County of Santa Cruz

PLANNING DEPARTMENT
701 OCEAN STREET, 4TH FLOOR, SANTA CRUZ, CA 95060
(831) 454-2580 FAX: (831) 454-2131
KATHLEEN MOLLOY PREVISICH, PLANNING DIRECTOR
www.sccoplanning.com

NOTICE OF INTENT TO ADOPT A MITIGATED NEGATIVE DECLARATION

NOTICE OF PUBLIC REVIEW AND COMMENT PERIOD

Pursuant to the California Environmental Quality Act, the following project has been reviewed by the County Environmental Coordinator to determine if it has a potential to create significant impacts to the environment and, if so, how such impacts could be solved. A Negative Declaration is prepared in cases where the project is determined not to have any significant environmental impacts. Either a Mitigated Negative Declaration or Environmental Impact Report (EIR) is prepared for projects that may result in a significant impact to the environment.

Public review periods are provided for these Environmental Determinations according to the requirements of the County Environmental Review Guidelines. The environmental document is available for review at the County Planning Department located at 701 Ocean Street, in Santa Cruz. You may also view the environmental document on the web at www.sccoplanning.com under the Planning Department menu. If you have questions or comments about this Notice of Intent, please contact Todd Sexauer of the Environmental Review staff at (831) 454-3511.

The County of Santa Cruz does not discriminate on the basis of disability, and no person shall, by reason of a disability, be denied the benefits of its services, programs or activities. If you require special assistance in order to review this information, please contact Bernice Shawver at (831) 454-3137 to make arrangements.

PROJECT: Redwood Road Bridge Replacement **APP #: N/A**

APN(S): County Right-of-Way

PROJECT DESCRIPTION: Santa Cruz County, in coordination with the California Department of Transportation (Caltrans), proposes to replace the Redwood Road Bridge (Bridge Number 36C-0121) over a tributary to Brown's Creek and improve the approach roadways to the bridge. The bridge is located within a highly wooded area, approximately 4.0 miles northeast of Corralitos. The rural road provides vehicular access to private properties and ends at a gate approximately a quarter mile past the bridge.

PROJECT LOCATION: The proposed project is located at latitude 37° 01' 47.7", longitude -121° 47' 25.2" on Redwood Road approximately 4.2 miles north of the town of Corralitos in Santa Cruz County, California. The site is a one-lane bridge owned and maintained by Santa Cruz County. It is a two span army Treadway structure with a total lengthy of 8.5 meters (28 feet) and is 3.5 meters (12 feet) wide. It is comprised of a corrugated metal deck with asphalt concrete overlay and timber railings. The site is surrounded by rural properties with several farms and single-family residences. The surrounding topography is relatively hilly and heavily forested. The site elevation is approximately 1,400 feet above mean sea level (msl). The County of Santa Cruz is bounded on the north by San Mateo County, on the south by Monterey and San Benito counties, on the east by Santa Clara County, and on the south and west by the Monterey Bay and the Pacific Ocean.

EXISTING ZONE DISTRICT: N/A
APPLICANT: County of Santa Cruz Department of Public Works
OWNER: County of Santa Cruz
PROJECT PLANNER: Matt Johnston
EMAIL: Matt.Johnston@santacruzcounty.us
ACTION: Negative Declaration with Mitigations
REVIEW PERIOD: May 19, 2017 through June 19, 2017

This project will be considered administratively by the Project Planner at the conclusion of the review period.

COUNTY OF SANTA CRUZ

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MITIGATED NEGATIVE DECLARATION

Project: Redwood Road Bridge Replacement **APN(S): County Right-of-Way**

Project Description: Santa Cruz County, in coordination with the California Department of Transportation (Caltrans), proposes to replace the Redwood Road Bridge (Bridge Number 36C-0121) over a tributary to Brown's Creek and improve the approach roadways to the bridge. The bridge is located within a highly wooded area, approximately 4.0 miles northeast of Corralitos. The rural road provides vehicular access to private properties and ends at a gate approximately a quarter mile past the bridge.

Project Location: The proposed project is located at latitude 37° 01' 47.7", longitude -121° 47' 25.2" on Redwood Road approximately 4.2 miles north of the town of Corralitos in Santa Cruz County, California. The site is a one-lane bridge owned and maintained by Santa Cruz County. It is a two span army Treadway structure with a total lengthy of 8.5 meters (28 feet) and is 3.5 meters (12 feet) wide. It is comprised of a corrugated metal deck with asphalt concrete overlay and timber railings. The site is surrounded by rural properties with several farms and single-family residences. The surrounding topography is relatively hilly and heavily forested. The site elevation is approximately 1,400 feet above mean sea level (msl). The County of Santa Cruz is bounded on the north by San Mateo County, on the south by Monterey and San Benito counties, on the east by Santa Clara County, and on the south and west by the Monterey Bay and the Pacific Ocean.

Owner: County of Santa Cruz

Applicant: County of Santa Cruz Department of Public Works

Staff Planner: Matt Johnston, (831) 454-3201

Email: Matt.Johnston@santacruzcounty.us

This project will be considered administratively by the Project Planner at the conclusion of the review period.

California Environmental Quality Act Mitigated Negative Declaration Findings:

Find, that this Mitigated Negative Declaration reflects the decision-making body's independent judgment and analysis, and; that the decision-making body has reviewed and considered the information contained in this Mitigated Negative Declaration and the comments received during the public review period; and, that revisions in the project plans or proposals made by or agreed to by the project applicant would avoid the effects or mitigate the effects to a point where clearly no significant effects would occur; and, on the basis of the whole record before the decision-making body (including this Mitigated Negative Declaration) that there is no substantial evidence that the project as revised will have a significant effect on the environment. The expected environmental impacts of the project are documented in the attached Initial Study on file with the County of Santa Cruz Clerk of the Board located at 701 Ocean Street, 5th Floor, Santa Cruz, California.

Review Period Ends: June 19, 2017

Date: _____

_____
MATT JOHNSTON, Environmental Coordinator
(831) 454-3201

County of Santa Cruz

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CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA)
INITIAL STUDY/ENVIRONMENTAL CHECKLIST

Date: May 11, 2017

Project Name: Redwood Road Bridge Replacement

Staff Planner: Matt Johnston

I. OVERVIEW AND ENVIRONMENTAL DETERMINATION

APPLICANT: Department of Public Works **APN(s):** County Right of Way

OWNER: County of Santa Cruz **SUPERVISORAL DISTRICT:** 2

PROJECT LOCATION: The Redwood Road Bridge is located at latitude 37° 01' 57.7", longitude -121° 47' 25.2" on Redwood Road approximately 4.2 miles north of the town of Correlitos in Santa Cruz County, California. The site is one-lane bridge owned and maintained by Santa Cruz County. It is a two span army treadway structure with a total length of 8.5 meters (28 feet) and is 3.5 meters (12 feet) wide. It is comprised of a corrugated metal deck with asphalt concrete overlay and timber railings. The site is surrounded by rural properties with several farms and single-family residences. The surrounding topography is relatively hilly and heavily forested. The site elevation is approximately 1,400 feet above mean sea level (msl).

SUMMARY PROJECT DESCRIPTION:

Santa Cruz County, in coordination with the California Department of Transportation (Caltrans), proposes to replace the Redwood Road Bridge (Bridge Number 36C-0121) over a tributary to Brown's Creek and improve the approach roadways to the bridge. The bridge is located within a highly wooded area, approximately 4.0 miles northeast of Corralitos. The rural road provides vehicular access to private properties and ends at a gate approximately a quarter mile past the bridge.

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED: *All of the following potential environmental impacts are evaluated in this Initial Study. Categories that are marked have been analyzed in greater detail based on project specific information.*

- ☐ Aesthetics and Visual Resources
- ☐ Agriculture and Forestry Resources
- ☐ Air Quality
- ☒ Biological Resources
- ☐ Mineral Resources
- ☐ Noise
- ☐ Population and Housing
- ☐ Public Services

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED: *All of the following potential environmental impacts are evaluated in this Initial Study. Categories that are marked have been analyzed in greater detail based on project specific information.*

- ☐ Cultural Resources
- ☒ Geology and Soils
- ☐ Greenhouse Gas Emissions
- ☒ Hazards and Hazardous Materials
- ☐ Hydrology/Water Supply/Water Quality
- ☐ Land Use and Planning
- ☐ Recreation
- ☒ Transportation/Traffic
- ☐ Utilities and Service Systems
- ☐ Tribal Cultural Resources
- ☐ Mandatory Findings of Significance

DISCRETIONARY APPROVAL(S) BEING CONSIDERED:

- ☐ General Plan Amendment
- ☐ Land Division
- ☐ Rezoning
- ☐ Development Permit
- ☐ Sewer Connection Permit
- ☐ Coastal Development Permit
- ☐ Grading Permit
- ☒ Riparian Exception
- ☐ LAFCO Annexation
- ☐ Other:

OTHER PUBLIC AGENCIES WHOSE APPROVAL IS REQUIRED (e.g., permits, financing approval, or participation agreement):

Permit Type/Action	Agency
CDFW	1602
RWQCB	401
USACE	404

DETERMINATION:

On the basis of this initial evaluation:

- ☐ I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.
- ☒ I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.
- ☐ I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.
- ☐ I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An

ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

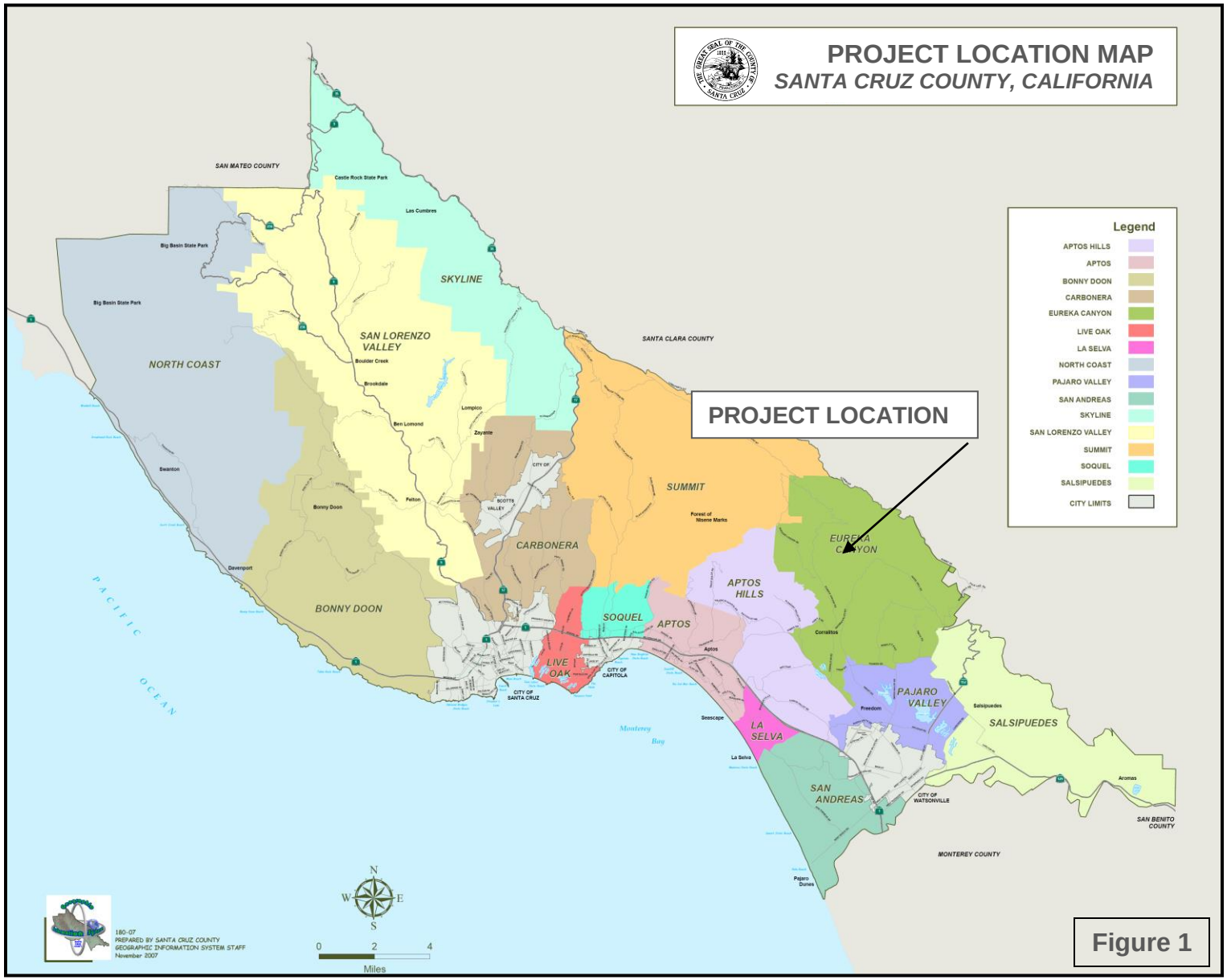
☐ I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to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

MATT JOHNSTON, Environmental Coordinator — Date 5/15/17

ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

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

MATT JOHNSTON, Environmental Coordinator _____ Date


PROJECT LOCATION MAP
SANTA CRUZ COUNTY, CALIFORNIA
PROJECT LOCATION
Legend
APTOS HILLS
APTOS
BONNY DOON
CARBONERA
EUREKA CANYON
LIVE OAK
LA SELVA
NORTH COAST
PAJARO VALLEY
SAN ANDREAS
SKYLINE
SAN LORENZO VALLEY
SUMMIT
SOQUEL
SALSIPUEDES
CITY LIMITS
SAN MATEO COUNTY
SANTA CLARA COUNTY
MONTEREY COUNTY
SAN BENITO COUNTY
PACIFIC OCEAN
Monterey Bay
Miles
180-07
PREPARED BY SANTA CRUZ COUNTY
GEOGRAPHIC INFORMATION SYSTEM STAFF
November 2007
Figure 1

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II. BACKGROUND INFORMATION

EXISTING SITE CONDITIONS:

Parcel Size (acres): N/A
Existing Land Use: Public Roadway
Vegetation: <Coast Redwood Forest
Slope in area affected by project: ☒ 0 - 30% ☐ 31 – 100% ☐ N/A
Nearby Watercourse: Redwood Creek
Distance To: Creek will be impacted

ENVIRONMENTAL RESOURCES AND CONSTRAINTS:

Water Supply Watershed:	Yes	Fault Zone:	Yes
Groundwater Recharge:	No	Scenic Corridor:	No
Timber or Mineral:	Yes	Historic:	No
Agricultural Resource:	No	Archaeology:	<INSERT>
Biologically Sensitive Habitat:	Yes	Noise Constraint:	No
Fire Hazard:	No	Electric Power Lines:	<INSERT>
Floodplain:	No	Solar Access:	No
Erosion:	No	Solar Orientation:	No
Landslide:	Yes	Hazardous Materials:	No
Liquefaction:	No	Other:	N/A

SERVICES:

Fire Protection:	<INSERT>	Drainage District:	<INSERT>
School District:	<INSERT>	Project Access:	<INSERT>
Sewage Disposal:	<INSERT>	Water Supply:	<INSERT>

PLANNING POLICIES:

Zone District: Special Designation:
General Plan:
Urban Services Line: ☐ Inside ☐ Outside
Coastal Zone: ☐ Inside ☐ Outside

ENVIRONMENTAL SETTING AND SURROUNDING LAND USES:

Natural Environment

Santa Cruz County is uniquely situated along the northern end of Monterey Bay approximately 55 miles south of the City of San Francisco along the Central Coast. The Pacific Ocean and Monterey Bay to the west and south, the mountains inland, and the prime agricultural lands along both the northern and southern coast of the county create limitations on the style and amount of building that can take place. Simultaneously, these natural features create an environment that attracts both visitors and new residents every

year. The natural landscape provides the basic features that set Santa Cruz apart from the surrounding counties and require specific accommodations to ensure building is done in a safe, responsible and environmentally respectful manner.

The California Coastal Zone affects nearly one third of the land in the urbanized area of the unincorporated County with special restrictions, regulations, and processing procedures required for development within that area. Steep hillsides require extensive review and engineering to ensure that slopes remain stable, buildings are safe, and water quality is not impacted by increased erosion. The farmland in Santa Cruz County is among the best in the world, and the agriculture industry is a primary economic generator for the County. Preserving this industry in the face of population growth requires that soils best suited to commercial agriculture remain active in crop production rather than converting to other land uses.

PROJECT BACKGROUND:

The single lane bridge was constructed in 1940 and is a two span army treadway structure with a total length of 28'. The 12' wide, one lane bridge has a corrugated metal deck with asphalt concrete overlay and timber railings. The rural road provides vehicular access to private properties and ends at a gate approximately a quarter mile past the bridge.

The Caltrans Structure Inventory and Appraisal Report classifies the bridge as Structurally Deficient with a sufficiency rating of 10.7. Per the Caltrans' Bridge Inspection Report numerous bridge deficiencies exist, including: abutment scour, substandard bridge rail, raveling and rutting AC approaches, and surface rust on the bridge steel components. Although the bridge is over 50 years old, it is not considered historic with a historic significance classification of 5, "Bridge not eligible for National Registry of Historic Places (NRHP)".

The Structurally Deficient status and low sufficiency rating make it eligible for replacement through the federal Highway Bridge Program (HBP). The local road classification qualifies the project for 100% funding under the Caltrans Toll Credit program. Santa Cruz County Department of Public Works is planning to replace the bridge and has secured HBP funds for preliminary engineering, environmental, right of way acquisition and construction.

DETAILED PROJECT DESCRIPTION:

The east roadway approach (Corralitos side) is cut into the hillside with a steep ravine to the right (north). At the bridge the road crosses to the right side of the hill and continues up the ravine, paralleling the creek to its south. The creek flows eastwardly, and falls steeply immediately after the bridge.

The road will be widened to 18 feet plus 2-foot graded shoulders to meet the minimum width required by the American Association of State Highways and Transportation Officials

(AASHTO Green Book) design specifications. To accommodate the wider roadway, the road centerline would be shifted south. This will require additional cut into the hillside for the east approach, and a side-hill viaduct along the creek for the west approach. The new bridge profile will closely match the existing (no raised bridge deck height for hydraulic capacity). The new approaches will conform to the existing roadway as quickly as possible while providing adequate alignment curvatures in conformance with design speed standards.

The existing Redwood Road Bridge would be removed and replaced with a 27'-6" long by 22'-8" wide (22 foot traffic width) single span cast-in-place concrete slab bridge with cast in place concrete bridge abutments. The abutments are expected to be founded on spread footings due to the shallow depth to bedrock. However, cast-in-drilled-hole concrete piles will also be considered for foundations. The southwest bridge corner will cantilever approximately five feet beyond the end of the abutment wall so that creek flows are not cut off. Caltrans Type 116 or 216 metal tube bridge railings will be used on the bridge.

Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact

III. ENVIRONMENTAL REVIEW CHECKLIST

A. AESTHETICS AND VISUAL RESOURCES

Would the project:

1. *Have a substantial adverse effect on a scenic vista?* ☐ ☐ ☐ ☒

Discussion: The project would not directly impact any public scenic resources, as designated in the County's General Plan (1994), or obstruct any public views of these visual resources.

2. *Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?* ☐ ☐ ☐ ☒

Discussion: The project site is not located along a County designated scenic road, public viewshed area, scenic corridor, within a designated scenic resource area, or within a state scenic highway. Therefore, no impact is anticipated.

3. *Substantially degrade the existing visual character or quality of the site and its surroundings?* ☐ ☐ ☐ ☒

Discussion: The existing visual setting is redwood forest. The proposed project is designed and landscaped so as to fit into this setting.

4. *Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?* ☐ ☐ ☐ ☒

Discussion: The project does not include a source of light and would not affect either day or nighttime views in the area.

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact

B. AGRICULTURE AND FORESTRY RESOURCES

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

1.	*Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?*	☐	☐	☐	☒

Discussion: The project site does not contain any lands designated as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency. In addition, the project does not contain Farmland of Local Importance. Therefore, no Prime Farmland, Unique Farmland, Farmland of Statewide or Farmland of Local Importance would be converted to a non-agricultural use. No impact would occur from project implementation.

2.	*Conflict with existing zoning for agricultural use, or a Williamson Act contract?*	☐	☐	☐	☒

Discussion: The project site is located within the County Right of Way and will not conflict with any land use.

3.	*Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))?*	☐	☐	☐	☒

Discussion: Although the project is near land designated as Timber Resource, the proposed project would not conflict with existing zoning for forest land. The project would

Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact

improve access to harvest the resource in the future by replacing a structurally deficient bridge. The timber resource may only be harvested in accordance with California Department of Forestry timber harvest rules and regulations.

4. *Result in the loss of forest land or conversion of forest land to non-forest use?* ☐ ☐ ☐ ☒

***Discussion*:** See discussion under B-2 and B-3 above. No impact is anticipated.

5. *Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?* ☐ ☐ ☐ ☒

***Discussion*:** See discussion under B-2 and B-3 above. No impact is anticipated.

C. AIR QUALITY

The significance criteria established by the Monterey Bay Unified Air Pollution Control District (MBUAPCD) has been relied upon to make the following determinations. Would the project:

1. *Conflict with or obstruct implementation of the applicable air quality plan?* ☐ ☐ ☒ ☐

***Discussion*:** The project would not conflict with or obstruct any long-range air quality plans of the Monterey Bay Unified Air Pollution Control District (MBUAPCD). Because general construction activity related emissions (i.e., temporary sources) are accounted for in the emission inventories included in the plans, impacts to air quality plan objectives are less than significant. See C-2 below.

General estimated basin-wide construction-related emissions are included in the MBUAPCD emission inventory (which, in part, form the basis for the air quality plans cited below) and are not expected to prevent long-term attainment or maintenance of the ozone and particulate matter standards within the North Central Coast Air Basin (NCCAB). Therefore, temporary construction impacts related to air quality plans for these pollutants from the proposed project would be less than significant, and no mitigation would be required, since they are presently estimated and accounted for in the District's emission inventory, as described below. No stationary sources would be constructed that would be long-term permanent sources of emissions.

2. *Violate any air quality standard or contribute substantially to an existing or* ☐ ☐ ☒ ☐

Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact

projected air quality violation?

***Discussion*:** Santa Cruz County is located within the North Central Coast Air Basin (NCCAB). The NCCAB does not meet state standards for ozone (reactive organic gases [ROGs] and nitrogen oxides [NOx]) and fine particulate matter (PM_{10}). Therefore, the regional pollutants of concern that would be emitted by the project are ozone precursors and PM_{10}.

Ozone is the main pollutant of concern for the NCCAB. The primary sources of ROG within the air basin are on- and off-road motor vehicles, petroleum production and marketing, solvent evaporation, and prescribed burning. The primary sources of NOx are on- and off-road motor vehicles, stationary source fuel combustion, and industrial processes. In 2010, daily emissions of ROGs were estimated at 63 tons per day. Of this, area-wide sources represented 49 percent, mobile sources represented 36 percent, and stationary sources represented 15 percent. Daily emissions of NOx were estimated at 54 tons per day with 69 percent from mobile sources, 22 percent from stationary sources, and 9 percent from area-wide sources. In addition, the region is "NOx sensitive," meaning that ozone formation due to local emissions is more limited by the availability of NOx as opposed to the availability of ROGs (MBUAPCD, 2013b).

PM_{10} is the other major pollutant of concern for the NCCAB. In the NCCAB, highest particulate levels and most frequent violations occur in the coastal corridor. In this area, fugitive dust from various geological and man-made sources combines to exceed the standard. Nearly three quarters of all NCCAB exceedances occur at these coastal sites where sea salt is often the main factor causing exceedance (MBUAPCD, 2005). In 2005 daily emissions of PM_{10} were estimated at 102 tons per day. Of this, entrained road dust represented 35 percent of all PM_{10} emission, windblown dust 20 percent, agricultural tilling operations 15 percent, waste burning 17 percent, construction 4 percent, and mobile sources, industrial processes, and other sources made up 9 percent (MBUAPCD, 2008).

Given that no amount of new traffic that would be generated by the project there is no indication that new emissions of ROGs or NOx would exceed MBUAPCD thresholds for these pollutants; and therefore, there would not be a significant contribution to an existing air quality violation.

Project construction may result in a short term, localized decrease in air quality due to generation of PM_{10}. However, standard dust control best management practices, such as periodic watering, would be implemented during construction to avoid significant air quality impacts from the generation of PM_{10}.

3. *Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under*	☐	☐	☒	☐

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact

an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?

Discussion: Project construction would have a limited and temporary potential to contribute to existing violations of California air quality standards for ozone and PM_{10} primarily through diesel engine exhaust and fugitive dust. However, the Santa Cruz monitoring station has not had any recent violations of federal or state air quality standards mainly through dispersion of construction-related emission sources. Therefore, the proposed project would not result in a cumulatively considerable net increase in criteria pollutants. The impact on ambient air quality would be less than significant.

4.	*Expose sensitive receptors to substantial pollutant concentrations?*	☐	☐	☒	☐

Discussion: The proposed bridge replacement project would not generate substantial pollutant concentrations. Emissions from construction activities represent temporary impacts that are typically short in duration. Impacts to sensitive receptors would be less than significant.

5.	*Create objectionable odors affecting a substantial number of people?*	☐	☐	☒	☐

Discussion: California ultralow sulfur diesel fuel with a maximum sulfur content of 15 ppm by weight would be used in all diesel-powered equipment, which minimizes emissions of sulfurous gases (sulfur dioxide, hydrogen sulfide, carbon disulfide, and carbonyl sulfide). Therefore, no objectionable odors are anticipated from construction activities associated with the proposed project, and no mitigation measures would be required. The proposed project would not create objectionable odors affecting a substantial number of people; therefore, impacts are expected to be less than significant.

D. BIOLOGICAL RESOURCES

Would the project:

1.	*Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife, or U.S. Fish and Wildlife Service?*	☐	☒	☐	☐

Discussion:

Steelhead (*O. mykiss irideus*):

Redwood Creek is a tributary to Browns Creek in the Corralitos Creek Watershed. Redwood Creek has limited access for steelhead, provides little or no spawning habitat and contains very limited rearing habitat to support very few juvenile steelhead. Numerous significant barriers to passage preclude steelhead from occurring in Redwood Creek in or near the Project Area. The first passage impediment is a culvert located approximately 200 meters (660 feet) upstream of the confluence of Redwood Creek and Browns Creek. Lower Redwood Creek is accessible to adult steelhead in most years but the stream channel upstream of the first culvert is likely rarely accessible to adult steelhead, except during El Nino type winters and then only to a bedrock cascade located approximately 640 meters (2100 feet) upstream of the confluence.

Although Redwood Creek is designated as critical habitat within the DPS, both the listing determination and definitions of critical habitat preclude defining Redwood Creek as critical habitat above the first impassable barrier.

Erosion, sedimentation of spawning gravel, pool depths decreasing and lack of in stream wood for cover are major threats to the success of steelhead. In the absence of avoidance and minimization measures, indirect impacts that may occur to an undetermined area of fish habitat include:

- temporary habitat degradation from turbidity resulting from bridge removal and construction which may subsequently reduce visibility downstream for drift-feeding salmonids,
- excavated sediment and gravels from the project site may reach the occupied stream course downstream during or after the project, increasing streambed sedimentation, and reducing insect productivity and salmonid food sources,
- loose soil or other erodible material smaller than 0.5 inches in diameter, placed around the new bridge or on the stream bank will also result in increased sedimentation of the stream course during winter storms, negatively impacting downstream spawning and rearing habitat for steelhead.

To avoid any indirect effects downstream of the project area, project plans would incorporate standard BMPs to conserve downstream habitat for federally-listed steelhead, including protective fencing, a WPC Program, which will include erosion and sedimentation control measures prior to, during, and after construction; and a revegetation plan for the embankments and slopes of Redwood Creek. Through adherence to the required BMPs, impacts on steelhead are considered less than significant.

California Red Legged Frog (*Rana draytonii*):

The California red-legged frog occupies and breeds in marshy habitats, springs, natural and artificial ponds, and slack water pools of rivers and streams (Stebbins 2003). The frog requires the presence of surface water until mid to late summer for successful reproduction. Upland habitat includes leaf litter and small mammal burrows. Adult CRLF are known to travel 3 km (2 miles) overland between aquatic sites.

The biological study area is not within federally- designated critical habitat for CRLF. No CRLF were observed during field surveys. No occurrences of CRLF have been reported in Redwood Creek or Browns Creek. Potential non-reproductive aquatic habitat occurs within Redwood Creek. No suitable potential breeding habitat for CRLF occurs in or near the Biological Study Area due to the dense tree canopy filtering sunlight from the creek, lack of emergent vegetation for egg mass attachment and cover, lack of algae or other food sources for tadpoles, and the absence of slack water pools of sufficient depth. No potential upland habitat is present within the immediate Project Area, due to the steep slopes, dense canopy, and lack of understory for cover.

The nearest known record for CRLF is approximately 1 km (0.6 miles) to the north/northeast in a pond located on private property off Grizzly Flat Road (CNDDB 2014). Three other ponds were identified in aerial photos 0.6 km (0.4miles) and 0.7 km (0.45 miles) to the north, and 1.3 km (0.8 miles) to the west on private property; each of these provides potential breeding habitat for CRLF.

Impacts

CRLF are known to disperse between breeding sites. The straight-line distances between known and potential breeding habitat and the project area are within the dispersal range for CRLF; however, the known/potential breeding sites are separated by at least one ridgeline from the Study Area, making it an unlikely hydration point, and the Study Area does not lie en route between known/potential breeding habitats. Based on the proximity of known and potential breeding habitat, it is possible, although unlikely, that CRLF may move through the Project Area and/or use Redwood Creek as a hydration point during dispersal.

Although the likelihood of CRLF presence within the Project Area is low, to ensure that no CRLF are unlawfully displaced, harmed, or killed during construction, implementation of the following mitigation measures would reduce impacts to below a level of significance.

Mitigation Measures

BIO-1:

1. Only USFWS-approved biologists will participate in activities associated with the capture, handling, and monitoring of CRLF. Biologists authorized under this biological opinion do not need to re-submit their qualifications for subsequent projects conducted

pursuant to this biological opinion, unless we have revoked their approval at any time during the life of this biological opinion.

2. Ground disturbance will not begin until written approval is received from the USFWS that the biologist is qualified to conduct the work, unless the individual(s) has/have been approved previously and the USFWS has not revoked that approval.

3. A USFWS-approved biologist will survey the project site no more than 48 hours before the onset of work activities. If any life stage of the CRLF is found and these individuals are likely to be killed or injured by work activities, the approved biologist will be allowed sufficient time to move them from the site before work begins. The USFWS-approved biologist will relocate the CRLF the shortest distance possible to a location that contains suitable habitat and that will not be affected by activities associated with the proposed project. The relocation site should be in the same drainage to the extent practicable. The County will coordinate with the USFWS on the relocation site prior to the capture of any CRLF.

4. Before any activities begin on a project, a USFWS-approved biologist will conduct a training session for all construction personnel. At a minimum, the training will include a description of the CRLF and its habitat, the specific measures that are being implemented to conserve the CRLF for the current project, and the boundaries within which the project may be accomplished. Brochures, books, and briefings may be used in the training session, provided that a qualified person is on hand to answer any questions.

5. A USFWS-approved biologist will be present at the work site until all CRLF have been relocated out of harm's way, workers have been instructed, and disturbance of habitat has been completed. After this time, the State or local sponsoring agency will designate a person to monitor on-site compliance with all minimization measures. The USFWS-approved biologist will ensure that this monitor receives the training outlined in measure 4 above and in the identification of CRLF. If the monitor or the USFWS-approved biologist recommends that work be stopped because CRLF would be affected in a manner not anticipated by the County and the USFWS during review of the proposed action, they will notify the resident engineer (the engineer that is directly overseeing and in command of construction activities) immediately. The resident engineer will either resolve the situation by eliminating the adverse effect immediately or require that all actions causing these effects be halted. If work is stopped, the USFWS will be notified as soon as possible.

6. During project activities, all trash that may attract predators will be properly contained, removed from the work site, and disposed of regularly. Following construction, all trash and construction debris will be removed from work areas.

7. All refueling, maintenance, and staging of equipment and vehicles will occur at least 60

feet from riparian habitat or water bodies and in a location from where a spill would not drain directly toward aquatic habitat (e.g., on a slope that drains away from the water). The monitor will ensure contamination of habitat does not occur during such operations. Prior to the onset of work, the County will ensure that a plan is in place for prompt and effective response to any accidental spills. All workers will be informed of the importance of preventing spills and of the appropriate measures to take should a spill occur.

8. Habitat contours will be returned to their original configuration at the end of project activities. This measure will be implemented in all areas disturbed by activities associated with the project, unless the USFWS and the County determine that it is not feasible or modification of original contours would benefit the CRLF.

9. The number of access routes, size of staging areas, and the total area of the activity will be limited to the minimum necessary to achieve the project goals. Environmentally Sensitive Areas will be delineated to confine access routes and construction areas to the minimum area necessary to complete construction, and minimize the impact to CRLF; this goal includes locating access routes and construction areas outside of wetlands and riparian areas to the maximum extent practicable.

10. The County will attempt to schedule work activities for times of the year when impacts to the CRLF would be minimal. For example, work that would affect large pools that may support breeding would be avoided, to the maximum degree practicable, during the breeding season (November through May). Isolated pools that are important to maintain CRLF through the driest portions of the year would be avoided, to the maximum degree practicable, during the late summer and early fall. Habitat assessments, surveys, and coordination between the County and the USFWS during project planning will be used to assist in scheduling work activities to avoid sensitive habitats during key times of the year.

11. To control sedimentation during and after project implementation, the County will implement best management practices outlined in any authorizations or permits, issued under the authorities of the Clean Water Act that it receives for the specific project. If best management practices are ineffective, the County will attempt to remedy the situation immediately, in coordination with the USFWS.

12. If a work site is to be temporarily dewatered by pumping, the intakes will be completely screened with wire mesh not larger than 0.2 inches to prevent CRLF from entering the pump system. Water will be released or pumped downstream at an appropriate rate to maintain downstream flows during construction. Upon completion of construction activities, any diversions or barriers to flow will be removed in a manner that would allow flow to resume with the least disturbance to the substrate. Alteration of the stream bed will be minimized to the maximum extent possible; any imported material will

be removed from the stream bed upon completion of the project.

13. Unless approved by the USFWS, water will not be impounded in a manner that may attract CRLF.

14. A USFWS-approved biologist will permanently remove any individuals of non-native species, such as bullfrogs *(Rana catesbeiana),* signal and red swamp crayfish *(Pacifasticus leniusculus; Procambarus clarkii),* and centrarchid fishes from the project area, to the maximum extent possible. The USFWS-approved biologist will be responsible for ensuring his or her activities are in compliance with the California Fish and Game Code.

15. If the County demonstrates that disturbed areas have been restored to conditions that allow them to function as habitat for the CRLF, these areas will not be included in the amount of total habitat permanently disturbed.

16. To ensure that diseases are not conveyed between work sites by the USFWS approved biologist, the fieldwork code of practice developed by the Declining Amphibian Populations Task Force will be followed at all times.

17. Project sites will be re-vegetated with an assemblage of native riparian, wetland, and upland vegetation suitable for the area. Locally collected plant materials will be used to the extent practicable. Invasive, exotic plants will be controlled to the maximum extent practicable. This measure will be implemented in all areas disturbed by activities associated with the project, unless the USFWS and the County determine that it is not feasible or practical.

18. The County will not use herbicides to control invasive, exotic plants at this site.

The CRLF is federally threatened. Redwood Creek provides marginal non-breeding aquatic habitat. In the unlikely event that a CRLF occurs within the Biological Study Area during project activities, with the mitigation measures listed above, no project impacts are anticipated.

Migratory Bird Treaty Act

Migratory birds are protected under the federal Migratory Bird Treaty Act (MBTA) of 1918 (16 U.S.C. 703-711). The MBTA makes it unlawful to take, possess, buy, sell, purchase, or barter any migratory bird listed in 50 CFR Part 10 including feathers or other parts, nests, eggs, or products, except as allowed by implementing regulations (50 CFR 21). All migratory bird species are protected by the MBTA. Any disturbance that causes direct injury, death, nest abandonment, or forced fledging of migratory birds, is restricted under the MBTA. Any removal of active nests during the breeding season or any disturbance that results in the abandonment of nestlings is considered a 'take' of the species under federal law.

Vaux's Swift

The Vaux's swift (*Chaetura vauxi)* nests in live hollow trees in forested environments and chimneys in residential neighborhoods. It is a California Species of Special Concern. The Biological Study Area provides potential nesting habitat. Birds may seasonally occupy nest structures within the Biological Study Area prior to or during project activities. Post breeding flocks up to several hundred may roost together in tree hollows and chimneys.

The closest known nesting Vaux's swift occurrences are from the forests of Nicene Marks in Aptos, and in chimneys in residential areas in Aptos. The trees within the immediate Project Area do not provide nesting habitat for this species. Nesting habitat occurs within the Biological Study Area.

Impacts

The project area provides potential nesting habitat for birds of prey and birds listed by the Migratory Bird Treaty Act (MBTA). No nests or evidence of past nests were observed in the project area during the general biological survey conducted on <INSERT DATE>. However, nests could become established in the vegetation to be removed before construction begins. As a result, implementation of the following mitigation would reduce impacts to below a level of significance.

Mitigation Measures

BIO-2:

Under the MBTA, nests that contain eggs or unfledged young are not to be disturbed during the breeding season. The nesting season for migratory birds and birds of prey is generally 1 February through 31 August. Implementation of the following measures will avoid potential impacts.

- If construction begins outside the February 1 through August 31 breeding season, there will be no need to conduct a preconstruction survey for active nests.
- If construction is scheduled to begin between February 1 through August 31 then a qualified biologist shall conduct a preconstruction survey for active nests. The survey will include a 250 foot radius from the work area for nesting birds of prey and a 50 foot radius from the work area for other nesting MBTA protected birds. The survey will be conducted from publicly accessible areas within one two weeks prior to construction. If no active nest of a bird of prey or MBTA bird is found, then no further mitigation measures are necessary.
- If an active nest of a bird of prey or MBTA bird is found, then the biologist

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact

shall determine a buffer suitable to protect the nest until fledging. The size of suitable buffers depends on the species of bird, the location of the nest relative to the Project, Project activities during the time the nest is active, and other Project specific conditions.

- No construction activity shall be allowed in the buffer until the biologist determines that the nest is no longer active, or unless monitoring determines that a smaller buffer will protect the active nest. The buffer may be reduced if the biologist monitors the construction activities and determines that no disturbance to the active nest is occurring.
- If an active nest is identified in or adjacent to the construction zone after construction has started, the above measures will be implemented to ensure construction is not causing disturbance to the nest.
- Avian surveys will include sunrise surveys (45 minutes before to 45 minutes after) and an examination of suitable nest features for Vaux's swift, such as large accessible hollows in live trees.

With the measures listed above, the potential disruption of nesting activities will be avoided.

2. *Have a substantial adverse effect on any riparian habitat or sensitive natural community identified in local or regional plans, policies, regulations (e.g., wetland, native grassland, special forests, intertidal zone, etc.) or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?*	☐	☒	☐	☐

Discussion: The coast redwood riparian forest (coast redwood alliance) is considered a "high priority" sensitive habitat type by CDFW. In addition, riparian corridors are considered a sensitive resource by the County of Santa Cruz. Riparian habitat is projected under the County Riparian Corridor and Wetlands Protection Ordinance (County Code 16.30). As defined by the County ordinance, riparian corridors adjacent to intermittent waterways, including Redwood Creek, extend 9 meters (30 feet) beyond the OHW Mark or to the extent of riparian vegetation, whichever is greater.

Within the Study Area, the riparian corridor is comprised of coast redwood, Douglas fir, and tan oak evergreen trees common to riparian habitats within the County. This habitat type intergrades with upland coast redwood forest; there is no distinct physiognomic transition between the two communities. As a result, the edge of riparian canopy was determined based on the proximity to the creek by estimating the hydrologic influence on

the vegetation based on the vertical height of the rooting zone above the OHW Mark. The approximate edge of the riparian corridor is shown in Figure 5. The riparian corridor, as defined by the County ordinance, extends 9 meters (30 feet) beyond the OHW Mark.

Impacts

Approximately 27 square meters (290 square feet) of riparian vegetation will be impacted by construction activities and permanently lost for the construction of the new bridge and retaining walls. An additional approximately 55 square meters (590 square feet) of ruderal habitat within the riparian zone will be temporarily disturbed by construction and permanently altered by shading under the cantilevered west approach to the new bridge for a total permanent loss of 77 square meters (830 square feet). Four redwood trees [45 cm (18 inches), 132 cm (52 inches), 55 cm (22 inches) and 30 cm (12 inches) DBH] and three tan oaks [30 cm (12 inches), 50 cm (20 inches), and 40 cm (16 inches) DBH] will be removed from within the riparian corridor during the course of construction. This area represents a relatively small section of riparian habitat immediately adjacent to the roadway. The remaining riparian habitat in the vicinity is relatively undisturbed and consists predominantly of native vegetation. Two invasive species (English ivy and periwinkle) are present within the ruderal area of Project Area. It is anticipated that these plants will be removed during construction of the cantilevered west approach to the new bridge. Removal of these species is a considered a positive impact to the riparian habitat in the vicinity.

Mitigation Measures

The project has been designed to minimize impacts to the coast redwood riparian forest in the Biological Study Area. To avoid degradation of habitat through indirect effects, such as damage to root systems under the dripline of trees adjacent to the Project Area (from compaction, trenching, excavation, or grading); or alteration of moisture regimes due to increased runoff and/or other alterations to hydrology; best management practices (BMPs) will be incorporated into project specifications in accordance with Caltrans' Construction Site Best Management Practices (BMPs) Manual (Caltrans 2003), including, but not limited to:

BIO-3: Riparian woodland cannot be avoided during construction. The removal of riparian woodland and native trees will be minimized with the following environmental commitments:

- A WPC Program that details measures for erosion, sediment and water quality control will be prepared by a QSD and implemented under the management of a WPC Manager per Caltrans' Stormwater Quality Manuals and Handbooks (Hakim, H. et. Al. 2011).
- Where possible, native trees and vegetation which overhang the stream course

will be retained, to maximize streambank stability and shading.

- The removal of all mature trees within the Project Area will be avoided to the extent possible. All encroachment of construction activities within areas containing mature trees will be prohibited, where feasible, and at least within the drip-line which typically corresponds to the root zone. Construction fencing will be erected outside the drip-line of these trees in order to prevent encroachment.
- To the extent feasible, removal of riparian and upland vegetation will be avoided. A work area access plan will be developed that minimizes damage to the existing vegetation, such as lifting equipment into the creek channel with a crane, rather than constructing an access road. Riparian and upland vegetation will be protected during construction activities.
- Prior to beginning construction, protective fencing will be installed around the work area and along the delineated boundary of the riparian corridor [9 meters (30 feet) above the OHW Mark] on both sides of Redwood Creek. Fencing will serve the multiple purposes of controlling erosion, preventing habitat degradation and excluding wildlife from the work area. Fencing will allow for wildlife passage around the work area and along the riparian corridor.
- Stage equipment upslope and outside of the boundaries of the contiguous riparian canopy. Thoroughly clean all clothing and equipment before and after entering the project site. Use weed-free straw wattles for erosion control and ensure imported fill material does not contain invasive species propagules. All clothing and equipment will be thoroughly cleaned before and after entering the project site. Weed-free straw wattles will be used for erosion control and imported fill material will not contain invasive species propagules.
- Develop and implement a re-vegetation plan for the corridor, embankments, transitional slopes, and uplands of Redwood Creek and the construction access road. The plan will call for a replacement habitat at a planting ratio of 3:1 with in-kind, native riparian vegetation at densities consistent with the existing vegetation in all areas available for replanting. This will not be required for those areas subsumed by the new bridge and retaining walls, where replacement planting would not be possible. Selected plant species should provide slope stabilization and prevent erosion, as well as shade of the creek, and provide cover and forage for wildlife. Canopy plantings may include coast redwood, Douglas-fir, tan oak, and big leaf maple. Understory plantings may include an assemblage of native ferns local to the Study Area (Appendix C), California wild rose (*Rosa californica*), thimbleberry (*Rubus parviflorus*),

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact

California blackberry (*Rubus ursinus*), and redwood sorrel (*Oxalis oregana*). If feasible, revegetation will take place during the optimal season for survival (in the fall just prior to the seasonal rains). If vegetation is planted during the dry season, it should be irrigated to ensure success. Plantings will be maintained and monitored for at least three growing seasons to ensure that vegetation is re-established. Remedial plans will be implemented in the event of planting failures. Success of mitigation will be measured as 100 percent or greater replacement after three years.

- Invasive species (English ivy and periwinkle) will be removed from the area identified as ruderal habitat during the construction of the cantilevered west approach to the new bridge.

3.	*Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?*	☐	☐	☐	☒

***Discussion*:** There are no mapped or designated federally protected wetlands on or adjacent to the project site. Therefore, no impacts would occur from project implementation.

4	*Interfere substantially with the movement of any native resident or migratory fish or wildlife species or migratory wildlife corridors, or impede the use of native wildlife nursery sites?*	☐	☐	☒	☐

***Discussion*:** The proposed project does not involve any activities that would interfere with the movements or migrations of fish or wildlife, or impede use of a known wildlife nursery site.

5.	*Conflict with any local policies or ordinances protecting biological resources (such as the Sensitive Habitat Ordinance, Riparian and Wetland Protection Ordinance, and the Significant Tree Protection Ordinance)?*	☐	☐	☒	☐

***Discussion*:** See discussions and mitigation measures specified under D-1 and D-2 above. No wetlands would be impacted by the proposed project. The project would be consistent

Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact

with the County of Santa Cruz Riparian Corridor and Wetlands Protection Ordinance with a Riparian Exception (Section 16.30.060 of the County Code). The following findings would need to be made.

1. *That there are special circumstances or conditions affecting the property;*

   The Caltrans Structure Inventory and Appraisal Report classifies the bridge as Structurally Deficient with a sufficiency rating of 10.7. Per the Caltrans' Bridge Inspection Report numerous bridge deficiencies exist, including: abutment scour, substandard bridge rail, raveling and rutting AC approaches, and surface rust on the bridge steel components. Replacement of the bridge requires development in the riparian corridor.

2. *That the exception is necessary for the proper design and function of some permitted or existing activity on the property;*

   A riparian exception is required in order to allow the replacement of the bridge with one that meets current standards.

3. *That the granting of the exception will not be detrimental to the public welfare or injurious to other property downstream or in the area in which the project is located;*

   The replacement of a deficient bridge with one that meets current standards is beneficial to the public welfare. Best Management Practices and mitigations will ensure no detrimental effects occur to downstream properties.

4. *That the granting of this exception, in the Coastal Zone, will not reduce or adversely impact the riparian corridor, and there is no feasible less environmentally damaging alternative; and*

   This project is not in the Coastal Zone.

5. *That the granting of the exception is in accordance with the purpose of this chapter, and with the objectives of the General Plan and elements thereof, and the Local Coastal Program Land Use Plan.*

The granting of the exception is in accordance with the purpose of Riparian Corridor and Wetlands Protection Ordinance, the objectives of the General Plan and the LUP in that the proposed project will provide protection of the riparian habitat through site-sensitive design, erosion control and revegetation.

Impacts from project implementation would be less than significant with mitigation incorporated.

6. *Conflict with the provisions of an adopted*	☐	☐	☐	☒	

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?				

Discussion: The proposed project would not conflict with the provisions of any adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan. Therefore, no impact would occur.

7. *Produce nighttime lighting that would substantially illuminate wildlife habitats?*	☐	☐	☐	☒

Discussion: All construction would be completed during daylight hours. No nighttime lighting impacts from project implementation would occur.

E. CULTURAL RESOURCES

Would the project:

1. *Cause a substantial adverse change in the significance of a historical resource as defined in CEQA Guidelines Section 15064.5?*	☐	☐	☐	☒

Discussion: The existing structure(s) on the property is/are not designated as a historic resource on any federal, state or local inventory. As a result, no impacts to historical resources would occur from project implementation.

2. *Cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Guidelines Section 15064.5?*	☐	☐	☒	☐

Discussion: According to the Archeological Survey Report prepared by ICF International, dated December, 2014, (Attachment 2), there is no evidence of pre-historic cultural resources. However, pursuant to Section 16.40.040 of the Santa Cruz County Code, if archeological resources are uncovered during construction, the responsible persons shall immediately cease and desist from all further site excavation and comply with the notification procedures given in County Code Chapter 16.40.040.

Impacts are expected to be less than significant.

3. *Disturb any human remains, including those interred outside of dedicated cemeteries?*	☐	☐	☒	☐

Discussion: Impacts are expected to be less than significant. However, pursuant to Section 16.40.040 of the Santa Cruz County Code, if at any time during site preparation,

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact

excavation, or other ground disturbance associated with this project, human remains are discovered, the responsible persons shall immediately cease and desist from all further site excavation and notify the sheriff-coroner and the Planning Director. If the coroner determines that the remains are not of recent origin, a full archeological report shall be prepared and representatives of the local Native California Indian group shall be contacted. Disturbance shall not resume until the significance of the archeological resource is determined and appropriate mitigations to preserve the resource on the site are established.

4. Would the project cause a substantial adverse change in the significance of a tribal cultural resource as defined in Public Resources Code 21074?	☐	☒	☐	☐

Discussion: According to the Archeological Survey Report prepared by ICF International, dated December, 2014, representatives of local tribes were contacted regarding this project. Several responses were received. The responses generally acknowledged that there were no concerns with the project, provided they are informed should anything turn up during construction. Two tribe members requested that a Native American monitor be present on-site for ground-disturbing activities. In order to ensure there are no significant impacts to tribal cultural resources, the following mitigations shall apply:

CUL-1: A Native American monitor and an Archeologist shall be present during all initial ground disturbance activities. Should any cultural resources be found during the course of the project, work will stop and the project proponent will contact the Environmental Coordinator of the County Planning Department, and the following tribal contacts:

- Valentin Lopez, Chairperson, Amah Mutsun Tribal Band
- Edward Ketchum, Amah Mutsun Tribal Band
- Irene Zwierlein, Chairperson, Amah Mutsun Tribal Band
- Michelle Zimmer, Amah Mutsun Tribal Band
- Ann Marie Sayers, Chairperson, Indian Canyon Mutsun Band of Costanoan
- Rosemary Cambra, Chairperson, Muwekma Ohlone Indian Tribe of the SF Bay Area
- Ramona Garibay, Representative, Trina Marine Ruano Family
- Jakki Kehl
- Linda G. Yamane
- Patrick Orozco, Costanoan Ohlone Rumsen-Mutsen Tribe

Work can continue once notifications have been made and all parties have had an opportunity to respond. Any cultural resources encountered will be preserved or documented based upon the recommendations of the archeologist and/or the tribal contacts, as determined by the environmental coordinator.

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact

CUL-2: Should any historic human remains be identified during ground-disturbing activities associated with this project, they shall be reinterred in an area that is as close as possible to where they had been identified, provided no tribal contacts oppose to this measure.

5.	*Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?*	☐	☐	☒	☐

***Discussion*:** No unique paleontological resources or unique geologic features are known to occur in the vicinity of the proposed project. No impacts are anticipated.

F. GEOLOGY AND SOILS

Would the project:

1.	*Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:*				
	A. *Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.*	☐	☐	☒	☐
	B. *Strong seismic ground shaking?*	☐	☐	☒	☐
	C. *Seismic-related ground failure, including liquefaction?*	☐	☐	☒	☐
	D. *Landslides?*	☐	☐	☒	☐

***Discussion (A through D)*:** The project site is located outside of the limits of the State Alquist-Priolo Special Studies Zone (County of Santa Cruz GIS Mapping, California Division of Mines and Geology, 2001). However, the project site is located approximately 0.2 miles south of the San Andreas fault zone, and approximately 2.2 miles south of the Sergent fault zone. While the San Andreas fault is larger and considered more active, each fault is capable of generating moderate to severe ground shaking from a major earthquake.

Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact

Consequently, large earthquakes can be expected in the future. The October 17, 1989 Loma Prieta earthquake (magnitude 7.1) was the second largest earthquake in central California history.

All of Santa Cruz County is subject to some hazard from earthquakes. However, the project site is not located within or adjacent to a county or state mapped fault zone. A geotechnical investigation for the proposed project was performed by WRECO (February, 2017). The report concluded that the potential for surface fault rupture is considered moderate. A seismic study was performed to develop seismic design parameters which have been incorporated into the proposed bridge design. The slopes in the vicinity of the site are generally steep and geomorphic features suggestive of existing slope failures exist along the eastern approach. Based on the existing slope failures and high seismic potential of the site the potential for rockfalls and landslides to affect the project site is considered high. Based on the exposed rock in the vicinity of the proposed bridge potential slope failures would likely be restricted to soils mantling the slopes above the roadway and to existing fill along the outboard of the existing road. Regarding liquefaction, as the proposed bridge and retaining walls will bear in / on underlying rock the potential for liquefaction to adversely affect the project is considered low.

Given the soils and rock encountered in the four borings performed within the proposed structure limits, and considering the highly variable depth to rock, the preferred foundation type is Cast-In-Drilled-Hole (CIDH) piling at all supports. By incorporating the recommendations of the geotechnical report, the impacts associated with seismic ground shaking would be less than significant.

2.	*Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?*	☐	☐	☒	☐

***Discussion*:** The report cited above (see Discussion under F-1) concluded that there is a potential risk from seismic shaking (ground motion), fault rupture, and seismically induced slope failure. The recommendations contained in the geotechnical report regarding design of the foundation for the bridge supports and design of the retaining wall have been incorporated into the proposed project, which reduces this potential hazard to a less than significant level.

3.	*Develop land with a slope exceeding 30%?*	☐	☐	☒	☐

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact

Discussion: There are slopes that exceed 30% on the property. The project includes widening the approach to the bridge in order to accommodate a second lane of travel over the bridge, resulting in a cut into slopes over 30%. The project includes a retaining wall to support that cut, design based upon the recommendations of the geotechnical report cited above. Through proper design, the potential impacts to steep slopes is less than significant.

4. Result in substantial soil erosion or the loss of topsoil?	☐	☐	☒	☐

Discussion: Some potential for erosion exists during the construction phase of the project, however, this potential is minimal because the project has been designed to minimize soil disturbance and standard erosion control BMPs are a required condition of the project. The proposed projects includes provisions for disturbed areas to be planted with ground cover and to be maintained to minimize surface erosion. Impacts from soil erosion or loss of topsoil would be considered less than significant.

5. Be located on expansive soil, as defined in Section 1802.3.2 of the California Building Code (2007), creating substantial risks to life or property?	☐	☐	☐	☒

Discussion: The geotechnical report for the project did not identify any elevated risk associated with expansive soils. Therefore, no impact is anticipated.

6. Have soils incapable of adequately supporting the use of septic tanks, leach fields, or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	☐	☐	☐	☒

Discussion: No septic systems are proposed.

7. Result in coastal cliff erosion?	☐	☐	☐	☒

Discussion: The proposed project is not located in the vicinity of a coastal cliff or bluff; and therefore, would not contribute to coastal cliff erosion. No impact is anticipated.

G. GREENHOUSE GAS EMISSIONS

Would the project:

1. Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☐	☒	☐

Discussion: The proposed project, like all development, would be responsible for an

Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact

incremental increase in greenhouse gas emissions by usage of fossil fuels during the site grading and construction. Santa Cruz County has recently adopted a Climate Action Strategy (CAS) intended to establish specific emission reduction goals and necessary actions to reduce greenhouse gas levels to pre-1990 levels as required under AB 32 legislation. The strategy intends to reduce greenhouse gas emissions and energy consumption by implementing measures such as reducing vehicle miles traveled through the County and regional long range planning efforts and increasing energy efficiency in new and existing buildings and facilities. All project construction equipment would be required to comply with the Regional Air Quality Control Board emissions requirements for construction equipment. As a result, impacts associated with the temporary increase in greenhouse gas emissions are expected to be less than significant.

2.	*Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?*	☐	☐	☒	☐

Discussion: See the discussion under G-1 above. No significant impacts are anticipated.

H. HAZARDS AND HAZARDOUS MATERIALS

Would the project:

1.	*Create a significant hazard to the public or the environment as a result of the routine transport, use or disposal of hazardous materials?*	☐	☐	☒	☐

Discussion: The proposed project would not create a significant hazard to the public or the environment. No routine transport or disposal of hazardous materials is proposed. However, during construction, fuel would be used at the project site. In addition, fueling may occur within the limits of the staging area proposed to be located on a turnout more than 100 feet from the riparian area. Best management practices would be used to ensure that no impacts would occur. Impacts are expected to be less than significant.

2.	*Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?*	☐	☐	☒	☐

Discussion: Please see discussion under H-1 above. Project impacts would be considered less than significant.

3.	*Emit hazardous emissions or handle*	☐	☐	☐	☒

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact

hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?

***Discussion*:** The Mount Madonna School is located at 491 Summit Rd, approximately 3 miles to the east of the project site. Although fueling of equipment is likely to occur within the staging area, best management practices would be implemented. No impacts are anticipated.

4. *Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?*	☐	☐	☐	☒

***Discussion*:** The project site is not included on the December 19, 2016 list of hazardous sites in Santa Cruz County compiled pursuant to Government Code Section 65962.5. No impacts are anticipated from project implementation.

5. *For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?*	☐	☐	☐	☒

***Discussion*:** The proposed project is not located within two miles of a public airport or public use airport. No impact is anticipated.

6. *For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?*	☐	☐	☐	☒

***Discussion*:** The proposed project is not located in the vicinity of a private airstrip. No impact is anticipated.

7. *Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?*	☐	☐	☐	☒

***Discussion*:** The proposed project would not conflict with implementation of the County of Santa Cruz Local Hazard Mitigation Plan 2015-2020 (County of Santa Cruz, 2015).

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact

Therefore, no impacts to an adopted emergency response plan or evacuation Plan would occur from project implementation.

8.	*Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?*	☐	☐	☐	☒

Discussion: The single-lane bridge on Redwood Road has been determined to be structurally deficient. Replacement of this bridge with a two-lane bridge will ensure access by fire personnel to the remote area serviced by Redwood Road, and provide adequate escape to residents of the area. This is a beneficial impact.

I. HYDROLOGY, WATER SUPPLY, AND WATER QUALITY

Would the project:

1.	*Violate any water quality standards or waste discharge requirements?*	☐	☐	☒	☐

Discussion: Potential siltation from the proposed project would be addressed through implementation of erosion control best management practices (BMPs). No water quality standards or waste discharge requirements would be violated. Impacts would be less than significant.

2.	*Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?*	☐	☐	☐	☒

Discussion: The proposed replacement of an existing bridge will have no impact on groundwater.

3.	*Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?*	☐	☐	☒	☐

Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact

Discussion: The proposed project is located adjacent to Redwood Creek, and has the potential to generate water quality impacts during construction. However, the proposed project would be consistent with County Code Section 7.79.070, which states, "No person shall make any unpermitted alterations to drainage patterns or modifications to the storm drain system or any channel that is part of receiving waters of the county. No person shall deposit fill, debris, or other material in the storm drain system, a drainage channel, or on the banks of a drainage channel where it might enter the storm drain system or receiving waters and divert or impede flow." An erosion control plan would also be required per Section 16.22.060 of the County Code. The Department of Public Works Drainage Section staff has reviewed and approved the proposed drainage plan. Impacts would be less than significant.

The following water quality protection and erosion and sediment control best management practices (BMPs) would be implemented, based on standard County requirements, to minimize construction-related contaminants and mobilization of sediment to the creek in the project area.

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

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

- All earthwork or foundation activities involving rivers, ephemeral drainages, and culverts, will occur in the dry season (generally between June 1 and October 15).
- Implement a netting and tarp system at the bridge site to prevent and minimize debris from entering the river during demolition and construction activities.
- Equipment used in and around drainages and wetlands will be in good working order and free of dripping or leaking engine fluids. All vehicle maintenance will be performed at least 300 feet from all drainages and wetlands. Any necessary equipment washing will be carried out where the water cannot flow into drainages or wetlands.
- Develop a hazardous material spill prevention control and countermeasure plan before construction begins that will minimize the potential for and the effects of hazardous or toxic substances spills during construction. The plan will include storage and containment procedures to prevent and respond to spills and will identify the parties responsible for monitoring the spill response. During

Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact

construction, any spills will be cleaned up immediately according to the spill prevention and countermeasure plan. The County will review and approve the contractors' toxic materials spill prevention control and countermeasure plan before allowing construction to begin. Prohibit the following types of materials from being rinsed or washed into the streets, shoulder areas, or gutters: concrete; solvents and adhesives; thinners; paints; fuels; sawdust; dirt; gasoline; asphalt and concrete saw slurry; heavily chlorinated water.

- Any surplus concrete rubble, asphalt, or other rubble from construction will be taken to a local landfill.
- An erosion and sediment control plan will be prepared and implemented for the proposed project. It will include the following provisions and protocols. The Storm Water Pollution Prevention Plan (SWPPP) for the project will detail the applications and type of measures and the allowable exposure of unprotected soils.
    - Discharge from dewatering operations, if needed, and runoff from disturbed areas will be made to conform to the water quality requirements of the waste discharge permit issued by the RWQCB.
    - Temporary erosion control measures, such as sandbagged silt fences, will be applied throughout construction of the proposed project and will be removed after the working area is stabilized or as directed by the engineer. Soil exposure will be minimized through use of temporary BMPs, groundcover, and stabilization measures. Exposed dust-producing surfaces will be sprinkled daily, if necessary, until wet; this measure will be controlled to avoid producing runoff. Paved streets will be swept daily following construction activities.
    - The contractor will conduct periodic maintenance of erosion and sediment control measures.
    - An appropriate seed mix of native species will be planted on disturbed areas upon completion of construction.
    - Cover or apply nontoxic soil stabilizers to inactive construction areas (previously graded areas inactive for 10 days or more) that could contribute sediment to waterways.
    - Enclose and cover exposed stockpiles of dirt or other loose, granular construction materials that could contribute sediment to waterways. Material stockpiles will be located in non-traffic areas only. Side slopes will not be steeper than 2:1. All stockpile areas will be surrounded by a filter fabric fence and interceptor dike.
    - Contain soil and filter runoff from disturbed areas by berms, vegetated filters, silt

Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact

fencing, straw wattle, plastic sheeting, catch basins, or other means necessary to prevent the escape of sediment from the disturbed area.

- Use other temporary erosion control measures (such as silt fences, staked straw bales/wattles, silt/sediment basins and traps, check dams, geofabric, sandbag dikes, and temporary re-vegetation or other ground cover) to control erosion from disturbed areas as necessary.
- Avoid earth or organic material from being deposited or placed where it may be directly carried into the channel.

Implementation of the above BMPs would ensure that water quality impacts to Redwood Creek are less than significant.

4.	*Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding, on- or off-site?*	☐	☐	☒	☐

***Discussion*:** The proposed project will widen the existing bridge from 12.5 feet to up to 22 feet, resulting in a minor increase in impermeable surface. This width is gained by cantilevering over the existing channel, and water that would have entered the channel directly will flow directly into the channel from the bridge bed. This impact is not substantial and therefore less than significant.

5.	*Create or contribute runoff water which would exceed the capacity of existing or planned storm water drainage systems, or provide substantial additional sources of polluted runoff?*	☐	☐	☐	☒

***Discussion*:** There will be no measurable change in runoff rates as a result of this project, therefore there will be no impact.

6.	*Otherwise substantially degrade water quality?*	☐	☐	☒	☐

***Discussion*:** Please see discussion under I-1 above. Impacts would be considered less than significant with the implementation of BMPs.

7.	*Place housing within a 100-year flood hazard area as mapped on a federal*	☐	☐	☐	☒

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact

Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?

***Discussion*:** No housing is associated with this project, therefore there will be no impact.

8.	*Place within a 100-year flood hazard area structures which would impede or redirect flood flows?*	☐	☐	☒	☐

***Discussion*:** While some portion of the foundation will be within the 100-year flood hazard area, the project has been designed to pass a 100-year storm event, plus freeboard. This impact is less than significant.

9.	*Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?*	☐	☐	☐	☒

Discussion: The proposed project would not increase the risk of flooding and would not lead to the failure of a levee or dam. No impact would occur.

10.	*Inundation by seiche, tsunami, or mudflow?*	☐	☐	☐	☒

***Discussion*:** The project site is located approximately 7.5 miles inland, well beyond the effects of a tsunami. In addition, no impact from a seiche or mudflow is anticipated. No impact would occur.

J. LAND USE AND PLANNING

Would the project:

1.	*Physically divide an established community?*	☐	☐	☐	☒

***Discussion*:** The proposed project does not include any element that would physically divide an established community. No impact would occur.

2.	*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?*	☐	☐	☒	☐

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact

Discussion: The proposed project does not conflict with any regulations or policies adopted for the purpose of avoiding or mitigating an environmental effect. General Plan policy 5.2.3 (Activities Within Riparian Corridors and Wetlands) states: "Development activities, land alterations and vegetation disturbance within riparian corridors and wetlands and required buffers shall be prohibited unless an exception is granted per the Riparian Corridor and Wetlands Protection ordinance". Please see complete discussion under Section D-5. Impacts would be considered less than significant.

3.	*Conflict with any applicable habitat conservation plan or natural community conservation plan?*	☐	☐	☐	☒

Discussion: The proposed project would not conflict with any applicable habitat conservation plan or natural community conservation plan. No impact would occur.

K. MINERAL RESOURCES

Would the project:

1.	*Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?*	☐	☐	☐	☒

Discussion: The site does not contain any known mineral resources that would be of value to the region and the residents of the state. Therefore, no impact is anticipated from project implementation.

2.	*Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?*	☐	☐	☐	☒

Discussion: The project site is in the County right of way, surrounded by parcels zoned for agriculture, which is not considered to be an Extractive Use Zone (M-3) nor does it have a Land Use Designation with a Quarry Designation Overlay (Q) (County of Santa Cruz 1994). Therefore, no potentially significant loss of availability of a known mineral resource of locally important mineral resource recovery (extraction) site delineated on a local general plan, specific plan or other land use plan would occur as a result of this project.

L. NOISE

Would the project result in:

1.	*Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards*	☐	☐	☒	☐

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact

of other agencies?

***Discussion*:** There is a single family dwelling within 150 feet from the project site, however there is a hill between the house and the bridge that would dampen any construction-related noise generated from this project. The next closest residences are over 600 feet away and about 190 feet in elevation higher than the proposed bridge replacement. Due to the extremely remote nature of this project, steep slopes and dense tree cover in the vicinity of the project, construction generated noises are expected to be less than significant.

2. *Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?*	☐	☐	☐	☒

***Discussion*:** The project is not expected to produce significant groundbourne vibrations or noise. No impacts are anticipated.

3. *A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?*	☐	☐	☐	☒

***Discussion*:** The proposed project would not result in any permanent increase in the ambient noise level. No impacts are anticipated.

4. *A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?*	☐	☐	☒	☐

***Discussion*:** See discussion under L-1 above. Noise generated during project construction would increase the ambient noise levels in adjacent areas. Construction would be temporary, however, and given the remoteness of the project location and the limited duration of this impact it is considered to be less than significant.

5. *For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?*	☐	☐	☐	☒

***Discussion*:** The proposed project is not within two miles of a public airport. Therefore, the proposed project would not expose people residing or working in the project area. No impact is anticipated.

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
6. *For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?*	☐	☐	☐	☒

***Discussion*:** The proposed project is not within two miles of a private airstrip. Therefore, the proposed project would not expose people residing or working in the project area. No impact is anticipated.

M. POPULATION AND HOUSING

Would the project:

1. *Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?*	☐	☐	☐	☒

***Discussion*:** The proposed project would not induce substantial population growth in an area because the project does not propose any physical or regulatory change that would remove a restriction to or encourage population growth in an area. The project proposes only to replace an existing bridge and would not induce population growth. No impact would occur.

2. *Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?*	☐	☐	☐	☒

***Discussion*:** The proposed project would not displace any existing housing. No impact would occur.

3. *Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?*	☐	☐	☐	☒

***Discussion*:** The proposed project would not displace a substantial number of people since the project is intended to replace an existing bridge. No impact would occur.

N. PUBLIC SERVICES

Would the project:

1. *Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause*

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the public services:				
a. Fire protection?	☐	☐	☐	☒
b. Police protection?	☐	☐	☐	☒
c. Schools?	☐	☐	☐	☒
d. Parks?	☐	☐	☐	☒
e. Other public facilities; including the maintenance of roads?	☐	☐	☐	☒

***Discussion (a through e)*:** The proposed project would replace an existing bridge that has been determined to be substandard. Ensuring the viability of this crossing would be a beneficial impact on access to those residents along Redwood Road beyond the stream crossing.

O. RECREATION

Would the project:

1. Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☐	☒

***Discussion*:** The proposed project would not increase the use of existing neighborhood and regional parks or other recreational facilities. No impact would occur.

2. Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	☐	☐	☐	☒

***Discussion*:** The proposed project does not propose the expansion or construction of additional recreational facilities. No impact would occur.

P. TRANSPORTATION/TRAFFIC

Would the project:

1. Conflict with an applicable plan, ordinance or policy establishing measures of	☐	☐	☐	☒

Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact

effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?

Discussion: The first Transportation System Goal of the County of Santa Cruz General Plan states, "Provide a convenient, safe, and economical transportation system for the movement of people and goods, promoting the wise use of resources, particularly energy and clean air, and the health and comfort of residents." The proposed project would facilitate the maintenance of an existing transportation facility. No impact would occur.

2. *Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?* ☐ ☐ ☐ ☒

Discussion: In 2000, at the request of the Santa Cruz County Regional Transportation Commission (SCCRTC), the County of Santa Cruz and other local jurisdictions exercised the option to be exempt from preparation and implementation of a Congestion Management Plan (CMP) per Assembly Bill 2419. As a result, the County of Santa Cruz no longer has a Congestion Management Agency or CMP. The CMP statutes were initially established to create a tool for managing and reducing congestion; however, revisions to those statutes progressively eroded the effectiveness of the CMP. There is also duplication between the CMP and other transportation documents such as the Regional Transportation Plan (RTP) and the Regional Transportation Improvement Program (RTIP). In addition, the goals of the CMP may be carried out through the Regional Transportation Improvement Program and the Regional Transportation Plan. Any functions of the CMP which are useful, desirable and do not already exist in other documents may be incorporated into those documents.

The proposed project would not conflict with either the goals and/or policies of the RTP or with monitoring the delivery of state and federally-funded projects outlined in the RTIP. No impact would occur.

3. *Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results* ☐ ☐ ☐ ☒

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact

in substantial safety risks?

***Discussion*:** No change in air traffic patterns would result from project implementation. Therefore, no impact is anticipated.

4. Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	☐	☒

***Discussion*:** The proposed project consists of replacing a substandard, 77 year old one-lane bridge with a modern two lane bridge. The purpose of the project is to reduce hazards associated with aging infrastructure. No impact would occur from project implementation.

5. Result in inadequate emergency access?	☐	☐	☒	☐

***Discussion*:** A temporary lane closure may be required for short periods of time during project construction. A traffic control plan would be prepared. However, the proposed project would not restrict emergency access for police, fire, or other emergency vehicles. Impacts would be less than significant from project implementation.

6. Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?	☐	☐	☐	☒

***Discussion*:** The proposed project design would comply with current road requirements to prevent potential hazards to motorists, bicyclists, and/or pedestrians. No impact would occur.

Q. TRIBAL CULTURAL RESOURCES

1. Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:				
A. Listed or eligible for listing in the California Register of Historical	☐	☐	☐	☒

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Resources, or in a local register of historical resources Code section 5020.1(k), or				
B. *A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.*	☐	☒	☐	☐

***Discussion*:** See section E.4. for discussion and mitigations.

R. UTILITIES AND SERVICE SYSTEMS

Would the project:

1. *Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?*	☐	☐	☐	☒

***Discussion*:** The proposed project would not generate wastewater. Therefore, wastewater treatment requirements would not be exceeded. No impacts would occur.

2. *Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?*	☐	☐	☐	☒

***Discussion*:** The proposed bridge replacement project would not require water or wastewater treatment. No impacts are expected to occur.

3. *Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?*	☐	☐	☐	☒

***Discussion*:** The proposed bridge replacement project would not generate increased runoff; therefore, it would not result in the need for new or expanded drainage facilities. No impact would occur.

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
4. *Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?*	☐	☐	☐	☒

Discussion: The proposed project would only use small amounts of water during construction for dust control and concrete work. No water use would be required during the operational phase of the project. No impacts are expected to occur from project implementation.

5. *Result in determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?*	☐	☐	☐	☒

Discussion: The proposed project would only use small amounts of water during construction for dust control and concrete work. No wastewater would be generated. No water use would be required during the operational phase of the project. No impacts are expected to occur from project implementation.

6. *Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?*	☐	☐	☐	☒

Discussion: The proposed would not generate solid waste during the operational phase of the project. However, construction debris would be generated during demolition and construction, much of which may be recycled. No impact is anticipated.

7. *Comply with federal, state, and local statutes and regulations related to solid waste?*	☐	☐	☐	☒

Discussion: The project would comply with all federal, state, and local statutes and regulations related to solid waste disposal. No impact would occur.

S. MANDATORY FINDINGS OF SIGNIFICANCE

1. *Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or*	☐	☒	☐	☐

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact

animal community, reduce the number or restrict the range of a rare or endangered 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?

***Discussion*:** The potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory were considered in the response to each question in Section III (A through Q) of this Initial Study. Resources that have been evaluated as significant would be potentially impacted by the project, particularly nesting birds, frogs, water quality and cultural resources. However, mitigation has been included that clearly reduces these effects to a level below significance. This mitigation includes preconstruction surveys, minimizing disturbance area, revegetation and tree protection measures. As a result of this evaluation, there is no substantial evidence that, after mitigation, significant effects associated with this project would result. Therefore, this project has been determined not to meet this Mandatory Finding of Significance.

2. *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)?*	☐	☐	☒	☐

***Discussion*:** In addition to project specific impacts, this evaluation considered the projects potential for incremental effects that are cumulatively considerable. As a result of this evaluation, there were determined to be no potentially significant cumulative As a result of this evaluation, there is no substantial evidence that there are cumulative effects associated with this project. Therefore, this project has been determined not to meet this Mandatory Finding of Significance.

3. *Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?*	☐	☐	☒	☐

Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact

***Discussion*:** In the evaluation of environmental impacts in this Initial Study, the potential for adverse direct or indirect impacts to human beings were considered in the response to specific questions in Section III (A through Q). As a result of this evaluation, there were determined not to be potentially significant effects to human beings. As a result of this evaluation, there is no substantial evidence that, after mitigation, there are adverse effects to human beings associated with this project. Therefore, this project has been determined not to meet this Mandatory Finding of Significance.

IV. REFERENCES USED IN THE COMPLETION OF THIS INITIAL STUDY

California Department of Conservation. 1980

Farmland Mapping and Monitoring Program Soil Candidate Listing for Prime Farmland and Farmland of Statewide Importance Santa Cruz County U.S. Department of Agriculture, Natural Resources Conservation Service, soil surveys for Santa Cruz County, California, August 1980.

County of Santa Cruz, 2013

County of Santa Cruz Climate Action Strategy. Approved by the Board of Supervisors on February 26, 2013.

County of Santa Cruz, 2015

County of Santa Cruz Local Hazard Mitigation Plan 2015-2020. Prepared by the County of Santa Cruz Office of Emergency Services.

County of Santa Cruz, 1994

1994 General Plan and Local Coastal Program for the County of Santa Cruz, California. Adopted by the Board of Supervisors on May 24, 1994, and certified by the California Coastal Commission on December 15, 1994.

MBUAPCD, 2008

Monterey Bay Unified Air Pollution Control District (MBUAPCD), CEQA Air Quality Guidelines. Prepared by the MBUAPCD, Adopted October 1995, Revised: February 1997, August 1998, December 1999, September 2000, September 2002, June 2004 and February 2008.

MBUAPCD, 2013a

Monterey Bay Unified Air Pollution Control District, NCCAB (NCCAB) Area Designations and Attainment Status – January 2013. Available online at http://www.mbuapcd.org/mbuapcd/pdf/Planning/Attainment_Status_January_2013_2.pdf

MBUAPCD, 2013b

Triennial Plan Revision 2009-2011. Monterey Bay Air Pollution Control District. Adopted April 17, 2013.

Ecosystems West California Red Legged Frog Memo, Dated January 27, 2016

Ecosystems West Natural Environmental Study (NES) for the Redwood Road Bridge Replacement project, January, 2016

WRECO, February 28, 2017

Foundation report, redwood road bridge replacement project, existing bridge no. 36c-0121, Santa Cruz County, California

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Attachment 1

Mitigation Monitoring and Reporting Program

NAME: Redwood Road Bridge Replacement

A.P.N: County Right of Way

NEGATIVE DECLARATION MITIGATIONS

A. In order to ensure that the mitigation measures and conditions set forth in the proposed project description are communicated to the various parties responsible for constructing the project, prior to any disturbance the applicant shall convene a pre-construction meeting on the site. The following parties shall attend: The project engineer, project contractor supervisor, Santa Cruz County Environmental Planning staff, and project biologists.

B. Although the likelihood of California red-legged frog (CRLF) presence within the Project Area is low, to ensure that no CRLF are unlawfully displaced, harmed, or killed during construction, implementation of the following mitigation measures by Public Works staff would reduce impacts to below a level of significance.

1. Only USFWS-approved biologists will participate in activities associated with the capture, handling, and monitoring of CRLF. Biologists authorized under this biological opinion do not need to re-submit their qualifications for subsequent projects conducted pursuant to this biological opinion, unless we have revoked their approval at any time during the life of this biological opinion.
2. Ground disturbance will not begin until written approval is received from the USFWS that the biologist is qualified to conduct the work, unless the individual(s) has/have been approved previously and the USFWS has not revoked that approval.
3. A USFWS-approved biologist will survey the project site no more than 48 hours before the onset of work activities. If any life stage of the CRLF is found and these individuals are likely to be killed or injured by work activities, the approved biologist will be allowed sufficient time to move them from the site before work begins. The USFWS-approved biologist will relocate the CRLF the shortest distance possible to a location that contains suitable habitat and that will not be affected by activities associated with the proposed project. The relocation site should be in the same drainage to the extent practicable. The County will coordinate with the USFWS on the relocation site prior to the capture of any CRLF.
4. Before any activities begin on a project, a USFWS-approved biologist will conduct a training session for all construction personnel. At a minimum, the training will include a description of the CRLF and its habitat, the specific measures that are being implemented to conserve the CRLF for the current project, and the boundaries within which the project may be accomplished. Brochures, books, and briefings may be used in the training session, provided that a qualified person is on hand to answer any questions.
5. A USFWS-approved biologist will be present at the work site until all CRLF have been relocated out of harm's way, workers have been instructed, and disturbance of habitat has been completed. After this time, the State or local sponsoring agency will designate a person to monitor on-site compliance with all minimization measures.

The USFWS-approved biologist will ensure that this monitor receives the training outlined in measure 4 above and in the identification of CRLF. If the monitor or the USFWS-approved biologist recommends that work be stopped because CRLF would be affected in a manner not anticipated by the County and the USFWS during review of the proposed action, they will notify the resident engineer (the engineer that is directly overseeing and in command of construction activities) immediately. The resident engineer will either resolve the situation by eliminating the adverse effect immediately or require that all actions causing these effects be halted. If work is stopped, the USFWS will be notified as soon as possible.

6. During project activities, all trash that may attract predators will be properly contained, removed from the work site, and disposed of regularly. Following construction, all trash and construction debris will be removed from work areas.
7. All refueling, maintenance, and staging of equipment and vehicles will occur at least 60 feet from riparian habitat or water bodies and in a location from where a spill would not drain directly toward aquatic habitat (e.g., on a slope that drains away from the water). The monitor will ensure contamination of habitat does not occur during such operations. Prior to the onset of work, the County will ensure that a plan is in place for prompt and effective response to any accidental spills. All workers will be informed of the importance of preventing spills and of the appropriate measures to take should a spill occur.
8. Habitat contours will be returned to their original configuration at the end of project activities. This measure will be implemented in all areas disturbed by activities associated with the project, unless the USFWS and the County determine that it is not feasible or modification of original contours would benefit the CRLF.
9. The number of access routes, size of staging areas, and the total area of the activity will be limited to the minimum necessary to achieve the project goals. Environmentally Sensitive Areas will be delineated to confine access routes and construction areas to the minimum area necessary to complete construction, and minimize the impact to CRLF; this goal includes locating access routes and construction areas outside of wetlands and riparian areas to the maximum extent practicable.
10. The County will attempt to schedule work activities for times of the year when impacts to the CRLF would be minimal. For example, work that would affect large pools that may support breeding would be avoided, to the maximum degree practicable, during the breeding season (November through May). Isolated pools that are important to maintain CRLF through the driest portions of the year would be avoided, to the maximum degree practicable, during the late summer and early fall. Habitat assessments, surveys, and coordination between the County and the USFWS during project planning will be used to assist in scheduling work activities to avoid sensitive habitats during key times of the year.
11. To control sedimentation during and after project implementation, the County will implement best management practices outlined in any authorizations or permits, issued under the authorities of the Clean Water Act that it receives for the specific project. If best management practices are ineffective, the County will attempt to remedy the situation immediately, in coordination with the USFWS.
12. If a work site is to be temporarily dewatered by pumping, the intakes will be completely screened with wire mesh not larger than 0.2 inches to prevent CRLF from

entering the pump system. Water will be released or pumped downstream at an appropriate rate to maintain downstream flows during construction. Upon completion of construction activities, any diversions or barriers to flow will be removed in a manner that would allow flow to resume with the least disturbance to the substrate. Alteration of the stream bed will be minimized to the maximum extent possible; any imported material will be removed from the stream bed upon completion of the project.

13. Unless approved by the USFWS, water will not be impounded in a manner that may attract CRLF.
14. A USFWS-approved biologist will permanently remove any individuals of non-native species, such as bullfrogs *(Rana catesbeiana),* signal and red swamp crayfish *(Pacifasticus leniusculus; Procambarus clarkii),* and centrarchid fishes from the project area, to the maximum extent possible. The USFWS-approved biologist will be responsible for ensuring his or her activities are in compliance with the California Fish and Game Code.
15. If the County demonstrates that disturbed areas have been restored to conditions that allow them to function as habitat for the CRLF, these areas will not be included in the amount of total habitat permanently disturbed.
16. To ensure that diseases are not conveyed between work sites by the USFWS approved biologist, the fieldwork code of practice developed by the Declining Amphibian Populations Task Force will be followed at all times.
17. Project sites will be re-vegetated with an assemblage of native riparian, wetland, and upland vegetation suitable for the area. Locally collected plant materials will be used to the extent practicable. Invasive, exotic plants will be controlled to the maximum extent practicable. This measure will be implemented in all areas disturbed by activities associated with the project, unless the USFWS and the County determine that it is not feasible or practical.
18. The County will not use herbicides to control invasive, exotic plants at this site.

C. Under the Migratory Bird Treaty Act, nests that contain eggs or unfledged young are not to be disturbed during the breeding season. The nesting season for migratory birds and birds of prey is generally 1 February through 31 August. Implementation of the following measures will avoid potential impacts.

1. If construction begins outside the February 1 through August 31 breeding season, there will be no need to conduct a preconstruction survey for active nests.
2. If construction is scheduled to begin February 1 through August 31 then a qualified biologist shall conduct a preconstruction survey for active nests. The survey will include a 250 foot radius from the work area for nesting birds of prey and a 50 foot radius from the work area for other nesting MBTA protected birds. The survey will be conducted from publicly accessible areas within one two weeks prior to construction. If no active nest of a bird of prey or MBTA bird is found, then no further mitigation measures are necessary.
3. If an active nest of a bird of prey or MBTA bird is found, then the biologist shall determine a buffer suitable to protect the nest until fledging. The size of suitable buffers depends on the species of bird, the location of the nest relative to the Project, Project activities during the time the nest is active, and other Project specific conditions.

4. No construction activity shall be allowed in the buffer until the biologist determines that the nest is no longer active, or unless monitoring determines that a smaller buffer will protect the active nest. The buffer may be reduced if the biologist monitors the construction activities and determines that no disturbance to the active nest is occurring.
5. If an active nest is identified in or adjacent to the construction zone after construction has started, the above measures will be implemented to ensure construction is not causing disturbance to the nest.
6. Avian surveys will include sunrise surveys (45 minutes before to 45 minutes after) and an examination of suitable nest features for Vaux's swift, such as large accessible hollows in live trees.

D. Riparian woodland cannot be avoided during construction. The removal of riparian woodland and native trees will be minimized with the implementation of the following mitigations:

1. A Water Pollution Control Program (WPCP) that details measures for erosion, sediment and water quality control will be prepared by a QSD and implemented under the management of a WPC Manager per Caltrans' Stormwater Quality Manuals and Handbooks (Hakim, H. et. Al. 2011).
2. Where possible, native trees and vegetation which overhang the stream course will be retained, to maximize streambank stability and shading.
3. The removal of all mature trees within the Project Area will be avoided to the extent possible. All encroachment of construction activities within areas containing mature trees will be prohibited, where feasible, and at least within the drip-line which typically corresponds to the root zone. Construction fencing will be erected outside the drip-line of these trees in order to prevent encroachment.
4. To the extent feasible, removal of riparian and upland vegetation will be avoided. A work area access plan will be developed that minimizes damage to the existing vegetation, such as lifting equipment into the creek channel with a crane, rather than constructing an access road. Riparian and upland vegetation will be protected during construction activities.
5. Prior to beginning construction, protective fencing will be installed around the work area and along the delineated boundary of the riparian corridor [9 meters (30 feet) above the OHW Mark] on both sides of Redwood Creek. Fencing will serve the multiple purposes of controlling erosion, preventing habitat degradation and excluding wildlife from the work area. Fencing will allow for wildlife passage around the work area and along the riparian corridor.
6. Stage equipment upslope and outside of the boundaries of the contiguous riparian canopy. Thoroughly clean all clothing and equipment before and after entering the project site. Use weed-free straw wattles for erosion control and ensure imported fill material does not contain invasive species propagules. All clothing and equipment will be thoroughly cleaned before and after entering the project site. Weed-free straw wattles will be used for erosion control and imported fill material will not contain invasive species propagules.
7. Develop and implement a re-vegetation plan for the corridor, embankments, transitional slopes, and uplands of Redwood Creek and the construction access road. The plan will call for a replacement habitat at a planting ratio of 3:1 with in-kind,

native riparian vegetation at densities consistent with the existing vegetation in all areas available for replanting. This will not be required for those areas subsumed by the new bridge and retaining walls, where replacement planting would not be possible. Selected plant species should provide slope stabilization and prevent erosion, as well as shade of the creek, and provide cover and forage for wildlife. Canopy plantings may include coast redwood, Douglas-fir, tan oak, and big leaf maple. Understory plantings may include an assemblage of native ferns local to the Study Area (Appendix C), California wild rose (Rosa californica), thimbleberry (Rubus parviflorus), California blackberry (Rubus ursinus), and redwood sorrel (Oxalis oregana). If feasible, revegetation will take place during the optimal season for survival (in the fall just prior to the seasonal rains). If vegetation is planted during the dry season, it should be irrigated to ensure success. Plantings will be maintained and monitored for at least three growing seasons to ensure that vegetation is re-established. Remedial plans will be implemented in the event of planting failures. Success of mitigation will be measured as 100 percent or greater replacement after three years.

8. Invasive species (English ivy and periwinkle) will be removed from the area identified as ruderal habitat during the construction of the cantilevered west approach to the new bridge.

E. In order to protect ensure no significant impacts to cultural resources occur, the following mitigation measures shall be implemented during construction:

1. A Native American monitor and an Archeologist shall be present during all initial ground disturbance activities. Should any cultural resources be found during the course of the project, work will stop and the project proponent will contact the Environmental Coordinator of the County Planning Department, and the following tribal contacts:
    i. Valentin Lopez, Chairperson, Amah Mutsun Tribal Band
    ii. Edward Ketchum, Amah Mutsun Tribal Band
    iii. Irene Zwierlein, Chairperson, Amah Mutsun Tribal Band
    iv. Michelle Zimmer, Amah Mutsun Tribal Band
    v. Ann Marie Sayers, Chairperson, Indian Canyon Mutsun Band of Costanoan
    vi. Rosemary Cambra, Chairperson, Muwekma Ohlone Indian Tribe of the SF Bay Area
    vii. Ramona Garibay, Representative, Trina Marine Ruano Family
    viii. Jakki Kehl
    ix. Linda G. Yamane
    x. Patrick Orozco, Costanoan Ohlone Rumsen-Mutsen Tribe
2. Work can continue once notifications have been made and all parties have had an opportunity to respond. Any cultural resources encountered will be preserved or documented based upon the recommendations of the archeologist and/or the tribal contacts, as determined by the environmental coordinator.
3. Should any historic human remains be identified during ground-disturbing activities associated with this project, they shall be reinterred in an area that is as close as possible to where they had been identified, provided no tribal contacts oppose to this measure.

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Attachment 2

ARCHAEOLOGICAL SURVEY REPORT

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REDWOOD ROAD BRIDGE (36C-0121) REPLACEMENT PROJECT

ARCHAEOLOGICAL SURVEY REPORT

Watsonville, Santa Cruz County, California
37º01'56.19"N/121º47'20.88"W
05-SCR-0-CR
BRLO-5936(097)

PREPARED BY:

_____ Date: _____
Joanne S. Grant, RPA, Senior Archaeologist
ICF International, San Francisco, CA
415.677.7171

REVIEWED BY:

_____ Date: _____
Kelda Wilson, Principal Investigator- Prehistoric Archaeology
California Department of Transportation, District 5
San Luis Obispo, CA

APPROVED BY:

_____ Date: _____
Brandy Rider, Environmental Branch Chief
California Department of Transportation, District 5
San Luis Obispo, CA

December 2014

ICF International. 2014. *Archaeological Survey Report for the Redwood Road Bridge (36C-0121) Replacement Project, Santa Cruz County, California.* December. (ICF 65.14) San Francisco, CA. Prepared for the County of Santa Cruz, Department of Public Works, CA.

Contents

Tables and Figures

Acronyms and Abbreviations

AASHTO	American Association of State Highway and Transportation Officials
APE	area of potential effects
ASR	Archaeological Survey Report
Caltrans	California Department of Transportation
CEQA	California Environmental Quality Act
CHRIS	California Historical Resources Information System
CIDH	Cast-in-Drilled-Hole
County	County of Santa Cruz Public Works Department
FHWA	Federal Highway Administration
GLO	General Land Office
HBP	Highway Bridge Program
HPD	Historic Properties Directory
HRER	Historic Resources Evaluation Report
HRI	California Inventory of Historic Resources
NAHC	Native American Heritage Commission
NEPA	National Environmental Policy Act
NRHP	National Register of Historic Places
NWIC	Northwest Information Center
PA	January 22, 2014, *First Amended Programmatic Agreement among the Federal Highway Administration, the Advisory Council on Historic Preservation, the California State Historic Preservation Officer, and the California Department of Transportation Regarding Compliance with Section 106 of the National Historic Preservation Act, as it Pertains to the Administration of the Federal-Aid Highway Program in California*

Summary of Findings

The County of Santa Cruz Public Works Department (County) proposes to replace the existing bridge on Redwood Road (36C-0121) in the Town of Watsonville in Santa Cruz County, California. The existing single-lane bridge, which is structurally deficient and does not meet current design standards, is listed for replacement in the federal Highway Bridge Program (HBP). In addition to replacing the bridge, the project will also include permanent cuts into the hillside for the east approach to the bridge, and the addition of a side hill viaduct along the creek for the west approach, to accommodate the widening of the roadway.

The purpose of this Archaeological Survey Report (ASR) is to evaluate the potential for the project to affect archaeological resources potentially eligible for listing in the National Register of Historic Places (NRHP) or any resources considered historic for the purposes of the National Environmental Policy Act (NEPA) and California Environmental Quality Act (CEQA). The California Department of Transportation (Caltrans) is the lead agency for the purposes of NEPA, and the County is the lead agency for the purposes of CEQA.

ICF conducted an archaeological field survey of the project area in accordance with the January 22, 2014, *First Amended Programmatic Agreement among the Federal Highway Administration, the Advisory Council on Historic Preservation, the California State Historic Preservation Officer, and the California Department of Transportation Regarding Compliance with Section 106 of the National Historic Preservation Act, as it Pertains to the Administration of the Federal-Aid Highway Program in California* (the PA), and in accordance with other Caltrans guidance. This archaeological field survey took place on October 18, 2012.

In addition to the archaeological field survey of the entire project area, a background literature search was undertaken at the Northwest Information Center (NWIC) of the California Historical Resources Information System (CHRIS). No archaeological resources were identified at the project site through either the literature search or from the archaeological field survey.

It is Caltrans' policy to avoid cultural resources whenever possible. Further investigations may be needed if the site(s) cannot be avoided by the project. If buried cultural materials are encountered during construction, it is Caltrans' policy that work stop in that area until a qualified archaeologist can evaluate the nature and the significance of the find. Additional survey will be required if the project changes to include areas not previously surveyed.

Introduction

The County of Santa Cruz Public Works Department (County) proposes to replace the existing bridge on Redwood Road (36C-0121) in the Town of Watsonville in Santa Cruz County, California. The existing single-lane bridge, which is structurally deficient and does not meet current design standards, is listed for replacement in the federal Highway Bridge Program (HBP).

A field survey of the project area was conducted on May 6. 2014. The Redwood Road Bridge is located within a heavily wooded, residential area, approximately 4 miles northeast of Corralitos. Please see Figure 1 (the Study Vicinity Map), Figure 2 (the Study Location Map), and Figure 3 (the Area of Potential Effects Map) appended to the report.

This ASR was prepared by Joanne Grant, who meets the Professionally Qualified Staff Standards in Section 106 PA Attachment 1 as a Principal Investigator- Prehistoric Archaeology and has 9 years' experience conducting cultural resources studies in California. Ms. Grant also meets the Secretary of the Interior's Professional Qualifications Standards (36 CFR 61) in Archaeology.

Project Location and Description

Overview

The County proposes to replace the existing Redwood Road Bridge over the Browns Creek Tributary in the vicinity of Corralitos in Santa Cruz County (Figure 1). Redwood Road is a small county roadway off of Browns Valley Road in a suburban/rural environment. In addition to replacing the bridge, the proposed project includes shifting the centerline of the new bridge south, cutting into the hillside for the east approach, and a side hill viaduct for the west approach. Because Redwood Road is not a through street, the roadway will remain open during construction, by utilizing stage construction.

Location

The project is located in an unincorporated area of Santa Cruz County, California (Figure 1). The bridge site is located along Redwood Road, a small county roadway off of Browns Valley Road, approximately 4 miles north of Corallitos (Figure 2). The Redwood Road Bridge is accessed by following Redwood Road northwest for about ¾-mile from its intersection with Browns Valley Road. Redwood Road provides vehicular access to private properties and ends at a gate approximately ¼-mile past the bridge.

Purpose

The purpose of the project is to improve the safety of the Redwood Road bridge crossing over the Browns Creek Tributary. The replacement bridge is needed because the existing single-lane concrete bridge that was constructed in 1940 is structurally deficient, near the end of its useful life, and does not meet current American Association of State Highway and Transportation Officials (AASHTO) or California Department of Transportation (Caltrans) design standards. The existing bridge is classified as being Structurally Deficient (SD)[1]. The SD status of the existing bridge, along with its low sufficiency rating of 10.7 makes the existing bridge eligible for replacement under the HBP, and its replacement will be funded through the Federal Highway Administration (FHWA) in cooperation with Caltrans and the County.

Due to the poor condition of the existing 12-foot wide, 28-foot long single-lane bridge, the County proposes to remove the existing structure and replace it with a 27'-6" long by 22'-8" wide (22 foot traffic width) single span cast-in-place concrete slab bridge with cast in place concrete bridge abutments. The abutments are expected to be founded on spread footings due to the shallow depth to bedrock. However, cast-in-drilled-hole concrete piles will also be considered for foundations.

[1]"Structurally Deficient" is a description or classification of highway bridges in the Highway Bridge Replacement and Rehabilitation Program (HBRRP) (23 CFR 650.409). A "deficient" bridge is defined as having a Sufficiency Rating (SR), ≤80 and is Structurally Deficient (SD) and/or Functionally Obsolete (FO). In adequate appraisal ratings of deck geometry, under clearances, approach roadway alignments, structural conditions, and waterway adequacy, can result in FO classification. This is described in Section 6.12.1, page 6-35 and 6-36 of the Local Assistance Program Guidelines.

The southwest bridge corner will cantilever approximately five feet beyond the end of the abutment wall so that creek flows are not cut off. Caltrans Type 116 or 216 metal tube bridge railings will be used on the bridge.

For the new west abutment foundation, excavation will likely be five feet or less to reach bedrock. The east abutment is founded on fill material and may require 10 to 15 feet of excavation to reach bedrock.

Redwood Road is not a through street and, therefore, does not have alternative access to the west. As a result, staged construction will be utilized to allow the roadway to remain open during construction. A single traffic lane will allow alternating traffic directions to pass through the construction site. In the first stage, approximately one half the replacement structure will be constructed to the south while maintaining through traffic on the existing bridge. Traffic will be shifted to the new bridge, the existing bridge will be removed, and the remaining portion of the bridge constructed.

Along the south side of the east approach roadway, the existing cut into the hill will be increased in order to accommodate the wider roadway width. A tie-back soldier pile retaining wall up to 15 feet tall will be required to support the hillside above the road.

The west approach structure is required to keep the roadway out of the creek that runs parallel to the road. The approach structure will be similar to a side-hill viaduct in that a concrete slab will be cantilevered over a portion of the creek until the roadway can conform back to the existing alignment. A cut-off wall will support the slab along the top of the bank with the cantilever supported on piles. The support piles would be spaced at approximate 20' intervals, with some piles placed near the creek thalweg (the lowest part), with design considerations given to placing them as far as possible up the creek bank. The piles will be cast-in-drilled-hole (CIDH) concrete piles. This construction approach will eliminate the need for a retaining wall in or near the creek. Temporary closures, approximately 2 hours in duration, will be required to drill and place the piles.

During construction, the creek may need to be dewatered into a temporary pipe in order to move the water away from the bridge abutment and side hill viaduct construction. Temporary fill in the creek is not anticipated to facilitate construction.

At this time, no existing utilities have been identified that will need to be relocated.

Construction is expected to begin in the spring of 2016 and will require approximately 6 months.

Typical equipment for roadway construction will include heavy construction earthmoving equipment. Typical bridge construction equipment will include cranes, drill rigs, excavators, and concrete pumps. The creek will be dewatered by methods determined appropriate by the contractor. It is anticipated that the contractor will use flexible culverts to direct the water away from construction activities.

The steep slopes, narrow road, and lack of cleared areas make staging near the site difficult. Two primary staging areas are considered, one east of the bridge at the hair-pin curve and a second along the road adjacent to the bridge work, where the road will be widened to accommodate the new bridge width. Both locations offer limited area for staging. The contactor may desire to locate a staging area on private land near the bridge.

The study location map can be found in Figure 2.

Staging Areas

A potential staging of approximately 200 feet within the County right-of-way has been identified, approximately 600 feet south of the bridge on Redwood Road.

Area of Potential Effects

The APE for archaeological resources encompasses all activities related to the construction of the bridge, including the roadway approach modifications and all potential staging areas for project equipment.

The horizontal archaeological APE includes about 400 feet along Redwood Road (this includes the west and east approaches and the bridge itself). The approach roadway length on the west side of the bridge would be about 180 feet, and on the east side of the bridge, it would be about 190 feet. This is to account for any potential ground disturbances associated with heavy equipment and vehicular use of these areas. The horizontal archaeological APE also includes the staging area, which is located approximately 600 feet southeast of the bridge along Redwood Road and encompasses an area of about 100 feet north-south by 100 feet east-west.

The vertical archaeological APE includes a depth of up to five feet for the new west abutment foundation, and a depth of up to 15 feet for the new east abutment (which, as noted above, is founded on fill material and, thus, will likely require a deeper excavation than the west abutment to reach bedrock.

The APE map is depicted on Figure 3.

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Summary of Methods and Results

Bibliographic references, previous survey reports, historic maps, and archaeological site records pertinent to the project area were compiled through a records search of CHRIS in order to identify prior archaeological studies and known cultural resources within a 0.5-mile area surrounding, or adjacent to, the project area.

This records search (File No. 13-1397) was conducted at the NWIC, Sonoma State University, Rohnert Park, on March 26, 2014. The records search project included a review of the following information.

- Site records for previously recorded sites.
- All previous studies conducted within, or within a half-mile of, the project area.
- The NRHP.
- The California Inventory of Historic Resources (HRI).
- The OHP Historic Properties Directory (HPD).

The following references were also reviewed.

- Jones et al. (2007), Chapter 9 in Prehistoric California, edited by T. L. Jones and K. A. Klar
- 1868 General Land Office (GLO) Plat Map for the Salsipuedes Rancho, finally confirmed to James Blair et al.
- 1867 GLO Plat Map for T10S, R2E
- 1877 GLO Plat Map for T10S, R2E
- 1880 GLO Plat Map for T10S, R2E
- 1889 GLO Plat Map for T10S, R2E
- 1955 USGS Loma Prieta Quad Map (1:24,000 scale)

Records Search and Literature Findings

No prehistoric or historic archaeological resources were identified through the records search and literature review within the project area. Three previously recorded historic-era resources were identified within .25 mile of the project area. P-44-000336 (CA-SCR-306H), west of the project area, is remains of a log cabin. P-44-000637 and P-44-000639, northeast of the project area, are recreational camp sites.

One study, S-018430 has covered the project area, and seven studies have covered areas within 0.5-mile of the project area.. These studies are presented in the table that follows.

Table 2. Site-Specific Studies within 0.5-mile of the Project Area

Study	Title	Author	Year	Location of Survey	Type of Survey
14283	Archaeological and Historical Resources Survey and Impact Assessment, Purea Koenig Timber Plan (California Department of Forestry)	S. Staub	1992	about 1/4-mile west of the project area	study of forest lands
14919	Archaeological and Historical Resources Survey and Impact Assessment, Redwood Road Timber Harvesting Plan (California Department of Forestry)	S. Staub	1993	within 1/4-mile south and north of the project area	study of forest lands
16374	Preliminary Archaeological Reconnaissance of the Byrne Forest of Santa Cruz County, Corralitos, California	R. Edwards	1994	within 1/4-mile southwest and extends outside of the project area	study of forest lands
18390	Archaeological and Historical Resources Survey and Impact Assessment, Elder Flat THP, THP #1-96-182 SCR (California Department of Forestry)	S. Butler	1996	about 1/2-mile north of the project area	study of forest lands
18430	Archaeological and Historical Resources Survey and Impact Assessment, Byrne Forest THP, THP #1-94-514 SCR (California Department of Forestry)	M. Jani	1994	within and extends southwest of the project area	study of forest lands
26503	Confidential Archaeological Addendum for the Timber Operations on Non-Federal Lands in California, Byrne Forest NTMP, 1-01NTMP-032 SCR (California Department of Forestry)	C. Vaughan	2001	within 1/4-mile southwest and extends outside of the project area	study of forest lands
35047	An Archaeological Survey Report for the Browns Valley Timber Harvesting Plan, Santa Cruz County, California	M. Duffy	2008	within 1/2-mile east and extends outside of the project area	study of forest lands
35451	An Archaeological Report for the Elder Flat Timber Harvesting Plan, Santa Cruz County, California	S. Butler	2007	within 1/2-mile north and outside the project area	study of forest lands

Five additional studies included a variety of regional overviews, site-specific studies, and archaeological surveys for a variety of projects throughout Boulder Creek and Santa Cruz County. No resources in the project vicinity were identified through any of these overview studies. Table 2 presents a summary of these studies.

Table 2. Overview Studies

Study	Title	Author	Year	Location of Survey
848	A Summary of Knowledge of the Central and Northern California Coastal Zone and Offshore Areas, Vol. III, Socioeconomic Conditions, Chapter 7: Historical & Archaeological Resources	D. A. Fredrickson	1977	regional overview
7483	Revised Data Recovery Plan, Part 1: Review of the Prehistory of the Santa Clara Valley Region as Part of the Guadalupe Corridor Compliance with 36 CFR Part 800	Basin Research Associates, Inc.	1985	regional overview
9462	Identification and Recording of Prehistoric Petroglyphs in Marin and Related Bay Area Counties	T. Miller	1977	regional overview of petroglyphs
15529	California, Oregon, and Washington: Archaeological Resource Study	Espey, Huston & Associates, Inc. and Dames & Moore	1993	west coast overview
18217	Cultural Resource Evaluations for the Caltrans District 04 Phase 2 Seismic Retrofit Program, Status Report: April 1996	G. Gmoser	1996	regional overview

Appendix A contains the records search results for this project.

Summary of Others Who Were Consulted

For a discussion of the Property Specific Research conducted for this project, refer to the Historic Resources Evaluation Report (HRER) prepared for this project, located in Appendix B of the Historic Property Survey Report (ICF International 2014).

Summary of Native American Consultation

ICF contacted the California Native American Heritage Commission (NAHC) on March 13, 2014, to identify any areas of concern within the project area that may be listed in the NAHC's Sacred Land File. The NAHC responded on March 20, 2014, stating that a search of their files failed to indicate the presence of Native American cultural resources in the immediate project area.

The NAHC also provided a list of ten Native American contacts that might have information pertinent to this project, or have concerns regarding the proposed actions. A letter explaining the Proposed Project, along with a map depicting the project area, was sent to all ten contacts listed by the NAHC on May 15, 2014. The letter also solicited responses from each of the contacts, should they have any questions, comments, or concerns regarding the Proposed Project.

Letters were sent to the following contacts.

- Jakki Kehl
- Linda G. Yamane
- Patrick Orozco, Costanoan Ohlone Rumsen-Mutsen Tribe

- Valentin Lopez, Chairperson, Amah Mutsun Tribal Band
- Edward Ketchum, Amah Mutsun Tribal Band
- Irene Zwierlein, Chairperson, Amah Mutsun Tribal Band
- Michelle Zimmer, Amah Mutsun Tribal Band
- Ann Marie Sayers, Chairperson, Indian Canyon Mutsun Band of Costanoan
- Rosemary Cambra, Chairperson, Muwekma Ohlone Indian Tribe of the SF Bay Area
- Ramona Garibay, Representative, Trina Marine Ruano Family

Follow-up phone calls to the Native American contacts listed above were conducted on June 16, 2014. Ann-Marie Sayers requested that when any ground disturbing activities occur, that there is both a Native American monitor and an Archaeologist on-site. She also requested that if any human remains were identified during ground-disturbing activities associated with this project, that they be reinterred in an area that is as close as possible to where they had been identified.

Ramona Garibay inquired if there were any previously recorded sites near the project area. After being informed that no known prehistoric resources are within ¼-mile of the project area, she had no further concerns; however, she requested to be contacted if any cultural resources are identified during project implementation.

Irene Zwierlein inquired if Michelle Zimmer was informed of the project. After being informed that Ms. Zimmer had been informed, Ms. Zwierlein had no further concerns.

Edward Ketchum responded via e-mail on June 18th. He said that that the map provided was not very clear, and he requested that a vicinity map is provided along with the project location map next time. Mr. Ketchum also provided some information with regards to some of the Native Americans who used to live in this area, and ultimately stated that he is unaware of any culturally significant sites in this location. Mr. Ketchum was provided with a Site Vicinity map for his review. Upon review of this map, Mr. Ketchum had no further comments or concerns.

Valentin Lopez had general questions regarding the landscape surrounding the project area and what the background research had revealed with regards to prehistoric resources in this area. He was informed that no known prehistoric resources are within ¼-mile of the project area. He requested that if any cultural resources were found during project implementation, the tribe (the Amah Mutsun Tribal Band) be informed. He also requested that a Native American monitor be present on-site for ground-disturbing activities.

Voice and/or email messages were left for the following contacts: Jakki Kehl, Linda Yamane, Patrick Orozco, Rosemary Cambra, and Michelle Zimmer. None of these contacts have responded with any concerns about the project.

Appendix B contains copies of all Native American correspondence.

The following natural and cultural setting for the proposed project area provides the backdrop against which resources are evaluated for inclusion in the NRHP. The environment and geomorphology of the region provides a background on the project area, addresses the nature of environmental change, and discusses the effects that landscape evolution has had on the formation and preservation of the archaeological record. The prehistoric context describes the prehistoric archaeology of the Bay Area and the study area for the proposed project. The ethnohistoric context describes the lifeways, settlement, and subsistence of prehistoric and contact period Native Americans who inhabited the study area. For the historic context of this area, please see the HRER prepared for this project (ICF International 2013).

Natural Environment

The proposed project is located on Redwood Road at the Browns Creek Tributary, Santa Cruz County, in the central coast region within the city of Watsonville. Specifically, it is within the Pajaro Valley nestled between the Monterey Bay and the Santa Cruz mountains. The Pajaro Valley is renowned for its long and rich heritage as an epicenter for agriculture. The Pajaro River is an integral part of the Pajaro Valley. The Pajaro River mainstem originates just west of San Felipe Lake, flows west for approximately 30 miles through the city of Watsonville and empties into the Monterey Bay. The Browns Creek Tributary is within the Pajaro River Watershed, a 1,300 square mile area that covers most of Santa Cruz, Santa Clara, San Benito, and Monterey Counties.

The project area is located exclusively within the Nisene-Aptos soil series, which consists of deep, well drained soils that formed in material weathered from fine grained sandstone and shale. Nisene soils are on uplands and have slopes of 15 to 75 percent (United States Department of Agriculture 2009). The project area is located on 50 to 75 percent slopes. A soils map is provided in Figure 4.

Areas near natural water sources are often considered sensitive, or even highly sensitive, for prehistoric archaeological deposits and associated human remains. These ecologically rich areas would have provided abundant and readily accessible resources for the aboriginal population that favored these areas as places for locating habitation and resource processing sites. However, because archaeological evidence of past human alteration or occupation of a landscape is subject to the same processes that affect the preservation, distribution, and visibility of geological deposits (Bettis 1992:119), the nature and timing of landscape evolution ultimately determines whether archaeological remains will be buried, destroyed, or redeposited (Kuehn 1993; Waters 1992).

While there is an alluvial build-up of general sandy, loamy deposits throughout the project area, the likelihood of prehistoric material being discovered here is relatively low due to the presence of steep creek banks along the Browns Creek Tributary in the project area. Overall steep slopes and the gradual loss of topsoil to erosional forces often limit the depth to which archaeological resources can be buried, and would not provide for either a seasonal processing site or any area suitable for stable, long-term habitation.

With regards to historic-era archaeological resources, the review of historic documentation (the background records search), as well as the field survey, did not identify any sensitivity for historic

archaeology. Therefore, the archaeological sensitivity for this project for both prehistoric and historic-era archaeological resources is considered low.

Regional Setting

Ethnography

The project area is situated within territory once occupied by Costanoan (also commonly referred to as Ohlone) language groups. Eight Ohlone languages were spoken in the area from the southern edge of the Carquinez Strait to portions of the Big Sur and Salinas rivers south of Monterey Bay and approximately 50 miles inland from the coast. Awaswas, or Santa Cruz Costanoan, was spoken among the people living along the ocean shore between Davenport and Aptos in Santa Cruz County; its speakers numbered about 600. Mutsun was spoken among the tribelets of the Pajaro River drainage and seems to have had about 2,700 speakers (Levy 1978:485).

Ohlone territories were composed of one or more land-holding groups that anthropologists refer to as "tribelets." The tribelet consisted of a principal village occupied year-round, with a series of smaller hamlets and resource gathering and processing locations occupied intermittently or seasonally (Kroeber 1955: 303–314).

The closest known tribelet settlements near the Browns Creek Tributary are believed to be the *Achistaca* (Milliken 1995:234, 229-Map 5) and the *sayant* (or Sayanta) (San Juan Capistrano), (Levy 1978:485, Figure 1; Milliken 1995:253, 229-Map 5). The Achistaca lived in the upper San Lorenzo River drainage near the modern towns of Boulder Creek and Riverside Grove. Eighty-five of them went to Mission Santa Cruz from 1791 to 1795 (Milliken 1995:234). The *sayant*, who also went to Mission Santa Cruz between 1791 and 1795, gave its name to the present day Zayante Creek and Zayante village in the mountains between Santa Cruz and the Santa Clara Valley. The tribe held the Scotts Valley area and the Glenwood and Laurel areas to the north and east (south and east of Boulder Creek), all in ocean-facing watersheds (Milliken 1995:253). The area is part of the Mexican land grant *Arrollo de Sayante* (Gudde 1969:373).

Seven Spanish missions were founded in Ohlone territory between 1776 and 1797. While living within the mission system, the Ohlone commingled with other groups, including the Yokuts, Miwok, and Patwin. Mission life was devastating to the Ohlone population. When the first mission was established in Ohlone territory in 1776, the Ohlone population was estimated to be 10,000. By 1832, the Ohlones numbered less than 2,000 as a result of introduced disease, harsh living conditions, and reduced birth rates (Cook 1943a, 1943b in Levy 1978:486).

Ohlone recognition and assertion began to move to the forefront during the early 20th century, enforced by legal suits brought against the United States government by Indians of California (1928–1964) for reparation due them for the loss of traditional lands. The Ohlone participated in the formation of political advocacy groups, which brought focus upon the community and reevaluation of rights due its members (Bean 1994:xxiv). In recent years, the Ohlone have become increasingly organized as a political unit and have developed an active interest in preserving their ancestral heritage. Many Ohlones are active in maintaining their traditions and advocating for Native American issues.

Prehistory

The project area is located in the Monterey Bay Area, a component of the Central Coast of California. Jones et al. (2007) present a chronological system of six periods in the Central Coast.

Paleo-Indian (pre-8000 cal B.C.)

Human presence in this area at this time is suggested only by isolated, fluted projectile points from Nipomo (Bertrando 2004; Mills et al. 2005) and at SLO-1429 near Santa Margarita (Gibson 1996), probably reflecting habitation sometime between 13,000 and 10,000 years ago. No substantive components of this age have yet been identified in the Central Coast (Jones et al. 2007:134).

Millingstone Culture, 8000 to 3500/3000 cal B.C.

At least 42 sites throughout the Central Coast area have been identified as Millingstone occupations, including the open rocky coasts of Santa Cruz and San Luis Obispo Counties, the Morro Bay and Elkhorn Slough estuaries, and the near shore interior valleys of San Luis Obispo County (Jones et al. 2007:135, 137). All of these sites are located no farther than 25 kilometers inland from the shore, and most interior Millingstone sites have produced marine shells, indicating that the site inhabitants also exploited coastal environments. The Millingstone Culture is marked by large numbers of well-made handstones and/or millingslabs, crude core and cobble-core tools, with less abundant flake tools and large side-notched projectile points. The Millingstone peoples practiced broad-spectrum hunting and gathering and exploited shellfish, fish, birds, and mammals, according to faunal remains from several sites (Jones et al. 2007:137).

Hunting Culture, 3500/3000 cal B.C. to cal A.D. 1000/1250

The term "Hunting Culture" was coined in 1929 to define a distinctive complex in the Santa Barbara area that was marked by large quantities of stemmed and notched projectile points. This was a direct contrast with the Millingstone Culture (Jones et al. 2007:138). This culture encompasses three Central Coast chronological periods- Early, Middle, and Middle-Late Transition, which are summarized below.

Early (3500 to 600 cal B.C.)

The Early Period in this area is marked by co-occurrence of contracting-stemmed and Rossi square-stemmed points and large, side-notched variants (as a holdover from Millingstone). Portable mortars and pestles appear for the first time, but also contain Millingstone holdovers such as handstone/slab dyads, along with pitted stones. Early Period phases of this culture include Sand Hill Bluff in the Santa Cruz area, Saunders on the Monterey Peninsula, and Redwood in Big Sur (Jones et al. 2007:138).

Middle (600 cal B.C. to cal A.D. 1000)

Middle Period expressions of the Hunting Culture are well represented at SCR-9 and SMA-218 (which define the Ano Nuevo Phase) and at MNT-101 and MNT-282 (which define the Willow Creek Phase), along with several other sites in Monterey and San Luis Obispo Counties that define additional Middle Period phases. Ano Nuevo sites are characterized by distinctive long-stemmed points. Other Middle Period characteristic include G2 saucer beads, both handstones/ slabs and portable mortars/pestles, grooved stone net stinkers, and flexed burials (Jones et al. 2007:139).

Middle/Late Transition (cal A.D.1000 to 1250)

Around 1000 cal A.D., the Central Coast experienced changes in assemblages and settlement (the appearance of large numbers of arrow points, the disappearance of most stemmed points, changes in bead types). However, this transition seems to date differently in different areas; thus, the indeterminate dating of this period (Jones et al. 2007:139). In the Santa Cruz area, Hylkema (2002) argues that an abrupt, highly visible transformation took place at cal A.D. 1100; while in Big Sur, finding from MNT-1233 suggest that the Hunting Culture persisted until cal A.D. In general, it appears as though late-period Hunting Culture inhabitants preferred coastal habitation, but some larger middens also appear in pericoastal valleys. These late-period sites are often characterized by large quantities of biface-derived debitage and a range of site types, including middens, flaked and ground stone scatters, and lithic procurement stations/quarries. Faunal remains show abundant rabbit and deer consumption (Jones et al. 2007: 139-140).

Late Period, cal A.D. 1250 to 1769

No less than 157 Late-Period sites have been recognized in the Central Coast. Most of these sites are away from the shoreline in a variety of settings, including the interior ranges, and are marked by small middens with associated or nearby bedrock mortars (Jones et al. 2007:140). While expansive sites have been documented at some locations, such as MNT-1277/H in Big Sur (Jones 2003); Late-Period middens are often small (30-40 meters in diameter) with several discrete deposits clustered in one area (Jones et al. 2007:140). The assemblages are characterized by large quantities of Desert side-notched and Cottonwood arrow points, small bifacial drill beads, bedrock and hopper mortars, Class E (lipped) and Class K (cupped) *Olivella* beads, and steatite disk beads, all of which represent a change in artifact assemblage from the Hunting Culture. Sites from the Santa Cruz area and the Monterey Peninsula also contain thin rectangular (Class M) beads and small serrated arrow points (Jones et al. 2007:140).

The Central Coast, with its abundant resources, was a constant magnet for human occupation. The pattern of occupation related to this resource base, however, suggests intermittent use on both seasonal and longer timescales. Radiocarbon dates demonstrate that some seemingly homogeneous midden deposits actually reflect multiple occupations separated by prolonged periods of abandonment, often of a millennium or more. This pattern is increasingly evident in the Santa Cruz area (e.g., SCR-20), the Monterey Peninsula (see discussion by Breschini and Haversat 2005), and other areas in Monterey and San Luis Obispo Counties. It is possible that the diversity and flux of Central Coast environments fostered a certain degree of instability in cultural adaptations over time. Future research will need to focus more on the pattern of intermittent occupation and multiscaled site abandonment that seems to characterize this mid-latitude milieu (Jones et al. 2007:145-146).

Field Methods

A field survey of the archaeological APE was conducted on May 6, 2014. The Redwood Road Bridge is located on Redwood Road at the Browns Creek Tributary in Watsonville, Santa Cruz County. The archaeological APE includes both sides of the river banks, both sides of the bridge along Redwood Road and the potential staging area located southeast of the bridge. The area surveyed during the field survey is shown in Figure 3.

On the west and east sides of the Redwood Road Bridge, the archaeological APE consists of paved portions of roadway. The parcel that is a potential staging area, located southeast of the bridge, was also inspected. This parcel consisted of paved roadway (Redwood Road) and adjacent sparse, low-lying grass field. Visibility in this parcel was very good due to the limited ground cover. The bridge itself is paved, with wooden planks forming sidewalks and guardrails on both sides.

Steep slopes, covered in grasses, leaves, and other low-lying vegetation, covered the banks leading down to the Browns Creek Tributary. A small amount of water was flowing in the river at the time of the survey.

All unpaved portions of the archaeological APE were inspected (as much as was possible due to limited visibility because of vegetation and a fairly steep slope) for indications of human activity such as stained midden soils, stone artifacts, historic artifacts, dietary shell and bone, and unnatural depressions or mounds. No cultural resources were observed in the APE during the field survey.

Study Findings and Conclusions

As described above, the NWIC records search, Native American correspondence, literature review, and the archaeological survey did not identify any archaeological resources within the APE.

As noted in Chapter 3, the presence of a steep creek banks along the Browns Creek Tributary suggests that the project area has a low sensitivity for prehistoric archaeological resources. The project APE consists of a paved roadway and areas landscaped and/or paved for residential use. Only three previously recorded historic-era resources were identified within .25 mile of the project area, P-44-000336, P-44-000637 and P-44-000639. Given the nature of the project area and the proposed construction impacts, it is not anticipated that previously unidentified prehistoric or historic archaeological sites are located in the APE.

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Appendix A
NWIC Records Search Results

Appendix B
Native American Correspondence