Contractor shall prepare a Sediment Disposal Plan to determine the proper handling and disposal methods of any contaminated excavated soils. The plan shall require sampling for various constituents in the soils to determine appropriate disposal alternatives. The plan shall be submitted to the County Resident Engineer for review and approval of recommended sediment handling and disposal methods and locations. If the plan determines that soil sampling is necessary to determine the level of contaminants in on-site sediments, preliminary soil sampling reports shall be prepared for review and approval by the County RE prior to initiation of grading or excavation activities. **HAZ-2 Preparation of a Hazardous Material Spill Prevention Plan.** Prior to construction, the Contractor shall prepare a Hazardous Material Spill Prevention, Control and Countermeasure Plan to minimize the potential for, and effects of, spills of hazardous or toxic substances during construction of the project. The plan shall be submitted for review and approval by the County Public Works Resident Engineer, and shall include, at minimum, the following: 1. A description of storage procedures and construction site maintenance and upkeep practices; 2. Identification of a person or persons responsible for monitoring implementation of the plan and spill response; 3. Identification of Best Management Practices (BMPs) to be implemented to ensure minimal impacts to the environment occur, including but not limited to the use of containment devices for hazardous materials, training of construction staff regarding safety practices to reduce the chance for spills or accidents, and use of non-toxic substances where feasible; 4. A description of proper procedures for containing, diverting, isolating, and cleaning up spills, hazardous substances and/or soils, in a manner that minimizes impacts on surface and groundwater quality and sensitive biological resources; 5. A description of the actions required if a spill occurs, including which authorities to contact and proper clean-up procedures;

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	and 6. A requirement that all construction personnel participate in an awareness training program conducted by qualified personnel approved by the County RE. The training must include a description of the Hazardous Materials Spill Prevention, Control and Countermeasure Plan, the plan's requirements for spill prevention, information regarding the importance of preventing spills, the appropriate measures to take should a spill occur, and identification of the location of all clean-up materials and equipment.
Transportation / Circulation: A need for private or public road maintenance. Increase in traffic hazards to motor vehicles, bicyclists or pedestrians during short-term construction.	**TR-1 Traffic Control Plan.** The Contractor shall communicate with the Fire Department /Ambulance and Jalama Beach County Park on-duty Ranger in advance of full bridge closures to warn them about the road closure and potential delays for access. A Traffic Control Plan is required to be developed to allow for the most expeditious opening of the access for emergency vehicles during the full closures, if an emergency occurs. Message Boards will be place at the Highway 1 and Jalama Road intersection and at Jalama Beach County Park warning of the night closures with an emergency contact number. **TR-2 One Lane Open At All Times.** One lane of Jalama Road shall remain open at all times during the daylight hours of project construction. There will be the six nights of six-hour closures; otherwise, the road shall be passable for motor vehicles, bicycles, horses and pedestrians. Flagmen shall be present during all lane closures or heavy equipment backing up or maneuvering within the roadway. During lane closures, Jalama Road shall allow for passage of the public using any of the above modes of transportation. If at any time one lane is to be left un-passable overnight, an appropriate means of ensuring safe traffic flow within the remaining single open lane (temporary signal lights, appropriate signage, etc.) shall be installed and remain in place for the duration of the lane closure. **TR-3 Carpooling.** The Applicant shall encourage project workers to carpool to the site in order to reduce parking needs at the project site. Prior to construction, designated parking areas shall be established to minimize safety risk to motorists, pedestrians, horses and bicyclists.
Water Resources:	**WR-1 Preparation of a Water Pollution Control Plan.** The County shall prepare a Water Pollution Control Plan (WPCP), which shall include Best Management Practices (BMPs) to be implemented and monitored prior to and during construction. The following BMPs shall be incorporated into the WPCP to minimize potential water quality impacts: 1. All ground disturbance shall be limited to the dry season or

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	periods when rainfall is not predicted, to minimize erosion and sediment transport to surface waters; 2. Disturbed areas shall be stabilized or re-vegetated prior to the start of the rainy season; impacts to vegetation shall be minimized. The work area shall be flagged to identify its limits. Vegetation shall not be removed or intentionally damaged beyond these limits. 3. Construction materials and soil piles shall be placed in designated areas where they could not enter Jalama Creek or storm drains due to spillage or erosion. 4. Waste and debris generated during construction shall be stored in designated waste collection areas and containers away from watercourses, and shall be disposed of regularly. 5. During construction, washing of concrete trucks, paint, equipment, or similar activities shall occur only in areas where polluted water and materials can be contained for subsequent removal from the site. Wash water shall not be discharged to the storm drains, street, drainage ditches, creeks, or wetlands. The concrete washout area shall be isolated from Jalama Creek, and wash water and waste shall be removed from project site. The location of the washout area shall be clearly noted at the construction site with signs. 6. All fueling of heavy equipment shall occur in a designated area removed from Jalama Creek and other drainages, such that any spillage would not enter surface waters. The designated refueling area shall include a drain pan or drop cloth and absorbent materials to clean up spills. The location of the fueling area shall be clearly noted at the construction site with signs. 7. Vehicles and equipment shall be maintained properly to prevent leakage of hydrocarbons and coolant, and shall be examined for leaks on a daily basis. All maintenance shall occur in a designated offsite area. The designated area shall include a drain pan or drop cloth and absorbent materials to clean up spills. 8. Any accidental spill of hydrocarbons or coolant that may occur on the construction site shall be cleaned up immediately. Absorbent materials shall be maintained on the construction site for this purpose. 9. Temporary placement of fill shall be located outside of any drainage ways. 10. Adequate measures shall be applied to all disturbed portions of the project site to control dust, such as daily watering or hydro-mulching until vegetation cover is well established. Any fill or stockpiling that is to be left more than 30 days shall be hydro-seeded or covered immediately upon completion of the fill or stockpiling work. 11. All fill material shall be “clean” and free of any potentially hazardous materials or hazardous waste.

6.0 MANDATORY FINDINGS OF SIGNIFICANCE

Will the proposal result in:	Poten. Signif.	Less Than Signif w/ Mitigation	Less Than Signif	No Impact	Reviewed Under Previous Docum.
1. Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?		X			
2. Does the project have the potential to achieve short-term to the disadvantage of long-term environmental goals?				X	
3. 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.)			X		
4. Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?		X			
5. Is there disagreement supported by facts, reasonable assumptions predicated upon facts and/or expert opinion supported by facts over the significance of an effect which would warrant investigation in an EIR?			X		

1. The proposed Jalama Road Bridge 51C-017 Replacement Project could potentially have impacts to natural plant communities/wildlife habitats, habitats used by special-status species (including critical habitat for steelhead and habitat for red-legged frog, western pond turtle, two-striped garter snake, breeding birds, bats, and American badger), individuals of special-status species, and creekbank stability. However, these impacts will be mitigated to less than significant levels with the proposed mitigation measures. The project will not eliminate important examples of California history or pre-history.

2. The proposed project will not achieve short-term goals to the disadvantage of long-term environmental goals. In fact, the proposed replacement will reduce likelihood of hazards from earthquakes affecting the bridge structure.

3. The proposed project will not have cumulative impacts. The project is located in a remote area, far from residences or other sensitive receptors. All impacts will be localized, and short term. All impacts will be either less than significant or mitigated to less than significant levels.

4. The project will potentially have impacts in the areas of fire protection and hazardous materials, which can potentially adversely impact human health. However, these impacts will be mitigated to less than significant levels with the proposed mitigations.

5. There are no disagreements in the facts or expert opinions over the significance levels of the presented impacts from the proposed project. Investigation in an EIR is therefore not warranted.

7.0 PROJECT ALTERNATIVES

No potentially significant, adverse and unavoidable impacts would result. Therefore, project alternatives to minimize potential un-mitigable effects are not necessary.

8.0 INITIAL REVIEW OF PROJECT CONSISTENCY WITH APPLICABLE SUBDIVISION, ZONING, AND COMPREHENSIVE PLAN REQUIREMENTS

The project is a public works improvement project necessary to correct structural deficiencies currently affecting the Jalama Road Bridge 51C-017. The project is necessary to maintain public safety and access to Jalama County Park, residential development and agricultural operations in the rural area. It does not propose a change in existing land use or intensity of use. Preliminary analysis indicates that it would be consistent with applicable subdivision, zoning and comprehensive plan requirements.

An analysis of the consistency of the proposed project with applicable policies of the Comprehensive Plan is provided below. The proposed project, with incorporated mitigation measures, is expected to be consistent with all land use and development policies.

8.1 HILLSIDE AND WATERSHED PROTECTION POLICIES

1) Plans for development shall minimize cut and fill operations. Plans requiring excessive cutting and filling may be denied if it is determined that the development could be carried out with less alteration of the natural terrain.

Consistency: The proposed new bridge structure minimizes cut and fill due to the geometric constraints of the Jalama Road and creek and the fact that the bridge is a precast structure. The construction of the new bridge limits alternation of the natural terrain.

2) All developments shall be designed to fit the site topography, soils, geology, hydrology, and any other existing conditions and be oriented so that grading and other site preparation is kept to an absolute minimum. Natural features, landforms, and native vegetation, such as trees, shall be preserved to the maximum extent feasible. Areas of the site which are not suited to development because of known soil, geologic, flood, erosion or other hazards shall remain in open space.

Consistency: The proposed new bridge structure fits to the site topography and limits grading and impacts to the surrounding natural features.

3) Degradation of the water quality of groundwater basins, nearby streams, or wetlands shall not result from development of the site. Pollutants, such as chemicals, fuels, lubricants, raw sewage, and harmful waste shall not be discharged into or alongside coastal streams or wetlands either during or after construction.

Consistency: Mitigation measures for the proposed project protect the nearby creeks from pollutants and prohibit discharge of fuels, lubricants and cement washout into Jalama Creek.

8.2 STREAM AND CREEK POLICIES

1) All permitted construction and grading within stream corridors shall be carried out in such a manner as to minimize impacts from increased runoff, sedimentation, biochemical degradation, or thermal pollution.

Consistency: Mitigation measures for the proposed project protect the nearby stream from sedimentation and erosion into Jalama Creek.

8.3 FLOOD HAZARD AREA POLICIES

1) All development, including construction, excavation, and grading, except for flood control projects and non-structural agricultural uses, shall be prohibited in the floodway unless off-setting improvements in accordance with federal regulations are provided. If the proposed development falls within the floodway fringe, development may be permitted, provided creek setback requirements are met and finished floor elevations are two feet above the projected 100-year flood elevation, and the other requirements regarding materials and utilities as specified in the Flood Plain Management Ordinance are in compliance.

Consistency: A portion of the proposed bridge is to be constructed within a portion the floodway as are most bridges supporting public transportation facilities. The proposed bridge deck will be outside the 100-year flood plain elevation of Jalama Creek.

8.4 HISTORICAL AND ARCHAEOLOGICAL SITES POLICIES

1) All available measures, including purchase, tax relief, purchase of development rights, etc. shall be explored to avoid development on significant historic, prehistoric, archaeological, and other classes of cultural sites.

Consistency: The proposed bridge location was thoroughly studied and documented with a Historic Property Survey Report and an Archaeology Survey Report that determined no archaeological or historic resources would be impacted. Mitigation measures for the proposed project are in place in the unlikely event that cultural materials are found during excavation of the roadway or the banks of Jalama Creek.

9.0 RECOMMENDATION BY P&D STAFF

On the basis of the Initial Study, the staff of Planning and Development:

_____ Finds that the proposed project WILL NOT have a significant effect on the environment and, therefore, recommends that a Negative Declaration (ND) be prepared.

__X__ Finds that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because the mitigation measures incorporated into the REVISED PROJECT DESCRIPTION would successfully mitigate the potentially significant impacts. Staff recommends the preparation of an ND. The ND finding is based on the assumption that mitigation measures will be acceptable to the applicant; if not acceptable, a revised Initial Study finding for the preparation of an EIR may result.

_____ Finds that the proposed project MAY have a significant effect on the environment, and recommends that an EIR be prepared.

_____ Finds that from existing documents (previous EIRs, etc.) that a subsequent document (containing updated and site-specific information, etc.) pursuant to CEQA Sections 15162/15163/15164 should be prepared.

Potentially significant unavoidable adverse impact areas:

_____ With Public Hearing __X__ Without Public Hearing

PREVIOUS DOCUMENT: N/A

PROJECT EVALUATOR: **Morgan M. Jones** **DATE:** _____

10.0 DETERMINATION BY ENVIRONMENTAL HEARING OFFICER

__✓__ I agree with staff conclusions. Preparation of the appropriate document may proceed.

_____ I DO NOT agree with staff conclusions. The following actions will be taken: _____

_____ I require consultation and further information prior to making my determination.

Signature: _____ Initial Study Date: _____

Signature: _____ Negative Declaration Date: _____

Signature: _____ Revision Date: _____

Signature: _____ Final Neg. Dec. Date: 9/5/14

11.0 REFERENCES

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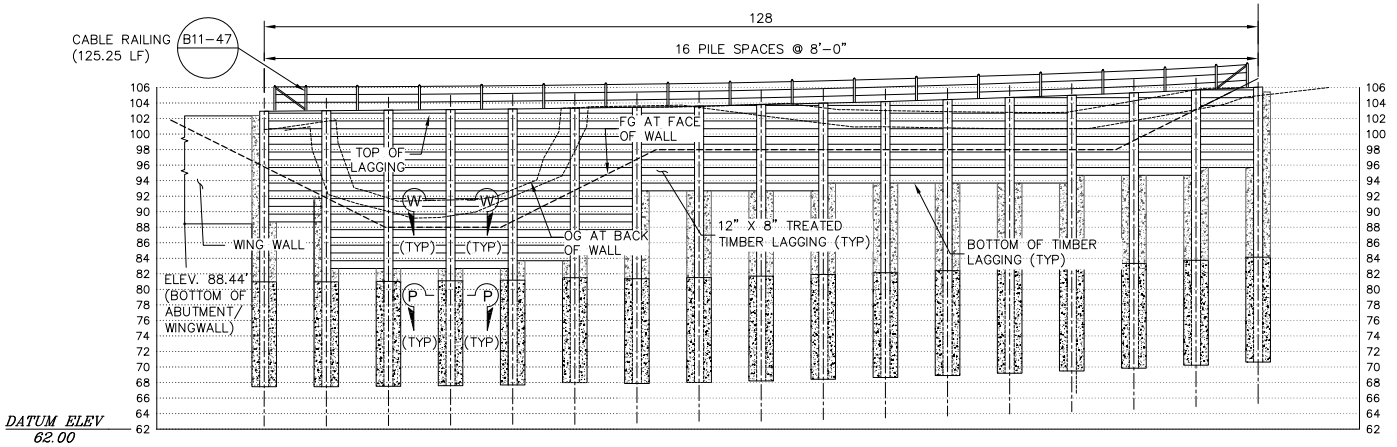
APPENDIX A

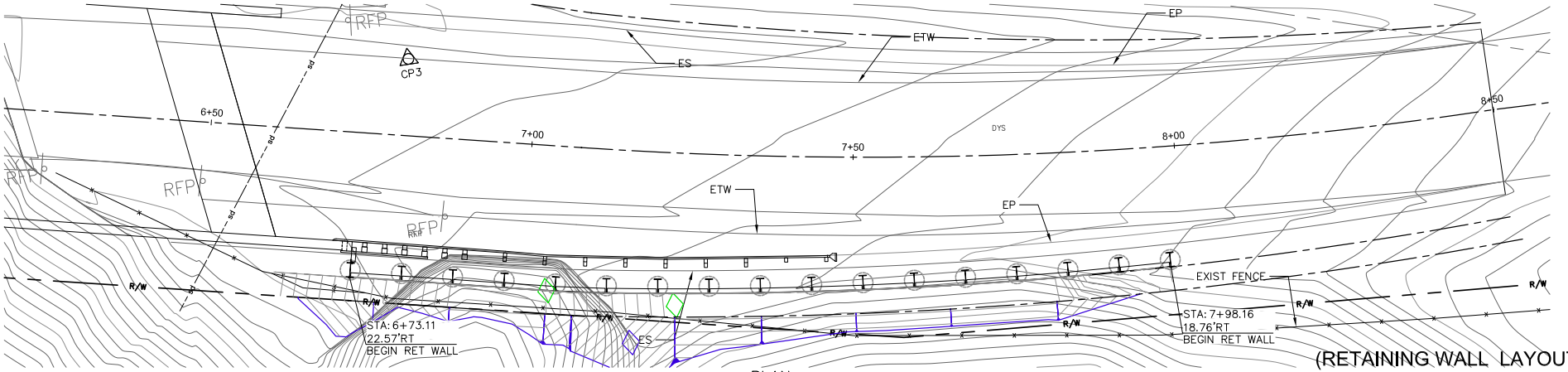
PLANS FOR RETAINING WALL FOR BANK SLIP-OUT

35% PLANS



Pile No	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	
STATION	6+73.11	6+81.11	6+89.11	6+97.11	7+05.11	7+12.92	7+20.65	7+28.38	7+36.12	7+43.86	7+51.61	759.36	7+67.11	7+74.87	7+82.63	7+90.39	7+98.16	STATION
OFFSET	22.57'	22.57'	22.57'	22.57'	22.57'	22.34'	21.99'	21.65'	21.31'	20.97'	20.64'	20.32'	20.00'	19.68'	19.37'	19.06'	18.76'	OFFSET
ELEV "W"	102.43'	102.43'	102.48'	102.56'	102.65'	102.74'	102.83'	102.98'	103.17'	103.38'	103.61'	103.87'	104.15'	104.45'	104.81'	105.20'	105.60'	ELEV "W"
ELEV "G"																		ELEV "G"
ELEV "L"	82.69'	82.69'	82.69'	82.69'	82.69'	83.69'	87.69'	92.69'	92.69'	92.69'	93.69'	93.69'	93.69'	93.69'	94.69'	94.69'	95.69'	ELEV "L"
ELEV "C"	80.97'	80.97'	81.03'	81.10'	81.19'	81.51'	81.38'	81.52'	81.72'	81.93'	82.15'	82.41'	82.70'	83.00'	83.36'	83.75'	84.14'	ELEV "C"
ELEV "T"	67.47'	67.47'	67.53'	67.60'	67.69'	68.01'	68.88'	68.02'	68.22'	68.43'	68.65'	68.91'	69.20'	69.50'	69.86'	70.25'	70.64'	ELEV "T"

ELEVATION
SCALE : 1" = 8' HOR
1" = 8' VERT



PLAN
SCALE : 1" = 8'

(RETAINING WALL LAYOUT)
CONSTRUCTION DETAILS
C-3

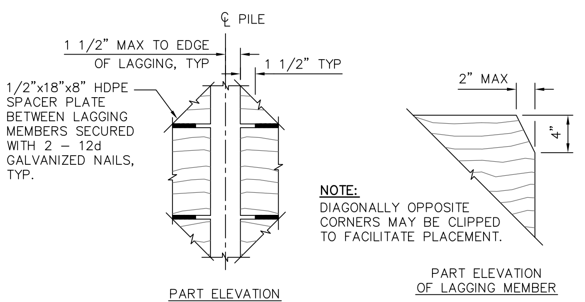
862278 Retaining Wall Design_Sht4.16.13.dwg, Tue, 07 May 2013 - 4:55pm, cogarci

CONSTRUCTION STARTED:		PROJECT ENGINEER:	COUNTY OF SANTA BARBARA DEPARTMENT OF PUBLIC WORKS TRANSPORTATION DIVISION	DESIGN BY: D. G. LEWIS	CHECKED BY: XXX	SCALE: NO SCALE	PROJECT NO. 862278	JALAMA ROAD BRIDGE REPLACEMENT BRIDGE No. 51C-017
CONSTRUCTION COMPLETED:				DRAWN BY: C. E. GARCIA	CONSTRUCTABILITY REVIEW BY: XXX			SHEET NO. 8 OF 16
RECORD DRAWING APPROVED BY:		DATE		FOR REDUCED PLANS ORIGINAL SCALE IN INCHES 0 1 2 3		DISREGARD PRINTS BEARING EARLIER REVISION DATES		FILE NO.

PRELIMINARY

REGISTERED PROFESSIONAL ENGINEER — D. G. LEWIS — No. — Exp 12/31/13 — CIVIL — STATE OF CALIFORNIA

REVISION DATES (PRELIMINARY STAGE ONLY)



LAGGING DETAILS
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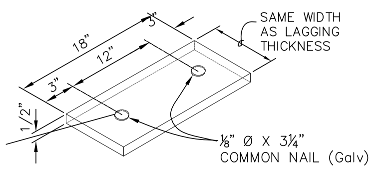
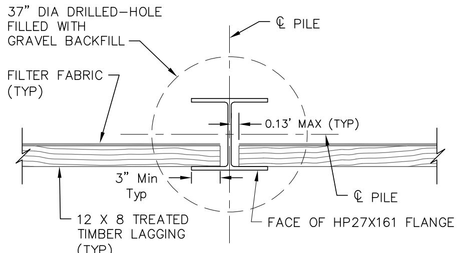


HIGH DENSITY POLYETHYLENE (HDPE) SPACER PLATE
NO SCALE



SECTION P-P
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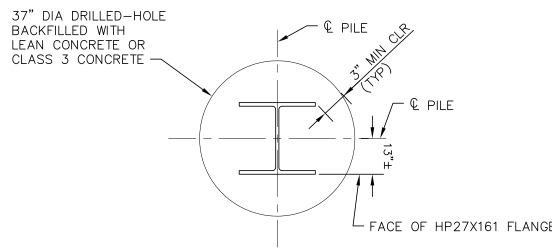

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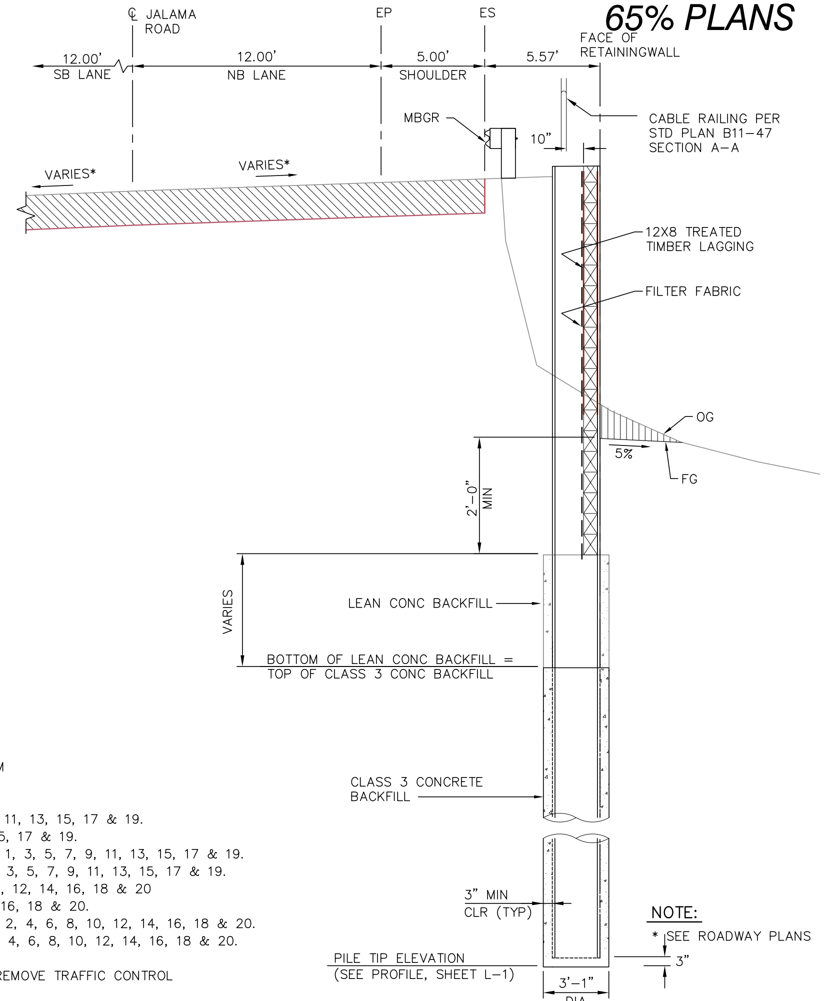

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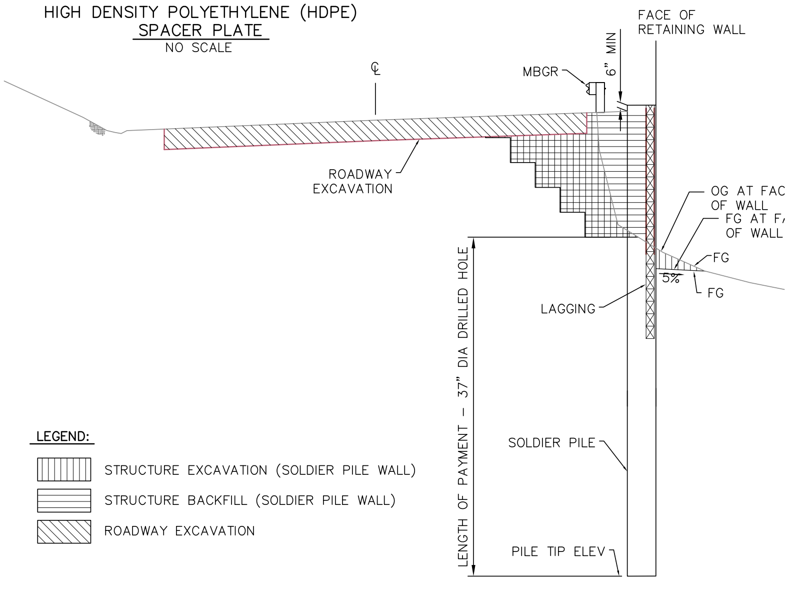

EARTHWORK PAY LIMITS
NO SCALE

LEGEND:
- STRUCTURE EXCAVATION (SOLDIER PILE WALL)
- STRUCTURE BACKFILL (SOLDIER PILE WALL)
- ROADWAY EXCAVATION

CONSTRUCTION SEQUENCE:

THE GENERAL ORDER OF WORK SHALL CONFORM TO THE FOLLOWING SEQUENCE:

1. DRILL HOLES FOR PILES No. 1, 3, 5, 7, 9, 11, 13, 15, 17 & 19.
2. INSTALL PILES No. 1, 3, 5, 7, 9, 11, 13, 15, 17 & 19.
3. PLACE CONCRETE BACKFILL FOR PILES No. 1, 3, 5, 7, 9, 11, 13, 15, 17 & 19.
4. PLACE GRAVEL BACKFILL FOR PILES No. 1, 3, 5, 7, 9, 11, 13, 15, 17 & 19.
5. DRILL HOLES FOR PILES No. 2, 4, 6, 8, 10, 12, 14, 16, 18 & 20
6. INSTALL PILES No. 2, 4, 6, 8, 10, 12, 14, 16, 18 & 20.
7. PLACE CONCRETE BACKFILL FOR PILES No. 2, 4, 6, 8, 10, 12, 14, 16, 18 & 20.
8. PLACE GRAVEL BACKFILL FOR PILES No. 2, 4, 6, 8, 10, 12, 14, 16, 18 & 20.
9. INSTALL LAGGING AND FILTER FABRIC
10. COMPLETE ROADWAY IMPROVEMENTS AND REMOVE TRAFFIC CONTROL

VARIATIONS TO THE ABOVE SEQUENCE WILL BE SUBJECT TO REVIEW AND APPROVAL BY THE ENGINEER.

MATERIAL PROPERTIES:

STEEL SHAPES: ASTM A36/A36M
TIMBER: TREATED DOUGLAS FIR, GRADE 1 OR BETTER, FULL-SAWN, ROUGH CUT

CONSTRUCTION DETAILS
C-4

PRELIMINARY

REGISTERED PROFESSIONAL ENGINEER D.G. LEWIS No. 45851 Exp. 12/31/13 CIVIL STATE OF CALIFORNIA

CONSTRUCTION STARTED:		PROJECT ENGINEER:	COUNTY OF SANTA BARBARA DEPARTMENT OF PUBLIC WORKS TRANSPORTATION DIVISION	DESIGN BY: D.G. LEWIS	CHECKED BY: XXX	SCALE: NO SCALE	PROJECT NO. 862278	JALAMA ROAD BRIDGE REPLACEMENT BRIDGE No. 51C-017	SHEET NO. 9 OF 16
CONSTRUCTION COMPLETED:		DATE		DRAWN BY: C.E. GARCIA	CONSTRUCTABILITY REVIEW BY: XXX				FILE NO.
RECORD DRAWING APPROVED BY:			FOR REDUCED PLANS ORIGINAL SCALE IN INCHES 0 1 2 3			DISREGARD PRINTS BEARING EARLIER REVISION DATES		REVISION DATES (PRELIMINARY STAGE ONLY)	

APPENDIX B

PLANT SPECIES OBSERVED ON THE PROJECT SITES

APPENDIX B

VASCULAR PLANTS OBSERVED DURING

THE 2009 AND 2011 FIELD SURVEYS

Scientific Name	Common Name	Growth Form	Native (N)/ Introduced (I)	Vegetative Type*
Artemisia californica	California sagebrush	Shrub	N	CS
Artemisia douglasiana	Mugwort	Forb	N	RS, W
Avena fatua	Wild oats	Grass	I	NNG, OW
Avena barbata	Slender wild oat	Grass	I	NNG, OW
Baccharis douglasii	Marsh baccharis	Forb	N	RS, W
Baccharis pilularis	Coyote brush	Shrub	N	CS, RS
Brassica nigra	Black mustard	Forb	I	G, DH
Brassica spp.	Mustard	Forb	I	NNG, DH
Bromus diandrus	Ripgut grass	Grass	I	NNG, DH, OW
Bromus hordeaceus	Soft chess	Grass	I	NNG, DH, OW
Carduus pycnocephalus	Italian thistle	Forb	I	NNG, DH, RS
Centaurea solstitialis	Yellow star-thistle	Forb	I	NNG, CS, DH

Scientific Name	Common Name	Growth Form	Native (N)/ Introduced (I)	Vegetative Type*
Cirsium vulgare	Bull thistle	Forb	I	NNG, DH, OW
Conium maculatum	Poison hemlock	Forb	I	CS, RS, W
Conyza canadensis	Canada horseweed	Forb	N	CS, RS
Convolvulus arvensis	Bindweed	Forb	I	NNG, DH, RS
Cotula coronopifolia	Brass buttons	Forb	I	W
Croton californica	California croton	Forb	N	NNG, DH, OW
Cynodon dactylon	Bermuda grass	Grass	I	NNG, DH, RS
Eleocharis macrostachya	Common spikerush	Forb	N	W
Equisetum telmateia	Giant horsetail	Forb	N	W
Eremocarpus setigerus	Dove weed	Forb	N	NNG, DH
Foeniculum vulgare	Fennel	Forb	I	NNG, DH
Gnaphalium luteo-album	Everlasting	Forb	N	CS
Heliotropium curassavicum	Seaside heliotrope	Forb	N	CS, DH
Juncus phaeocephalus	Brown-headed rush	Forb	N	W
Lactuca serriola	Prickly lettuce	Forb	I	NNG, DH, OW

Scientific Name	Common Name	Growth Form	Native (N)/ Introduced (I)	Vegetative Type*
Leymus condensatus	Giant wild rye	Grass	N	OW
Lolium multiflorum	Italian rye grass	Grass	I	NNG, DH, OW
Marrubium vulgare	White horehound	Forb	I	CS, RS
Melilotus alba	White sweetclover	Forb	I	RS, W
Mimulus aurantiacus	Sticky monkeyflower	Shrub	N	CS, RS
Nicotiana glauca	Tree tobacco	Shrub	I	NNG, DH, CS, RS
Picris echioides	Bristly ox-tongue	Forb	I	NNG, DH
Piptantherum milleaceum	Smilo grass	Grass	I	NNG, DH, OW
Polypogon monspeliensis	Rabbitsfoot grass	Grass	I	W
Quercus agrifolia	Coast live-oak	Tree	N	OW
Rorippa nasturtium-aquaticum	Watercress	Forb	I	W
Rosa californica	Wild rose	Shrub	N	RS, CS, OW
Rubus ursinus	Wild blackberry	Shrub	N	RS
Rumex crispus	Curly dock	Forb	I	W, DH

Scientific Name	Common Name	Growth Form	Native (N)/ Introduced (I)	Vegetative Type*
Salix laevigata	Red willow	Shrub/Tree	N	RS
Salix lasiolepis	Arroyo willow	Shrub	N	RS
Salvia leucophylla	Purple sage	Shrub	N	CS
*Scrophularia atrata***	Black-flowered figwort**	Shrub	N	CS
Scrophularia californica	California figwort	Forb/Herb	N	CS
Silybum marianum	Milk thistle	Herb	I	RS
Sonchus oleraceus	Common sow-thistle	Forb	I	NNG, DH
Taraxacum officinale	Common dandelion	Forb	I	NNG, DH, RS
Toxicodendron diversilobum	Poison oak	Shrub	N	CS, RS
Typha angustifolia	Narrow-leaved cattail	Forb	N	W
Urtica dioica holosericea	Giant creek nettle	Forb	N	RS
Xanthium strumarium	Rough cocklebur	Forb	N	W

* Vegetative type: ** Observed adjacent to, but outside of the BSA; NNG = Non-native grassland; CS = Central Coast scrub; DH = disturbed habitat; RS = riparian scrub; OW = oak woodland; W = wetland habitats (palustrine emergent wetland, aquatic bed)

APPENDIX C

WILDLIFE SPECIES IDENTIFIED IN THE PROJECT AREA

APPENDIX C

VERTEBRATE WILDLIFE SPECIES OBSERVED

DURING THE 2009 AND 2011 FIELD SURVEYS

Common Name	Scientific	Comments
Northern Pacific Treefrog	*Pseudacris regilla*	
California Red-legged Frog	*Rana draytonii*	In pools
Western Pond Turtle	*Actinemys marmorata*	In pools
Western Fence Lizard	*Sceloporus occidentalis*	
Mallard	*Anas platyrhynchos*	In pools
Turkey Vulture	*Cathartes aura*	Flying overhead
Wild Turkey	*Meleagris gallopavo*	
American Kestrel	*Falco sparverius*	
Red-tailed Hawk	*Buteo jamaicensis*	Flying overhead
California Quail	*Callipepla californica*	
Mourning Dove	*Zenaida macroura*	
Anna's Hummingbird	*Calypte anna*	
Costa's Hummingbird	*Calypte costae*	
Acorn Woodpecker	*Melanerpes formicivorus*	
Downy Woodpecker	*Picoides pubescens*	
Nuttall's Woodpecker	*Picoides nuttallii*	
Northern Flicker	*Colaptes auratus*	
Western Wood Pewee	*Contopus sordidulus*	

Common Name	Scientific	Comments
Empidonax flycatcher	*Empidonax* sp.	Likely, but not confirmed sighting of willow flycatcher
Pacific-slope Flycatcher	*Empidonax difficilis*	
Black Phoebe	*Sayornis nigricans*	
Ash-throated Flycatcher	*Myiarchus cinerascens*	
Hutton's Vireo	*Vireo huttoni*	
Western Scrub Jay	*Aphelocoma californica*	
Common Raven	*Corvus corax*	
American Crow	*Corvus brachyrhyncos*	
Northern Rough-winged Swallow	*Stelgidopteryx serripennis*	
Violet-green Swallow	*Tachycineta thalassina*	
Cliff Swallow	*Petrochelidon pyrrhonota*	Flying overhead
Oak Titmouse	*Baeolophus inornatus*	
Chestnut-backed Chickadee	*Poecile rufescens*	
Bushtit	*Psaltriparus minimus*	
Bewick's Wren	*Thryomanes bewickii*	
House Wren	*Troglodytes aedon*	
Wrentit	*Chamaea fasciata*	
American Robin	*Turdus migratorius*	
Swainson's Thrush	*Catharus ustulatus*	
California thrasher	*Toxostoma redivivum*	

Common Name	Scientific	Comments
European Starling	*Sturnus vulgaris*	
Common Yellowthroat	*Geothlypis trichas*	
Orange-crowned Warbler	*Vermivora celata*	
Yellow Warbler	*Setophaga petechial*	
Yellow-rumped Warbler	*Dendroica coronate*	
Wilson's Warbler	*Wilsonia pusilla*	
Spotted Towhee	*Pipilo maculatus*	
California Towhee	*Pipilo crissalis*	
Grasshopper Sparrow	*Ammodramus savannarum*	
Song Sparrow	*Melospiza melodia*	
Lark Sparrow	*Chondestes grammacus*	
Dark-eyed Junco	*Junco hyemalis*	
Black-headed Grosbeak	*Pheucticus melanocephalus*	
Blue Grosbeak	*Guiraca caerulea*	
Brown-headed Cowbird	*Molothrus ater*	
Western Meadowlark	*Sturnella neglecta*	
Red-winged Blackbird	*Agelaius phoeniceus*	
Brewer's Blackbird	*Euphagus cyanocephalus*	
Purple Finch	*Carpodacus purpureus*	
Bullock's Oriole	*Icterus bullockii*	
House Finch	*Carpodacus mexicanus*	
Lawrence's Goldfinch	*Carduelis lawrencei*	

Common Name	Scientific	Comments
Lesser Goldfinch	*Carduelis psaltria*	
American Goldfinch	*Carduelis tristis*	
Myotis spp.	Likely *Yuma myotis*	Visual and acoustic
Big brown bat	*Eptesicus fuscus*	Visual and acoustic
Virginia Opossum	*Didelphis virginiana*	Tracks
Botta's Pocket Gopher	*Thomomys bottae*	Burrows
California Ground Squirrel	*Spermophilus beecheyi*	Direct observations, burrows
Brush Rabbit	*Sylvilagus bachmani*	Carcass
Raccoon	*Procyon lotor*	Tracks
Striped Skunk	*Mephitis mephitis*	Tracks
Coyote	*Canis latrans*	Scat
Wild Hog	*Sus scrofa*	Scat, tracks
Mule Deer	*Odocoileus hemionus*	Direct observations, scat, tracks

APPENDIX D

WETLAND DELINEATION REPORT

PRELIMINARY DELINEATION OF JURISDICTIONAL WATERS

JALAMA CREEK BRIDGE 51C-017
BRIDGE REPLACEMENT PROJECT
POST MILE 8.8 JALAMA ROAD
SANTA BARBARA COUNTY

DEPARTMENT OF PUBLIC WORKS

SANTA BARBARA COUNTY, CA

September 30, 2011

Approved By: _____ **Date:**_____

Rachel Cotroneo, Associate Environmental Planner - Biologist
(510) 286-5999
California Department of Transportation

Approved By: _____ **Date:**_____

Christopher T. States, District Branch Chief
(510) 286-7185
California Department of Transportation

Approved By: _____ **Date:**_____

Jeffrey G. Jensen, Office Chief
(510) 622-8729
California Department of Transportation

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1.0 INTRODUCTION

Garcia and Associates (GANDA) conducted a jurisdictional delineation for the Jalama Creek Bridge 51C-017 bridge replacement project, proposed by the Department of Public Works of Santa Barbara County, California (Public Works). In 1997, Caltrans determined that Bridge 51C-017 (Bridge 17) on Jalama Road was seismically deficient, and is proposing a bridge replacement to increase structural integrity. The project is located on Jalama Road in Santa Barbara County, California. The "Project Area" as defined in this report constitutes the area in which project activities may occur (Figure 1).

The purpose of this report is to document the location and extent of wetlands and Waters of the U.S. as defined by the Clean Water Act (Section 404), water features that qualify as waters of the state as defined by the Porter-Cologne Water Quality Control Act, waters of the state as defined by the California Department of Fish and Wildlife (CDFW). This report was prepared to comply with permitting requirements for project activities within areas regulated under CWA Section 401 (water quality certification) and CWA 404 (discharges of dredge and fill material), and California Fish and Game Code Section 1602(a) (CDFW 2011). This report does not assess impacts.

1.1. Project Location

The Project Area is located on Jalama Road in Santa Barbara County, California, approximately 8.8 miles southwest from Highway 1 (Pacific Coast Highway), and 5.0 miles east of the confluence of the creek with the Pacific Ocean (Figure 1). The project is located in T5N, R34W as displayed on the *Lompoc Hills* U.S. Geological Survey (USGS) 7.5 minute quadrangle. The Geographic Lat/Lon location of the project site is 34°30'34.18" N and 120°26'04.53" W. The Project Area is encompassed by Jalama Road and associated Right-of-Way and access roads, the staging area located to the northwest of Bridge 17, and portions of Jalama Creek north and south of Bridge 17. The Area of Potential Effect (APE) is displayed in Figure 2.

1.2. District Biologist Role

As this project will include work on Caltrans facilities, this report has been prepared in compliance with the guidelines for Waters of the U.S. and the State set forth in the Caltrans Standard Environmental Reference (SER) (2011). The SER defines the role of the Caltrans District Biologist. The District Biologist acts as the liaison between Caltrans and resource and regulatory agencies, such as the U.S. Army Corps of Engineers (USACE), who are responsible for approving actions that affect waters. The District Biologist is responsible for being aware of the regulatory procedures required for identifying these resources. In addition, the Biologist must have a basic understanding of

Figure 1. Jalama Road Bridge 17 Project Area.

wetland/waters ecology in order to determine the extent of potential effects and to design appropriate mitigation or compensation activities.

The District Biologist is a member of the Project Development Team (PDT) with varied responsibilities that frequently go beyond the environmental analysis process. With regard to waters, the overall processes that involve the Biologist are listed below.

- Perform field reviews of the project, as needed, to determine whether waters are present.
- Map or delineate these resources and submit a report to the USACE documenting results and requesting verification of the determination.
- Submit the report to the Natural Resource Conservation Service (NRCS) documenting results and requesting verification of the determination when agricultural lands are being converted to other land uses such as development, roads, and utility lines.
- Provide mapping to the Project Manager and discuss methods to avoid, minimize, or mitigate (compensate for) potential effects to these resources.
- Coordinate with resource and regulatory agency staff to discuss potential project effects and methods to avoid, minimize, or mitigate potential effects to these resources. Where possible, written agreement is obtained from agency staff regarding proposed methods.
- Confirm implementation of avoidance, minimization, and mitigation activities during and/or prior to construction of the transportation project.
- Where required, monitor or provide monitoring oversight for habitat mitigation activities.
- Report monitoring results to resource and regulatory staff as required.

2.0 REGULATORY FRAMEWORK

Wetlands and other waters delineated in this report are potentially subject to a variety of state and federal regulations. Wetlands and other waters addressed in this report include Waters of the U.S. subject to the federal Clean Water Act (CWA), waters of the state as defined by the Porter-Cologne Water Quality Act and California Fish and Game Code Section 1600 *et seq*, and California Coastal Commission jurisdiction, as described below. Other governmental jurisdictions are not addressed in this report.

2.1. Definitions of Wetlands and Other Waters of the United States

The federal government, through Section 404 of the CWA and Section 10 of the Rivers and Harbors Act, has jurisdiction over activities in Waters of the U.S. Waters of the U.S. include a variety of water features, including wetlands, navigable waters, and other aquatic features adjacent or tributary to navigable waters.

For the regulatory process, the USACE and U.S. Environmental Protection Agency (EPA) jointly define wetlands as follows:

> *"…those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions"* (USACE 1987).

Swamps, marshes, and bogs are defined as wetlands, as are seasonally saturated or inundated areas such as seeps, springs, and vernal pools. Wetlands are identified using three parameters: vegetation, soils, and hydrology. In most cases, jurisdictional wetlands are dominated by hydrophytic (i.e., wetland) vegetation, are supported by wetland hydrology, and occur on hydric soils.

Wetlands and other waters of the U.S. meeting the following criteria as described in 33 CFR 328.3, include the following:

1) All waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters, which are subject to the ebb and flow of the tide;
2) All interstate waters including interstate wetlands;
3) All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, the use, degradation or destruction of which could affect interstate or foreign commerce including any such waters:

i) Which are or could be used by interstate or foreign travelers for recreational or other purposes; or

ii) From which fish or shellfish are or could be taken and sold in interstate or foreign commerce; or

iii) Which are used or could be used for industrial purpose by industries in interstate commerce;

4) All impoundments of waters otherwise defined as waters of the U.S. under the definition;

5) Tributaries of waters identified in paragraphs (1) through (4) of this section;

6) The territorial seas;

7) Wetlands adjacent to waters (other than waters that are themselves wetlands) identified in paragraphs (1) through (6) of this section.

Wetlands are driven by hydrology and occur where water is present near the soil surface resulting in soil and plant characteristics that are not found in upland (mostly dry) or aquatic (almost always wet and un-vegetated) habitats. Wetlands are generally found in transition zones between upland and aquatic habitats.

2.2. Definitions of Waters of the State

Wetlands and waters meeting the definition as described in the Porter-Cologne Water Quality Control Act (California Water Code, Division 7, §13050(e)) and the California Fish and Game Code Section 1600 *et seq* were preliminarily determined to be waters of the state. This document defines waters of the state under the Porter-Cologne Water Quality Control Act, as administered by the regional Water quality Control Board (RWQCB) to include: any surface water or groundwater, including saline waters, within the boundaries of the state.

Fish and wildlife resources are held in trust for the people of the state by and through the CDFW (Fish and Game Code Section 711.7). CDFW is responsible for conserving, protecting, and managing fish, wildlife, native plants, and the habitat necessary for biologically sustainable populations of these species (Fish and Game Code Section 1802).

Fish and Game Code Chapter 6, Fish and Wildlife Protection and Conservation, Section 1600 *et seq* was enacted to provide for the conservation of fish and wildlife resources associated with stream ecosystems. The Fish and Game Code further defines fish and wildlife to include:

> "*...all wild animals, birds, plants, fish, amphibians, invertebrates, reptiles, and related ecological communities, including the habitat upon which they depend for*

continued viability." (Fish and Game Code Division 5, Chapter 1, section 45, and Division 2, Chapter 1, section 711.2(a), respectively). "*Fish means wild fish, mollusks, crustaceans, invertebrates, or amphibians, including any part, spawn or ova thereof."* (FGC, Division 5, Chapter 1, section 45).

While Fish and Game Code sections 1600 e*t seq*. do not include a definition for "stream", it has been the practice of the Lake and Stream Bed Program to define a stream as: a body of water that flows perennially, intermittently, or ephemerally. Streams include a channel, banks, bed, and floodplains where present (Vyverberg pers. comm.).

2.3 Definition of California Coastal Commission wetlands

The California Coastal Commission (CCC), with the assistance of CDFW, is responsible for determining the presence of wetlands subject to regulation under the California Coastal Act. As the primary wetland consultant to the CCC, the CDFW essentially relies on the U.S. Fish and Wildlife Service (USFWS) wetland definition and classification system as the methodology for wetland determinations, with some minor changes in classification terminology. A major difference is that the CDFW and the CCC require the presence of only one wetland parameter (e.g., hydrology, hydric soils, or hydrophytic vegetation) for an area to qualify as a wetland. Section 30121 of the California Coastal Act (1976), the statute governing the CCC, broadly defines wetlands as:

"Lands within the coastal zone which may be covered periodically or permanently with shallow water and include saltwater marshes, freshwater marshes, open or closed brackish water marshes, swamps, mudflats, or fens."

However, the CCC Administrative Regulations (Section 13577 (b)) provides a more explicit definition:

"Wetlands are lands where the water table is at, near, or above the land surface long enough to promote the formation of hydric soils or to support the growth of hydrophytes, and shall also include those types of wetlands where vegetation is lacking and soil is poorly developed or absent as a result of frequent or drastic fluctuations of surface water levels, wave action, water flow, turbidity or high concentrations of salt or other substance in the substrate. Such wetlands can be recognized by the presence of surface water or saturated substrate at some time during each year and their location within, or adjacent to, vegetated wetlands or deepwater habitats."

Note that the current project lies within the Coastal Zone, defined as the five-mile limit from mean high tide line of the sea for areas within Rancho San Julian and generally within the watershed of Jalama Creek.

3.0 APPLIED METHODS

This delineation followed the routine wetland delineation method described in the *Corps of Engineers Wetlands Delineation Manual* (USACE 1987), with supplemental guidance as directed by the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region* (USACE 2008a) and *A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States: A Delineation Manual* (USACE 2008b) to identify Waters of the U.S. The Project Area lies within the arid west Mediterranean California (LRR-C) region. Existing information about the project area was reviewed to characterize the vegetation, soils, and hydrology in the area. Following the initial review, a field survey was conducted to map and document wetlands and water features within the project area. Any features that may also qualify as waters of the state (using the definition in Section 2.2 above), CDFW streambed and riparian resources, or California Coastal Commission jurisdiction were noted as well. These methods are described below.

3.1. Preliminary Data Gathering and Review of Existing Materials

A review of the existing materials was conducted to identify potential wetlands and water features. Existing materials reviewed include the *Lompoc Hills* topographic quadrangle, aerial photography of the Project Area, soils data from the USDA National Resources Conservation Service (USDA 2011a) including the hydric soils list of Santa Barbara County, and geospatial wetlands information provided online by the U.S. Fish and Wildlife Service (USFWS) National Wetlands Inventory (USFWS 2011). Soil types in the Project Area were identified using the Web Soil Survey, an online soil map resource provided by the National Resources Conservation Service (NRCS) (NRCS 2011b).

3.2. Field Surveys

A field survey was conducted to delineate the location and extent of wetlands and water features within the Project Area. The field survey was conducted by GANDA biologist Brett Hartman on April 11, 2011; and by Brett Hartman and GIS specialist Mike Brannagan on April 19, 2011. The project area was characterized by cover type and species composition, which included riparian and upland vegetation types. Waters of the U.S. were identified based on the presence of an ordinary high water mark (OHWM). Waters of the U.S. and sampling point locations were mapped in the field using a Trimble GeoXT GPS survey unit capable of submeter accuracy. Any tributary waters or additional features that may qualify as water of the state (e.g., culverts carrying flowing water) were also mapped in the field using the Trimble GeoXT GPS survey unit or through interpretation of aerial photographs.

Data points were collected at two representative locations with the potential to meet wetland criteria (hydrophytic vegetation, hydric soils, and wetland hydrology). These included areas generally adjacent to the streambank or within the floodplain of Jalama Creek, and seep areas adjacent to the creek. Data on the vegetation, soils, and hydrologic indicators were collected at each point. Data points are shown in Figure 2, and data forms are included in Appendix B.

The extent of CDFW jurisdictional riparian vegetation was evaluated in the field, and delineated based on interpretation of aerial photographs.

3.2.1. Wetland Vegetation

Wetland vegetation was identified in the field based on species composition and corresponding wetland indicator status. The field investigators visually estimated the percent cover for each plant species encountered. Plot size was generally 10 feet by 10 feet; if this plot size was too large to represent the feature, the plot size was adjusted to better represent the feature. Dominant species of each stratum were defined as the most abundant plant species (when ranked in descending order of percent cover and cumulatively totaled) that immediately exceeded 50 percent of the total cover for the stratum, plus any additional species providing 20 percent or more of total cover for the stratum. The indicator status of each species was determined based on the *National List of Plant Species that Occur in Wetlands: California* (Reed 1988). Plants were identified according to Hickman (1993); species nomenclature for the *National List* was confirmed based on the *Plants National Database* (USDA 2011b). The wetland vegetation criterion was met where greater than 50 percent of the dominant plant species were assigned wetland indicator categories [obligate wetland (OBL), facultative wetland (FACW), or facultative (FAC)]. Upland indicator categories include facultative upland (FACU), or obligate upland (UPL). Wetland indicator status categories are described in Table 3-1.

3.2.2. Wetland Hydrology

The hydrology of each feature was assessed in the field based on indicators of inundation or saturated soil conditions (ACOE 1987, 2008a). Where at least one primary indicator of wetland hydrology was detected, a finding of the presence of wetland hydrology was made. Primary wetland hydrology indicators observed in the Project Area included direct observations of inundation, high water table, and saturation in the upper 12 inches of the soil profile; indirect evidence of recent inundation such as water marks, sediment deposits, drift deposits, surface soil cracks, salt crust, biotic crust and drainage patterns were also observed.

Table 1 Plant Wetland Indicator Categories (Reed 1988)

Indicator Category	Wetland Occurrence
Obligate wetland species (OBL)	Occurs almost always in wetlands (estimated >99% probability of occurring in a wetland)
Facultative wetland species (FACW)	Usually occurs in a wetland (estimated 67-99% probability of occurring in a wetland)
Facultative species (FAC)	Equally likely to occur in a wetland or a non-wetland (estimated 33-67% probability of occurring in a wetland)
Facultative upland species (FACU)	Usually occurs in non-wetlands (estimated 1-33% probability of occurring in a wetland)
Obligate upland species (UPL)	Occurs in wetlands in another region, but occurs almost always under natural conditions in non-wetlands in Region O (estimated <1% probability of occurring in a wetland)
Not listed (NL)	Plants not listed in Reed [1988] are assumed to be obligate upland species (UPL)

3.2.3. Wetland Soils

Soils were determined to be hydric where at least one hydric soil indicator was observed. Soil pits were dug to the depth necessary to determine the presence or absence of hydric soil indicators or until an impenetrable layer was encountered. Examples of hydric soil indicators include organic surface horizons, depleted matrix in the B horizon, and redoxomorphic features.

3.2.4. Water Features

Water features are natural or artificial channels that convey water, or basins that store surface water at some time of the year, which are covered by less than five percent total plant cover or where occupied by greater than five percent total plant cover are not covered by a predominance of emergent rooted hydrophytic vegetation at any time of the year.

The lateral edge of water features were mapped at the location of the ordinary high water mark (OHWM). The OHWM is defined as "...the line on the [watercourse banks] established by the fluctuations of water and indicated by physical characteristics such as a clear, natural line impressed on the bank; shelving; changes in the character of soil; destruction of terrestrial vegetation; the presence of litter and debris; or other appropriate means that consider the characteristics of the surrounding areas" (USACE 1987). The bank-to-bank extent of the channel that contains the water-flow during a normal rainfall year generally serves as a good first approximation of the lateral limit of the OHWM. The upstream limit of water features is defined as the point where the OHWM is no longer perceptible.

4.0 RESULTS

The location and extent of wetlands and water features within the Project Area, including location of wetland sample points, are displayed in Figure 2. A summary of the acreage of each wetland and water feature type is included in Table 3. Representative site photographs are included in Appendix A, and wetland data forms are included in Appendix B.

4.1. Soil Map Units

Two soil types are mapped within the project area (Table 2). Soils range from clay loam soils weathered in place from shale, alluvial fine sandy loams and clay loams on terraces, to washed sand, gravel and cobbles within the channel of Jalama Creek (these latter soils were not mapped as a separate unit). None of the soil map units within the project area are designated as hydric on the hydric soils list of Santa Barbara County.

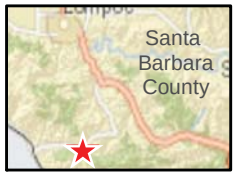
Table 2 Soil Map Units within the Project Area

Map Symbol	Map Unit	Description	Hydric Status
LgE2	Los Osos Clay Loam, 15 to 30 Percent Slopes, Erdoed	Well drained clay loam soils weathered from shale, on steeply sloping hill areas	No
BaC	Ballard fine sandy loam, 2 to 9 percent slopes	Well drained fine sandy loam soils on terraces	No

4.2. Waters of the U.S.

Jalama Creek is a perennially flowing stream that flows west through the project area. Jalama Creek flows into the Pacific Ocean, and is therefore hydrologically connected to 'traditional navigable waters'.

Jalama Creek is located in a steeply sloping hill area, and is bounded by steeply sloping bank terraces on both the eastern and western banks. Active slumping and small rotational landslides were observed in several areas, especially associated with wet seep areas upstream (southeast) of Bridge 17. The total linear length of Jalama Creek within the project area is 1,372 feet. Stream width based on field observations of OHWM varies from 9.5 to 23 feet, with 2 inches to 3 feet of water at the time of survey. The channel bed is comprised of washed gravel and cobbles, with washed coarse sand and silt in sandbars and on the channel banks. Evidence of water flows include a line impressed on the bank, vegetation scour, sediment deposition, and drift lines on vegetation.



Legend

- Biological Study Area
- Sample location
- Culvert
- Seep Outlet
- Waters of the U.S.
- Waters of the U.S.
- Wetland Features (Seeps)
- CDFG Jurisdiction

Appendix B. Jalama Road Bridge Replacement
Wetland Delineation
Santa Barbara County

0 10 20 40 Meters
0 50 100 200 Feet

N

GANDA

Vegetation within the central channel is generally sparse due to active scour and deposition. However, vegetation within the channel corresponds to two wetland types, aquatic bed and palustrine emergent wetland. Aquatic bed occurs within the wetted perimeter of the active channel and is characterized by water cress (*Rorippa nasturtium-aquaticum*), seaside heliotrope spikerush (*Eleocharis macrostachya*), and rabbitsfoot grass (*Polypogon monspeliensis*). Palustrine emergent wetland occurs along creek banks. Vegetation is comprised of rooted emergent vegetation, such as narrow-leaved cattails (*Typha angustifolia*), giant horsetail (*Equisetum telmateia*), seaside heliotrope (*Heliotropium curassivicum*), brown-headed rush (*Juncus phaeocephalus*), common spikerush, rabbitsfoot grass (*Polypogon monspeliensis*), saltgrass (*Distichlis spicata*), and barnyard grass (*Echinochloa crusgalli*). Other riparian vegetation types along the banks and floodplain terraces of Jalama Creek are described in Section 4.4.

Two side channels discharge into Jalama Creek within the project area:

- Channel A discharges into Jalama Creek approximately 380 feet upstream (south) of the bridge, and is approximately 4 feet wide with small areas of ponded water at the time of survey. Channel A comprises a total of 48 linear feet within the project area.

- Channel B discharges into Jalama Creek approximately 235 feet downstream from the bridge, is approximately 3 feet wide and supports minimal riparian vegetation upstream from the project area. Channel B comprises a total of 33 linear feet within the project area.

A total of 1,453 linear feet and 0.966 acre of Waters of the U.S. were detected within the project area, with CDFW defined waters of the state corresponding to Waters of the U.S. Table 3 provides a summary of jurisdictional areas, and Figure 2 shows the location and extent within the project area.

4.3 Wetlands

Within the floodplain and steeply sloping stream bank terraces, several seeps were observed, where groundwater maintains soil moisture throughout the summer dry season. This has contributed to active soil slumping and small rotational landslides. The seep areas shown in Figure 2 ranged from saturated to inundated soils with ponded water at the time of survey. Soils were light gray (5YR 3/1) silty loams, with poorly developed horizons due to recent exposure due to soil slumping. Within the seeps, vegetation was dominated by seaside barley (*Hordeum marinum*), prickly sowthistle (*Sonchus asper*), and vetch (*Lathyrus* sp.), characteristic of non-native annual grasslands, with willow

riparian scrub along the perimeter. Although wetland vegetation and hydrology were present, the soils did not meet the wetland criteria presented in the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region* (USACE 2008a). However, this is assumed to be due to the fact that the regolith has only recently been exposed due to soil slumping, and soil formation processes (including organic matter accretion and reduction and translocation of iron and aluminum under anoxic conditions) have only recently begun. In addition, as the project site is within California Coastal Commission jurisdiction only one criteria is necessary to qualify as a wetland. Therefore, the seep areas have been delineated as wetlands.

A total of 0.035 acres of wetlands were detected within the project area. Table 3 provides a summary of jurisdictional areas, and Figure 2 shows the location and extent within the project area.

4.4 Riparian Areas Subject to CDFW Jurisdiction

Within the project area, riparian vegetation associated with Jalama Creek and the adjacent stream bank terraces includes arroyo willow riparian scrub, with coast live oak woodland comprising the upper limit of continuous canopy cover. Arroyo willow riparian scrub occurs primarily on the creek banks as well as on the top of the banks. Dominant species include arroyo willow (*Salix lasiolepis*), with few and infrequent red willow trees (*Salix laevigata*). Other plant species in riparian scrub include mugwort (*Artemisia douglasiana*), wild blackberry (*Rubus ursinus*), and poison-oak (*Toxicodendron diversilobum*). Coast live oak woodland occurs along the upland fringe of arroyo willow riparian scrub, mostly on the western bank of Jalama Creek. The overstory is dominated by mature coast live oak (*Quercus agrifolia*) trees, with an understory is comprised of non-native grasses and forbs, including slender wild oats (*Avena barbata*), ripgut grass (*Bromus diandrus*), soft chess (*Bromus hordeaceus*), mustard (*Brassica* sp.), and Italian thistle (*Carduus pycnocephalus*). Some portions of the streambank terrace contain patches of poison-oak scrub, comprised of dense thickets of poison oak.

CDFW jurisdiction was defined as the outer extent of riparian vegetation or the bank-to-bank area, whichever is greater. Therefore, a total of 3.89 acres of CDFW jurisdiction was detected within the project area. Note that a mosaic of vegetation types were included in the jurisdiction area, including arroyo willow riparian scrub, Central Coast scrub, aquatic bed, palustrine emergent vegetation, coast live oak woodland, and non-native grassland. Table 3 provides a summary of jurisdictional areas, and Figure 2 shows the location and extent within the project area.

4.5 Additional Features

There is a culvert outfall that discharges drainage from Jalama Road, located downslope from the southeast corner of the Jalama Road bridge. This culvert is likely to qualify as waters of the state. The location of this culvert is illustrated in Figure 2.

Table 3 Summary of Jurisdictional Areas

Feature	Linear length (feet)	Area (acres)
USACE Jurisdiction		
Jalama Creek	1,372	0.96
Channel A	48	0.004
Channel B	33	0.002
Subtotal Waters of the U.S.	**1,453**	**0.966**
Wetlands (seeps)	--	0.035
CDFW Jurisdiction		
Jalama Creek	1,372	0.96
Channel A	48	0.004
Channel B	33	0.002
Subtotal Streambed of the State	**1,453**	**0.966**
Area subject to CDFW jurisdiction (including bank-to-bank area)	--	3.89

4.6 California Coastal Commission jurisdiction

This project lies within the Coastal Zone, defined as the five-mile limit from mean high tide line of the sea for areas within Rancho San Julian and generally within the watershed of Jalama Creek. Therefore the wetlands, Waters of the U.S. and other water features identified in this report would also fall under California Coastal Commission jurisdiction.

5 Summary and Conclusion

This report documents the extent of wetlands and waters observed in the Project Area during the February 2011 field surveys. Jalama Creek is hydrologically connected to 'traditional navigable waters' (the Pacific Ocean), and is determined to be both Waters of the U.S. and waters of the state. A total of 1453 linear feet and 0.966 acres of Waters of the U.S. and Streambeds of the State were detected within the project area. An additional total of 0.035 acres of wetlands (seeps) were detected as well. A total of 3.89 acres of

CDFW jurisdiction is present within the project area, including the bank-to-bank area, floodplain, and associated riparian vegetation, as described aboved. Finally, one culvert was detected within the Project Area which carries flowing water during rainfall events. This culvert likely also qualifies as waters of the state.

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Appendix A: Representative Site Photographs

Photo 1. View of Jalama Creek from south of Bridge 17. Note the active bank slumping in the right of the photo.

Photo 2. View of Jalama Creek from north of Bridge 17. Note the cattle exclusion draped across the creek at the bridge.

Photo 3. Seep area on eastern bank of Jalama Creek, in a rotational landslide.

Photo 4. Seep area on eastern bank of Jalama Creek, with arroyo willow riparian scrub vegetation.

Appendix B: Wetland Determination Data Forms

WETLAND DETERMINATION DATA FORM – Arid West Region

Project Site: Jalama Creek bridge replacement | City/County: /Santa Barbara Co | Sampling Date: April 11, 2011

Applicant/Owner: Department of Public Works | State: CA | Sampling Point: 1

Investigator(s): Brett D. Hartman | Section, Township, Range: T5N, R 34 W

Landform (hillslope, terrace, etc.): Ravine | Local relief (concave, convex, none): concave | Slope (%): -5

Subregion (LRR): Medit. CA | Lat: 34 30' 33.5" N | Long: 120 26' 01.9" W | Datum: _____

Soil Map Unit Name: LgE2 | NWI classification: Riverine

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)

Are Vegetation ☐, Soil ☒, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐

Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ☒	No ☐		
Hydric Soil Present?	Yes ☒	No ☐	**Is the Sampled Area within a Wetland?**	**Yes ☒ No ☐**
Wetland Hydrology Present?	Yes ☒	No ☐		

Remarks: Hydrophytic vegetation and wetland hydrology present; hydric soil indicators not definitive, however this is assumed to be due to the fact that the pit is located in a seep area that has recently slumped (small rotational landslide) and the soil profile is therfore young and poorly developed.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size:_____)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	____	-
2. _____	_____	____	____
3. _____	_____	____	____
4. _____	_____	____	____
50% = _, 20% =	82	= Total Cover	
Sapling/Shrub Stratum (Plot size:_____)			
1. _____	_____	____	____
2. _____	_____	____	____
3. _____	_____	____	____
4. _____	_____	____	____
5. _____	_____	____	____
50% = _____, 20% = _____	_____	= Total Cover	
Herb Stratum (Plot size:_____)			
1. *Hordeum marinum*	80	yes	FAC
2. *Sonchus asper*	1	no	____
3. *Lathyrus sp.*	1	no	____
4. _____	_____	____	____
5. _____	_____	____	____
6. _____	_____	____	____
7. _____	_____	____	____
8. _____	_____	____	____
50% = 41 , 20% = 20.5	82	= Total Cover	
Woody Vine Stratum (Plot size:_____)			
1. _____	_____	____	____
2. _____	_____	____	____
50% = _____, 20% = _____	_____	= Total Cover	
% Bare Ground in Herb Stratum _____	% Cover of Biotic Crust _____		

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **1** (A/B)

Prevalence Index worksheet:

Total % Cover of :		Multiply by:	
OBL species	_____	x1 =	_____
FACW species	_____	x2 =	_____
FAC species	_____	x3 =	_____
FACU species	_____	x4 =	_____
UPL species	_____	x5 =	_____
Column Totals:	_____ (A)		_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

☒ Dominance Test is >50%

☐ Prevalence Index is ≤3.0[1]

☐ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes ☒ No ☐**

Remarks:

Project Site: Jalama Creek

SOIL

Sampling Point: 1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (Moist)	%	Type[1]	Loc[2]	Texture	Remarks
4"	5YR 3/1						Silty loam	minimal OM enrichment, dense fine roots
18"	5Y 3/1						Silty clay	

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

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR C**)
- ☐ 1 cm Muck (A9) (**LRR D**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) **(LRR C)**
- ☐ 2 cm Muck (A10) **(LRR B)**
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (Inches): _____

Hydric Soils Present? **Yes** ☒ **No** ☐

Remarks: Soil pit located in a recent rotational landslide, therefore not enough time for organic accumulation or significant translocation of iron and aluminum oxides under anoxic wetland conditions Therefore, although the soils did not meet any of the Arid West hydric soil indicators, they are assumed to be hydric based on saturation/inundation and the presence of low chroma.

HYDROLOGY

Wetland Hydrology Indicators:

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

- ☒ Surface Water (A1)
- ☒ High Water Table (A2)
- ☒ Saturation (A3)
- ☐ Water Marks (B1) **(Nonriverine)**
- ☐ Sediment Deposits (B2) **(Nonriverine)**
- ☐ Drift Deposits (B3) **(Nonriverine)**
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☒ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) **(Riverine)**
- ☐ Sediment Deposits (B2) **(Riverine)**
- ☐ Drift Deposits (B3) **(Riverine)**
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes	☒	No	☐	Depth (inches):	0.5"
Water Table Present?	Yes	☒	No	☐	Depth (inches):	0.0"
Saturation Present? (includes capillary fringe)	Yes	☒	No	☐	Depth (inches):	0.0"

Wetland Hydrology Present? **Yes** ☒ **No** ☐

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

Remarks: Seep conditions present -- groundwater at surface

WETLAND DETERMINATION DATA FORM – Arid West Region

Project Site: Jalama Creek bridge replacement | City/County: /Santa Barbara Co | Sampling Date: April 11, 2011

Applicant/Owner: Department of Public Works | State: CA | Sampling Point: 2

Investigator(s): Brett D. Hartman | Section, Township, Range: T5N, R 34 W

Landform (hillslope, terrace, etc.): Ravine | Local relief (concave, convex, none): concave | Slope (%): -5

Subregion (LRR): Medit. CA | Lat: 34 30' 33.4" N | Long: 120 26' 01.9" W | Datum: _____

Soil Map Unit Name: _____ | NWI classification: Riverine

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☐ No ☐

Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ☐ No ☐		
Hydric Soil Present?	Yes ☐ No ☐	**Is the Sampled Area within a Wetland?**	**Yes ☐ No ☐**
Wetland Hydrology Present?	Yes ☐ No ☐		

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size:_____)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	_____	-
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
50% = _, 20% =	82	= Total Cover	
Sapling/Shrub Stratum (Plot size:_____)			
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
50% = _____, 20% = _____	_____	= Total Cover	
Herb Stratum (Plot size:_____)			
1. *Bare soil*	80	yes	FAC
2. _____	1	no	_____
3. _____	1	no	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
8. _____	_____	_____	_____
50% = _, 20% = _____	82	= Total Cover	
Woody Vine Stratum (Plot size:_____)			
1. _____	_____	_____	_____
2. _____	_____	_____	_____
50% = _____, 20% = _____	_____	= Total Cover	
% Bare Ground in Herb Stratum _____	% Cover of Biotic Crust _____		

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC:	1	(A)
Total Number of Dominant Species Across All Strata:	1	(B)
Percent of Dominant Species That Are OBL, FACW, or FAC:	**1**	(A/B)

Prevalence Index worksheet:

Total % Cover of :		Multiply by:	
OBL species	_____	x1 =	_____
FACW species	_____	x2 =	_____
FAC species	_____	x3 =	_____
FACU species	_____	x4 =	_____
UPL species	_____	x5 =	_____
Column Totals:	_____ (A)		_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

- ☐ Dominance Test is >50%
- ☐ Prevalence Index is ≤3.0[1]
- ☐ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes ☐ No ☒**

Remarks:

Project Site: Jalama Creek

SOIL

Sampling Point: 2

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (Moist)	%	Type[1]	Loc[2]	Texture	Remarks
18"	10Y 5/1		10YR 3/4	10%	C	PL	Coarse sand	Gleyed matrix
							Silt clay	Sediment deposition layers

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

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR C**)
- ☐ 1 cm Muck (A9) (**LRR D**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☒ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) **(LRR C)**
- ☐ 2 cm Muck (A10) **(LRR B)**
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (Inches): _____

Hydric Soils Present? **Yes** ☒ **No** ☐

Remarks: Soil pit located in a recent landslide along Jalama Creek, adjacent to OHWM.

HYDROLOGY

Wetland Hydrology Indicators:

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

- ☒ Surface Water (A1)
- ☒ High Water Table (A2)
- ☒ Saturation (A3)
- ☐ Water Marks (B1) **(Nonriverine)**
- ☐ Sediment Deposits (B2) **(Nonriverine)**
- ☐ Drift Deposits (B3) **(Nonriverine)**
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) **(Riverine)**
- ☐ Sediment Deposits (B2) **(Riverine)**
- ☐ Drift Deposits (B3) **(Riverine)**
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes	☐	No	☒	Depth (inches):	_____
Water Table Present?	Yes	☒	No	☐	Depth (inches):	012"
Saturation Present? (includes capillary fringe)	Yes	☒	No	☐	Depth (inches):	4"

Wetland Hydrology Present? **Yes** ☒ **No** ☐

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

Remarks: