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Staff: L. Koteen - SF
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STAFF REPORT: REGULAR CALENDAR

Application Number: 2-15-1354

Applicant: Caltrans

Project Location: Estero Americano Bridge and the adjacent roadways along Highway 1 at the border of Marin and Sonoma Counties

Project Description: Replace the Highway 1 bridge over Estero Americano Creek with a new longer cast-in-place box girder bridge to provide flood control and maintain the roadway

Staff Recommendation: Approval with Conditions

SUMMARY OF STAFF RECOMMENDATION

Caltrans, the Applicant, proposes to replace an existing 91-year old bridge along Highway 1, which crosses over Estero Americano Creek at the border of Marin and Sonoma Counties, with a new, longer cast-in-place box girder bridge. The existing bridge was built in 1925, has outlasted its natural service life and has been degraded by repeated flood events, which occur every other year on average. Caltrans proposes to alleviate future flooding of Highway 1 in the project area by building the new bridge six feet higher, above the 100-year floodplain, and 120 feet longer to a total length of 266 feet. The new bridge would also be widened from 10-foot lanes with no

2-15-1354 (Estero Americano Bridge)

shoulders to 12-foot lanes with 6-foot shoulders to provide for pedestrian and bicycle access (none is provided for on the bridge currently).

The project design will reduce road flooding along an important north-south connection along the coast, improve access for bicyclists and pedestrians, increase structural stability of the bridge and public safety, prevent pollutants from entering the creek directly when flood waters wash over the bridge, and enhance habitat connectivity for sensitive species consistent with the flood control, public safety, water quality, public access and biological resources policies of the Coastal Act. To accommodate the new bridge, the adjacent roadways would also be modified to create a gradual approach to meet the higher bridge elevation. In all, the project area extends roughly 2,400 feet to account for the new approaches and the new bridge.

Staff has worked closely with Caltrans and County staff on project particulars, and all parties are in agreement on the project. The project should not only improve coastal access for the project area, but it should also help to enhance habitat connectivity (for the California red-legged frog and other wildlife) through an expansion of the Estero Americano Creek migration corridor associated with the bridge area. Bridge railings have been designed to protect public views as much as possible, utilizing a Caltrans ST-20S design. Habitat restoration and plantings along the project area approaches should help to offset potential viewshed impacts from the larger bridge and approach area, and project conditions include a series of construction and post construction measures to protect coastal resources as much as possible overall.

As conditioned, the project will be consistent with the Coastal Act, including with regard to flood control, hazard abatement, water quality improvement, biological resources, public access and recreation, and visual resource policies. Staff recommends **approval** of the CDP application as conditioned. The motion is found on page 4 below.

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EXHIBITS

Exhibit 1 - Natural Resources in Estero Americano

Exhibit 2 - Project Impacts Bridge over Estero Americano

Exhibit 3 - Estero Americano Bridge Replacement Project, Initial Study with Final Mitigated Negative Declaration, Proposed Avoidance and Minimization Measures

Exhibit 4 - Project Location

Exhibit 5 - Project Plans

Exhibit 6 - Flooded Area Pre- and Post- Bridge Construction

Exhibit 7 - California Coastal Commission Wetlands and Streams Delineation Report Estero Americano Bridge Replacement Project, map of wetland areas

Exhibit 8 - Photos of Estero Americano Bridge

Exhibit 9 - Detour Route for Motorists and Cyclists during Bridge Closure

Exhibit 10 - Bridge Visualized Simulations Post-Construction

I. MOTION AND RESOLUTION

Staff recommends that the Commission, after public hearing, **approve** a coastal development permit for the proposed development. To implement this recommendation, staff recommends a YES vote on the following motion. Passage of this motion will result in approval of the CDP as conditioned and adoption of the following resolution and findings. The motion passes only by affirmative vote of a majority of the Commissioners present.

***Motion:** I move that the Commission approve Coastal Development Permit Number 2-15-1354 pursuant to the staff recommendation, and I recommend a yes vote.*

***Resolution to Approve CDP:** The Commission hereby approves Coastal Development Permit Number 2-15-1354 and adopts the findings set forth below on grounds that the development as conditioned will be in conformity with Coastal Act policies. Approval of the permit complies with the California Environmental Quality Act because either 1) feasible mitigation measures and/or alternatives have been incorporated to substantially lessen any significant adverse effects of the development on the environment, or 2) there are no further feasible mitigation measures or alternatives that would substantially lessen any significant adverse impacts of the development on the environment.*

II. STANDARD CONDITIONS

This permit is granted subject to the following standard conditions:

- 1. Notice of Receipt and Acknowledgment.** The permit is not valid and development shall not commence until a copy of the permit, signed by the Permittee or authorized agent, acknowledging receipt of the permit and acceptance of the terms and conditions, is returned to the Commission office.
- 2. Expiration.** If development has not commenced, the permit will expire two years from the date on which the Commission voted on the application. Development shall be pursued in a diligent manner and completed in a reasonable period of time. Application for extension of the permit must be made prior to the expiration date.
- 3. Interpretation.** Any questions of intent or interpretation of any condition will be resolved by the Executive Director or the Commission.
- 4. Assignment.** The permit may be assigned to any qualified person, provided assignee files with the Commission an affidavit accepting all terms and conditions of the permit.
- 5. Terms and Conditions Run with the Land.** These terms and conditions shall be perpetual, and it is the intention of the Commission and the Permittee to bind all future owners and possessors of the subject property to the terms and conditions.

III. SPECIAL CONDITIONS

This permit is granted subject to the following special conditions:

1. **Final Project Plans.** PRIOR TO COMMENCEMENT OF CONSTRUCTION, the Permittee shall submit, for the review and approval of the Executive Director, two sets of 100% design-level Final Project Plans. The Final Project Plans shall be in substantial conformance with the 95% design-level plans previously submitted shown in **Exhibit 5**.
2. **Restoration and Monitoring Plan.** PRIOR TO COMMENCEMENT OF CONSTRUCTION, the Permittee shall submit two sets of a Restoration and Monitoring Plan (Restoration Plan) to the Executive Director for review and approval. The Restoration Plan shall be developed in consultation with the California Department of Fish & Wildlife, and the U.S. Fish & Wildlife Service, and shall, at a minimum, include:
 - (a) **Documentation of Temporary and Permanent Impacts.** All expected temporary and permanent impacts associated with riparian vegetation, wetland drainage ditches, and construction of the new piers and abutments, shall be documented in the Restoration Plan. The Restoration Plan shall additionally address impacts to upland and in-creek areas from staging, demolition, and construction.
 - (b) **Site Plan.** A final detailed site plan of the restoration area(s) both on and off-site, with habitat acreages identified, as provided on September 10, 2015 and as appears in **Exhibits 1 and 2** for the on-site mitigation. Site plans shall clearly define the area where restoration will occur.
 - (c) **Baseline.** The baseline ecological assessment of the on-site restoration area prior to vegetation removal as was provided on July 16, 2015 and as described in *Estero Americano Bridge Replacement Project, Initial Study with Mitigated Negative Declaration*. Baseline information shall also be provided for off-site mitigation locations where restoration will occur, in sufficient detail to evaluate if the chosen sites are appropriate areas for mitigation.
 - (d) **Success Criteria.** The goals, objectives, and performance standards of the revegetation plan shall include explicit cover criteria for upland plantings, riparian plantings and wetland revegetation, as well as plantings in areas outside the removal zones that are to be planted as part of the on-site mitigation. Upland plantings shall be of native seed mix along the embankment approaches to the bridge. Wetlands and riparian plantings shall restore the vegetation that lines Estero Americano Creek and the floodplain as mapped in **Exhibits 1 and 2**. For degraded riparian and associated floodplain locations that are to be restored as part of the overall mitigation portfolio, nearby reference sites of intact vegetation shall be identified. A qualified biologist shall approve the suitability of the reference sites as representative of native riparian or floodplain vegetation, and shall confirm that the sites support a high percentage of native cover. Reference sites shall be ecologically self-sustaining with regard to maintenance of ecosystem functions over time.

The success criteria shall be developed with the goal of establishing a plant community that is similar to the reference site in structure and function.

- (e) **Restoration Methods.** The final design and construction methods that will be used to ensure the restoration plans achieve the defined goals, objectives, and performance standards.
- (f) **Provisions for Submittal of Initial Baseline Evaluation.** Provisions for submittal, within 90 days of completion of initial restoration work, of a baseline evaluation report demonstrating that initial restoration area activities have been completed in accordance with the approved Restoration Plan.
- (g) **Monitoring and Reporting.** A reporting schedule, including that the Permittee shall submit, for the review and approval of the Executive Director, a restoration monitoring report prepared by a qualified specialist that certifies the habitat restoration is in conformance with the approved Restoration Plan, along with photographic documentation of plant species and plant coverage, beginning the first year after initiation of implementation of the Restoration Plan, and annually for at least the first five years. Final monitoring for success shall take place no sooner than 5 years following the end of all remediation and maintenance activities other than weeding. If the final report indicates that the restoration project has been unsuccessful, in part or in whole, based on the approved success criteria, the Permittee shall, within 120 days, submit two sets of a revised or supplemental restoration program for the review and approval of the Executive Director. The revised program shall be prepared by a qualified specialist, and shall be designed to equivalently compensate for those portions of the original approved and required restoration that did not meet the approved Restoration Plan's success criteria. The approved revised or supplemental restoration program shall be carried out under the direction of the Executive Director until the restoration activities are completed consistent with the goals, objectives, and performance standards specified in the originally approved Restoration Plan and program.
- (h) **Mitigation of Temporary and Permanent Impacts.** Mitigation measures for all temporary impacts associated with the construction activities for the new bridge, demolition of the old bridge, and for restoration of the wetland ditches, associated wetland buffers, upland areas, and riparian vegetation. Such mitigation shall include at a minimum, installation of erosion control devices, and as much as feasible, conducting of construction activities from upland areas. For all permanent impacts, in addition to 1:1 on-site mitigation, the Permittee shall mitigate for the loss of wetland and riparian areas at appropriate locations off-site at a ratio of 3:1 for wetlands and 2:1 for riparian areas. The location of off-site mitigation shall be approved by the Executive Director. Off-site mitigation may restore riparian areas along streams and rivers where riparian vegetation has been lost or degraded. It may also provide for restoration or creation of wetland areas, and for enhancement of degraded habitat within riparian zones. The Restoration Plan shall detail active measures to restore the riparian vegetation and for restoration of wetlands. The total minimum on- and off-site mitigation is 4.9 acres, with on-site mitigation occurring at a ratio of 1:1 or greater.

All requirements above shall be enforceable components of this CDP. The Permittee shall undertake development in accordance with this condition and the approved Restoration and Monitoring Plan.

3. **Final Construction Plan.** PRIOR TO COMMENCEMENT OF CONSTRUCTION, the Permittee shall submit two sets of a Construction Plan to the Executive Director for review and approval. Minor adjustments to the following construction requirements may be allowed by the Executive Director if such adjustments: (1) are deemed reasonable and necessary; and (2) do not adversely impact coastal resources. The Construction Plan shall be in substantial conformance with those outlined in **Exhibit 5**, and at a minimum, include the following:
 - (a) **Construction Areas.** The Construction Plan shall identify the specific location of all construction areas, all staging areas, all storage areas, all construction access corridors (such as to and from the construction areas, storage areas, debris storage and staging areas) in site plan view. Areas within which construction activities or staging are to take place shall be minimized to avoid encroachment on sensitive habitats and species and to have the least impact on coastal resources overall.
 - (b) **Construction Methods and Timing.** The Construction Plan shall specify the construction methods to be used, including all methods to be used to keep the construction areas separated and buffered from sensitive habitat areas. All erosion control/water quality best management practices shall be implemented during construction and the location of these BMPs shall be noted. All work shall take place during daylight hours. Lighting of any wetland habitat is prohibited. No earthmoving or soil disturbing work may occur from November 1 to May 31 (breeding season for the California red legged frog (CRLF)), in order to avoid breeding CRLF.
 - (c) **Construction Requirements.** The Construction Plan applies to initial construction as well as future maintenance. The Construction Plan shall include the following construction requirements specified by written notes on the Construction Plan:
 - (1) Prior to the commencement of any development authorized under this CDP, the Permittee shall ensure that all on-site workers and contractors understand and agree to observe the standards for work outlined in this CDP and in the detailed project description included as part of the application submittal as revised by these conditions.
 - (2) Prior to commencement of ground-disturbing activities, erosion, sediment, and runoff control measures shall be deployed in accordance with the final Storm Water Pollution Prevention Plan approved pursuant to **Special Condition 4**, and all measures shall be properly maintained throughout the duration of construction activities. Plastic mono-filament netting (erosion control matting) or similar material may not be used at the project site. Acceptable substitutes include coconut coir matting or tackifier hydroseeding compounds.
 - (3) Prior to the commencement of construction, the limits of the work areas and staging areas shall be delineated in consultation with a qualified biologist, limiting the

potential area affected by construction and ensuring that all wetlands and other habitats adjacent to construction areas are avoided during construction. All vehicles and equipment shall be restricted to pre-established work areas and haul routes and to established or designated staging areas.

- (4) All trash shall be properly contained, removed from the work site, and disposed of on a regular basis to avoid contamination of habitat during construction activities. Any debris inadvertently discharged into coastal waters shall be recovered immediately and disposed of consistent with the requirements of this CDP. The construction site shall maintain good construction housekeeping controls and procedures (e.g., clean up all leaks, drips, and other spills immediately; keep materials covered and out of the rain, including covering exposed piles of soil and wastes; dispose of all wastes properly, place trash receptacles on site for that purpose, and cover open trash receptacles during wet weather; remove all construction debris from the site).
 - (5) Topsoil removed by grading operations shall be stockpiled for reuse and shall be protected from compaction and wind or erosion during stockpiling.
 - (6) Equipment staging, materials storage, and stockpiling areas shall be limited to the locations and sizes specified in the approved construction plans. Construction vehicles shall be restricted to designated haul routes. Construction equipment and materials shall be stored only in designated staging and stockpiling areas as depicted on the approved construction plans.
 - (7) Any fueling and maintenance of construction equipment shall occur within upland areas outside of habitat areas or within designated staging areas. Mechanized heavy equipment and other vehicles used during the construction process shall not be refueled or washed within 100 feet of coastal waters.
 - (8) Fuels, lubricants, and solvents shall be prevented from entering coastal waters or wetlands. Hazardous materials management equipment, including oil containment booms and absorbent pads, shall be easily available at the project site, and a registered professional first-response hazardous materials clean-up/remediation service that serves the locality shall be on call. Any accidental spill shall be immediately contained and cleaned up.
 - (9) To prevent the inadvertent entrapment of the CRLF, all excavated, steep-walled holes or trenches more than 1 foot deep shall be covered at the close of each working day with plywood or similar materials. If it is not feasible to cover an excavation, one or more escape ramps constructed of earthen fill or wooden planks shall be installed.
- (d) Construction Site Documents.** The plan shall provide that a copy of the signed CDP and the approved Construction Plan shall be maintained in a conspicuous location at the construction job site at all times, and that the CDP and the approved Construction Plan are available for public review on request.
- (e) Construction Coordinator.** The plan shall provide that a construction coordinator be available 24 hours a day for the public to contact during construction should questions

arise regarding the construction. Contact information for the coordinator, including a mailing address, e-mail address and phone number, shall be conspicuously posted at the job site in a place that is visible from public viewing areas, along with information that the construction coordinator should be contacted in the case of any questions regarding the construction. The construction coordinator shall record the name, phone number, and nature of all complaints received regarding the construction, and shall investigate complaints and take remedial action, if necessary, within 72 hours of receipt of the complaint or inquiry.

- (f) **Restoration.** All areas impacted by construction activities, except for onsite mitigation areas, shall be restored to their pre-construction condition or better upon completion of construction, and during the interim between construction seasons. An implementation and completion schedule for restoration activities shall be submitted as part of the restoration and monitoring plan.
- (g) **Notification.** The Permittee shall notify planning staff of the Coastal Commission's North Central Coast District Office at least three working days in advance of commencement of construction during all phases of approved work, and immediately upon completion of construction.

All requirements above and all requirements of the approved Construction Plan shall be enforceable components of this CDP. The Permittee shall undertake development in accordance with this condition and the approved Construction Plan.

- 4. **Final Storm Water Pollution Prevention Plan.** PRIOR TO COMMENCEMENT OF CONSTRUCTION, the Permittee shall submit two sets of a final Storm Water Pollution Prevention Plan (SWPPP) to the Executive Director for review and approval. Minor adjustments to the following requirements may be allowed by the Executive Director if such adjustments: (1) are deemed reasonable and necessary; and (2) do not adversely impact coastal resources. The final SWPPP shall include provisions for all of the following:
 - (a) **Sedimentation Controlled.** Runoff from the project site may not increase sedimentation in coastal waters or wetlands post-construction. During construction, runoff from the project site may not increase sedimentation in coastal waters beyond what is allowed under the final Water Quality Certification approved for the project by the Regional Water Quality Control Board.
 - (b) **Pollutants Controlled.** Other than as allowed by **Special Condition 4(a)**, no other pollutants may enter coastal waters or wetlands during construction or post-construction.
 - (c) **BMPs.** Best Management Practices (BMPs) shall be used to prevent the entry of polluted stormwater runoff into coastal waters and wetlands during construction and post-construction. This includes the use of relevant BMPs in the Proposed Avoidance and Minimization Measures documented in **Exhibit 3** and submitted by the Applicant on July 16, 2015.

(d) Spill Measures. An on-site spill prevention and control response program, consisting of BMPs for the storage of clean-up materials, training, designation of responsible individuals, and reporting protocols to the appropriate public and emergency services agencies in the event of a spill, shall be implemented at the project to capture and clean-up any accidental or other releases of oil, grease, fuels, lubricants, or other hazardous materials, including to prevent materials from entering coastal waters or wetlands.

All requirements above and all requirements of the approved SWPPP shall be enforceable components of this CDP. The Permittee shall undertake development in accordance with this condition and the approved SWPPP.

5. Coastal Hazards Risk. By acceptance of this CDP, the Permittee acknowledges and agrees, on behalf of itself and all successors and assigns:

(a) Assume Risks. To assume the risks to the Permittee and the property that is the subject of this CDP of injury and damage from coastal hazards due to flooding.

(b) Waive Liability. To unconditionally waive any claim of damage or liability against the Commission, its officers, agents, and employees for injury or damage from such coastal hazards;

(c) Permittee Responsible. That any adverse effects to property caused by the permitted project shall be fully the responsibility of the Permittee.

(d) Indemnification. The Permittee indemnify and hold harmless the Coastal Commission, its officers, agents, and employees with respect to the Commission's approval of the project against any and all liability, claims, demands, damages, costs (including costs and fees incurred in defense of such claims), expenses, or amounts paid in settlement arising from any injury or damage due to such hazards.

6. Other Agency Review and Approval. PRIOR TO COMMENCEMENT OF CONSTRUCTION, the Permittee shall submit to the Executive Director written evidence that all necessary permits, permissions, approvals, and authorizations for the approved project have been granted by all applicable agencies or evidence that no additional authorizations are necessary. Any changes to the approved project required by these agencies shall be reported to the Executive Director. No changes to the approved project shall occur without a Commission amendment to this CDP unless the Executive Director determines that no amendment is legally necessary.

IV. COASTAL DEVELOPMENT PERMIT DETERMINATION

A. STANDARD OF REVIEW

The proposed project location is located within both the coastal development permit (CDP) jurisdictions of Sonoma County and Marin County, and within the retained coastal development permit jurisdiction of the Coastal Commission. Sonoma and Marin Counties have certified Local

Coastal Programs (LCPs). The Commission retains jurisdiction in the project area because a portion of the project is located within an area defined as former tidelands, submerged land, or land subject to the public trust. Under these circumstances, the Applicant would normally have to obtain three individual CDPs in order to move forward with this project. As allowed by Section 30601.3 of the Coastal Act, the Counties of Marin and Sonoma and the Applicant have requested the Commission process a consolidated CDP for this project, and the Executive Director has agreed. Therefore, in treating this project as a consolidated permit, the standard of review for this CDP application is the Chapter 3 policies of the Coastal Act, with the Marin and Sonoma County Local Coastal Programs used as guidance.

B. PROJECT LOCATION

The proposed project is located along Highway 1 where the existing bridge proposed for replacement crosses Estero Americano. Estero Americano is a seasonal creek that demarcates the border between Marin and Sonoma Counties, and runs through the community of Valley Ford approximately 1.5 miles west of the project site. The project area stretches along Highway 1 between post miles (PM) 50.1 and 50.5 in Marin County and PMs 0.0 and 0.10 in Sonoma County. All project activities would occur within existing Caltrans Right of Way (ROW) along Highway 1. Agricultural pastures and fields are the primary land uses located to the east and west of the project site, as they are throughout the region. See **Exhibit 4** for a map of the project location.

Estero Americano is a 9.5 mile long estuary fed by freshwater from Estero Creek, which originates in the Coast Ranges to the east and drains a watershed of 49 square miles, ultimately flowing towards Bodega Bay and the Gulf of the Farallones National Marine Sanctuary. The existing bridge crosses Estero Americano where there are only freshwater flows. Although saltwater does travel up the Estero from its mouth along the shore of Bodega Bay, the tidal waters do not reach the project location and therefore marine or brackish vegetation species are not present. During most years, the streambed is dry for several months of the year. Estero Americano has been categorized as a Critical Coastal Area by the State of California due to pollutants.¹

In its evaluation of the Biological Study Area, Caltrans delineated approximately 12.15 acres of Coastal Commission jurisdictional wetlands. Wetland areas in the project footprint exist in the form of roadside ditches running along the existing bridge. The ditches support wetland vegetation, including willow thickets (*Salix* spp.), blackberries (*Rubus* spp.), teasel (*Dipsacus* sp.), and poison hemlock (*Conium maculatum*). Additional wetland areas exist along the floodplain of Estero Americano. These are populated by riparian species similar to those found in the wetland ditches, and including Oregon ash (*Fraxinus latifolia*). These wetland areas, 1.488 acres in all, are wet for extended portions of the year. Outside the project footprint, but within the biological study area, are an additional 10.66 acres delineated by Caltrans as Coastal Commission wetlands. These areas are wet seasonally during Estero Americano flood events and constitute the open waters of the creek and an extensive floodplain area (see **Exhibit 7**).

¹ See http://www.coastal.ca.gov/nps/Web/cca_pdf/ncoastpdf/CCA20EsteroAmericano.pdf

Sensitive species confirmed within the Biological Study Area include the California red-legged frog² (*Rana draytonii*) and the federally endangered Contra Costa goldfields (*Lasthenia conjugens*). Myrtle's silverspot butterfly, (*Speyeria zerene myrtle*), another federally endangered species that occurs within Marin and Sonoma coastal areas, may forage in the bridge vicinity. The tricolored blackbird (*Agelaius tricolor*), a state species of special concern, is also known to occur in the project area. Estero Americano Creek is also considered federally designated critical habitat for steelhead and coho salmon (*Oncorhynchus kisutch*). However, coho and steelhead are not considered to be currently present in the Creek.³

The Estero Watershed has changed from its natural and historic condition because of agricultural land use activities. Instances of unmanaged livestock grazing, and historic potato farming common in the area between 1850 and 1953, have resulted in excessive sediment deposition to the watershed, which has contributed to stream channel aggradation, which in turn exacerbates local flooding problems. The supply of fine sediment to Americano Creek significantly exceeds the carrying capacity of the stream.

C. PROJECT DESCRIPTION

Caltrans, the Applicant, proposes to replace the existing bridge with a new, longer cast-in-place box girder bridge. The replacement is required because the existing bridge has outlasted its intended service life, having been originally constructed in 1925. Moreover, the bridge now sags, and exhibits other signs of structural deterioration due to multiple flooding events that have occurred over the years, when the creek jumps its banks and overtops the bridged roadway. The purpose of the bridge replacement project is to restore and enhance the integrity of the roadway, maintain access along Highway 1, ensure safe passage of bicycle, pedestrian, and vehicle traffic, and to reduce the number and severity of flooding events that occur on the bridge.

To accomplish these goals, the replacement bridge will be larger in all dimensions than the existing bridge (please see **Exhibit 5**). Whereas the existing bridge has two 10-foot lanes running north and south and virtually no shoulders, the replacement bridge will have two 12-foot lanes and six foot shoulders. Two-foot railings (Caltrans design ST-20S) installed on both sides of the new bridge make up an additional four feet for a total of 40 feet of bridge width. Caltrans engineers have designed the replacement bridge with wider lanes and shoulders to be safer for motorists who break down on the bridge, workers who maintain the bridge, and for pedestrians and cyclists who may be traversing the bridge at the same time as large vehicles. Eight foot shoulders were originally considered as Caltrans' typical standard shoulder width for bridges. However, a reduced width of six feet was chosen for the replacement bridge project to minimize visual impacts associated with the overall bridge expansion in this rural area. In addition, the new bridge is designed to be six feet higher at the bridge center line and 120 feet longer than the existing structure, with a new total length of 266 feet. The greater height is designed to prevent

² California Species of Special Concern, threatened under the Endangered Species Act.

³ Further information is available in Biological Assessment, Estero Americano Bridge Replacement Project, Caltrans District 04, Marin and Sonoma Counties, California, July 2014 and Exhibit 3, Estero Americano Bridge Replacement Final Initial Study with Negative Declaration

future flooding from a 100-year storm event (please see **Exhibit 6**). The greater length is necessary to accommodate the higher structure with a gradual approach from each direction, and to allow for a wider stream channel. Due to the longer span, the bridge abutments will sit higher along the river banks, creating a wider channel for wildlife passage under the bridge, and opening up near-stream upland habitat for the California red-legged frog.

The bridge will be a cast-in-place concrete box girder design with four spans, two 66.5 foot long spans and two 65 foot long spans. The spans will be supported on both sides of the bridge by three 48-inch diameter cast-in-drilled holes piers, inside 60-inch diameter steel casings, and at its ends by 48 x 9 foot abutments, each atop twenty 24-inch diameter cast-in-drilled-hole piers within 36-inch diameter steel casings. Holes in the creek bed will be drilled by rig-mounted drills to be positioned on protective banks or pads along the creek bank.

The roadways that lead to the bridge would also be modified as part of the proposed project for a length of 659 feet from the north side and 1,460 feet from the south side. The widths on both roadways would be increased from 11-12 foot lanes with 2-6 foot shoulders to 12 foot lanes with 6 foot shoulders. Retaining walls run for part of the length of the bridge approaches on each side, with embankments extending along the remaining approach length. The extended length of the retaining walls (106.1' NW, 181.1' NE, 596.9' SW, 271.9' SE), was set to minimize impacts to wetland habitat contained in existing ditches. These ditches, which run alongside of the bridge, would be partially filled during construction, and recreated post-construction. In deference to potential visual impacts, the width of paved shoulders on the southern end of the roadway approach on top of the embankment will be reduced to 4 feet of pavement (with the additional 2 feet of shoulder width vegetated).

Impacts to biological resources associated with this project include: riparian and wetland vegetation removal, removal and fill of the existing wetland ditches, fill in the creek bed for the new piers, grubbing of the project site, placement and use of access roads, embankment, and retaining walls, in-creek work, construction staging activities, construction-related noise, soil compaction and potential sedimentation downstream. Although the new piers and abutments will add fill to the wetland and floodplain, the net impact will result in fill reduction. While the new bridge piers and abutments will have a total footprint of 982 sq. ft., the piers and abutments to be removed from the existing bridge are 1100 sq. ft. in area, for a difference of 118 sq. ft. Vegetation clearance and grubbing are scheduled to be performed in the fall of 2016. The bridge will subsequently be constructed in two stages. In the first construction phase during the spring of 2017, the eventual northbound lane will be constructed to the east of the existing bridge, to allow the existing bridge to be used for traffic with one-way traffic control. Traffic will then be shifted onto the new bridge. In the second phase, one-way traffic control will use the lane on the new bridge while the old bridge is demolished and the southbound lane of the new bridge is built. Caltrans expects the bridge to be complete, and two-way traffic restored, by December 31, 2018.

Prior to beginning bridge construction, if necessary, a cofferdam or other temporary creek diversion system will be constructed to convey any standing water away from the work area to prevent impacts to water quality. Temporary access roads will be built to enter the area under the bridge, first on one side with construction of the northern span, and later under the bridge when

construction of the southern span will occur. Staging for and demolition of the existing bridge is to be accomplished primarily from the road bed of the new bridge, with precautions in place to prevent materials from falling into the creek. Because the new bridge will be realigned to the east of the current structure, relocation of two utility poles for the overhead lines paralleling Highway 1 will be required. Construction activities at the project site outside the creek will occur between April 15 and November 1 in any given year. All work within the creek must occur between June 1 and November 1 in any given year. These windows are designed to avoid the time of year when protected wildlife is most active as well as the wetter months of the year when construction activities in the creek might pollute areas downstream.

See **Exhibit 5** for proposed project plans.

D. ENVIRONMENTALLY SENSITIVE HABITAT AREAS AND WETLANDS

Applicable Policies

Environmentally Sensitive Habitat Areas (ESHAs) are defined in Section 30107.5 of the Coastal Act as areas in which plant or animal life or their habitats are either rare or especially valuable because of their special nature or role in an ecosystem, and which could be easily disturbed or degraded by human activities and development. Section 30240 of the Coastal Act states that ESHAs shall be protected against disruption of habitat values and that only uses dependent on the resources shall be allowed within an ESHA. Section 30240 also requires that development adjacent to such areas be sited and designed to prevent impacts that would significantly degrade those areas, and to be compatible with the continuance of the ESHA. Coastal Act Section 30240 states:

(a) Environmentally sensitive habitat areas shall be protected against any significant disruption of habitat values, and only uses dependent on those resources shall be allowed within those areas.

(b) Development in areas adjacent to environmentally sensitive habitat areas and parks and recreation areas shall be sited and designed to prevent impacts which would significantly degrade those areas, and shall be compatible with the continuance of those habitat and recreation areas.

Coastal Act Section 30233 allows for dredging or filling of wetlands and open coastal waters where there is no feasible less environmentally damaging alternative and where feasible mitigation measures have been provided to minimize adverse environmental effects and are limited to certain purposes, such as incidental public services. Coastal Act Section 30233 states:

(a) The diking, filling, or dredging of open coastal waters, wetlands, estuaries, and lakes shall be permitted in accordance with other applicable provisions of this division, where there is no feasible less environmentally damaging alternative, and where feasible mitigation measures have been provided to minimize adverse environmental effects, and shall be limited to the following:

...

(4) *Incidental public service purposes...*

(6) *Restoration purposes.*

(b) *Dredging and spoils disposal shall be planned and carried out to avoid significant disruption to marine and wildlife habitats and water circulation...*

(c) *... diking, filling, or dredging in existing estuaries and wetlands shall maintain or enhance the functional capacity of the wetland or estuary. Any alteration of coastal wetlands identified by the Department of Fish and Game, including, but not limited to, the 19 coastal wetlands identified in its report entitled, "Acquisition Priorities for the Coastal Wetlands of California", shall be limited to very minor incidental public facilities, restorative measures, nature study,....*

Analysis

Environmentally Sensitive Habitat Areas

As mentioned previously, the wetlands in the project area support two state- and federally listed species, the California red-legged frog, *Rana draytonii*, which is listed as federally threatened, and the Contra Costa goldfields, *Lasthenia conjugens*, which is listed as federally endangered. California red-legged frogs predominately inhabit permanent water sources such as streams, lakes, marshes, natural and man-made ponds, and ephemeral drainages in valley bottoms and foothills. California red-legged frogs typically breed between November and April in still or slow-moving water, often with emergent vegetation and overhanging willows. During other parts of the year, habitat includes nearly any area within 1-2 miles of a breeding site that stays moist and cool through the summer. This can include vegetated areas with coyote brush, California blackberry thickets, and root masses associated with willow and California bay trees. Sheltering habitat for California red-legged frogs can encompass all aquatic, riparian, and upland areas within the range of the species and include any landscape features that provide cover, such as existing animal burrows, boulders or rocks, organic debris such as downed trees or logs, and industrial debris. Incised stream channels with portions narrower and depths greater than 18 inches also may provide important summer sheltering habitat. Accessibility to sheltering habitat is essential for the survival of California red-legged frogs within a watershed, and can be a factor limiting frog population numbers and survival.⁴

Although not specifically observed on site, the California red-legged frog has been observed nearby, both upstream and downstream of the project location. Based on these sightings, and because the project is located within the species' range and current distribution, the United States Fish and Wildlife Service (USFWS) concluded in its Biological Opinion dated December 1, 2014 that the California red-legged frog likely occurs within the project area and that both highly suitable upland and aquatic habitat exist within the construction footprint.⁵ The USFWS also

⁴ *Ibid*, page 10.

⁵ USFWS Biological Opinion for the State Route 1 Americana Creek Bridge Replacement Project, Marin and Sonoma Counties, California, December 2014, page 16.

concluded that all of Estero Americano, the associated riparian corridor, and the ditches paralleling the bridge provide perennial aquatic habitat and dense cover for the California red-legged frog. Coastal Commission biologists concur.

Construction of the new roadway, placement and use of access roads, construction staging activities, and construction of the embankment will result in impacts to California red-legged frog habitat from the fill of wetland ditches (0.4 acres) along the existing bridge and creek, work performed in the creek bed and in adjacent riparian areas, including installation of new piers in open water and floodplain habitat (0.023 acres), and vegetation removal. Because these impacts will be in place for longer than a single year, they are considered permanent impacts due to temporal loss of the resource area to California red-legged frog and other wildlife, and due to the uncertainty of complete restoration success. Project impacts are likely to discourage California red-legged frog occupancy of this area throughout the construction life of the project. Use of the area by California red-legged frog may also be reduced until riparian and wetland features of the site are fully-restored, a period that will take several years.

In addition, the project site contains the Contra Costa Goldfields, which appear on the California Native Plant Society's Inventory of Rare and Endangered Plants as a 1B.2 species,^{6, 7} and are listed as federally endangered under the Endangered Species Act. Caltrans documented Contra Costa Goldfields within the biological study area during botanical surveys in 2013 and 2014. The plants were found in the seasonal wetland, immediately adjacent to the proposed project footprint and upstream of the Estero Americano Bridge, but do not occur within areas where vegetation removal will occur. The Contra Costa Goldfields occupied area is typically flooded following winter rains and is relatively dry during the summer and fall months. The occurrence of the Contra Costa Goldfields has been previously documented and remains the only current population of the listed plant recorded in Marin County. Contra Costa Goldfields are insect pollinated and found in vernal pool habitat below 100 meters below sea level. They typically bloom from March through June of each year. Direct impacts to Contra Costa Goldfields may result while construction activities are on-going due to dust generation or sediment deposition into the field where the goldfields occur. It is possible that the longer span of the bridge and greater height could also affect Contra Costa Goldfields indirectly through its impact on creek flow rates and drainage patterns. This assessment is based on a hydrologic model forecasting the anticipated condition of the project area post-construction produced by Caltrans' Department of Hydraulics.

There is also the potential for Myrtle's silverspot butterfly, a federally endangered species, to occur within the study area, but the December 1, 2014 USFWS Biological Opinion, states that the project location is unlikely to adversely affect the listed butterfly because its larval host plant, the Western dog violet, (*Viola adunca*) was not found in the project vicinity during botanical

⁶1B: Rare, threatened, or endangered in California and elsewhere; .2: Fairly endangered in California

⁷ USFWS Biological Opinion for the State Route 1 Americana Creek Bridge Replacement Project, Marin and Sonoma Counties, California, pg. 15, December 1, 2014.

surveys conducted in 2013 and 2014.⁸ Moreover, USFWS biologists did not observe Myrtle's silverspot butterfly foraging in the project area, and deemed foraging unlikely due to the paucity of nectar plant species on site, and due to the lack of topographical features where adult Myrtle's silverspot butterfly activity typically occurs during the summer months.⁹

Because both the California red-legged frog and the Contra Costa Goldfields are federally-listed species, because Contra Coast Goldfields were found in the area adjacent to the project site, and because California red-legged frogs potentially use all wetlands in the project area for breeding, foraging, sheltering and aestivation, all wetland and open water areas described in the above sections meet the definition of environmentally sensitive habitat areas (ESHA) under Section 30107.5 of the Coastal Act, and are therefore subject to the provisions of Section 30240. These areas constitute ESHA because they are especially valuable due to their role in the ecosystem of providing essential habitat for a diverse assemblage of sensitive wetland species. Since these areas constitute ESHA, direct impacts to these areas detailed above are in conflict with Section 30240 of the Coastal Act which states that "only uses dependent on those resources shall be allowed within those areas."

However, , Section 30233 has been interpreted to allow for dredging and fill of wetlands despite impacts to ESHA, subject to certain criteria and importantly including that such projects incorporate feasible mitigation measures. As stated in *Bolsa Chica Land Trust v. Superior Court*,

...the ESHA protections provided by section 30240 are more general provisions and the wetland protections provided by section 30233 are more specific and controlling when a wetland area is also an ESHA.... Section 30240, a more general policy, also applies, but the more specific language in the former sections is controlling where conflicts exist with general provisions of Section 30240.

((1999) 71 Cal.App4th 493, 515.) As such, the aspects of the proposed project which result in or are related to the dredging and fill of wetlands and open coastal waters that are also considered ESHA may be allowed under Section 30233 if all requirements of this Section are met. Coastal Act Section 30233(a) requires that the dredging and fill of wetlands and open coastal waters must only occur for 1) allowable uses, 2) where there is no feasible less environmentally damaging alternative, and 3) where mitigation measures have been provided to minimize adverse environmental impacts.

Allowable Use in Wetlands

As presented by the Applicant, the project is proposed to replace a bridge that has exhausted its intended service life, and to prevent and reduce flooding of Highway 1. Significant flooding of the bridge and adjacent roadway currently occurs every two years on average. When the bridge and roadway are flooded, public access to the coast via Highway 1 is prevented. Based on this set of intended purposes, construction of the new bridge is an allowable use under Coastal Act Section 30233(a) because the project's purpose is to render an incidental public service.

⁸ USFWS Biological Opinion for the State Route 1 Americano Creek Bridge Replacement Project, Marin and Sonoma Counties, California, pg. 1, December 1, 2014.

⁹ *Ibid*, pg. 1.

The Commission has considered what constitutes an incidental public service many times. First and foremost is whether the project is initiated by a public agency for a public purpose, such as replacement of old railroad bridges (CC-059-09); expansion of a railroad line (CC-052-05, CC-086-03) or modifications to an airport (CC-058-02). In this case, replacement of the bridge has been initiated by a public agency, Caltrans, for a public purpose, that of flood control and to ensure continued public use of Highway 1, which provides access to and from the coast.

Second, the use must be incidental. *Bolsa Chica*, cited above, supported the Commission's use of incidental public service purposes and elaborated:

In particular we note that under Commission's interpretation, incidental public services are limited to temporary disruptions and do not usually include permanent roadway expansions. Roadway expansions are permitted only when no other alternative exists and the expansion is necessary to maintain existing traffic capacity.

Similar to the court's reasoning in *Bolsa Chica*, the subject bridge demolition and construction will be temporary actions that will cease upon completion of the new bridge, and are minor in this regard. The project does not expand the roadway. Although the new bridge itself is larger and wider than the current bridge, it is not expanding the traffic capacity of Highway 1 in this area. Furthermore, no other alternative exists but to replace the aging bridge. Therefore, the Commission concludes the dredging and fill required by the project is for an incidental public service purpose. Thus, the project qualifies as an allowable use under Section 30233(a).

Least Environmentally Damaging Alternative

Coastal Act Section 30233(a) further requires that any fill or dredging in wetlands or open coastal waters employ the least environmentally damaging alternative. The current bridge has exhausted its service life and has become decrepit through repeated flooding events. In this case, an alternative that avoids impacting wetlands is not feasible for the new bridge because: 1) Any bridge replacement project that addresses the issue of regular flooding would involve removing significant portions of the ROW where the wetland ditches are located; 2) The current design minimizes the amount of wetland ditch areas removed and filled and allows for creation of new, enhanced wetland ditches on-site through construction of retaining walls; and 3) Foregoing bridge replacement is not an option as the roadway would ultimately fail creating a safety hazard and impacts to the creek bed by fallen bridge debris.

Further, smaller structures with fewer impacts to wetlands were evaluated through an alternatives analysis, but these alternatives were rejected by the Applicant because they would not provide the additional height needed to reduce the risk of flooding to the bridge and roadway approaches. The retaining wall design will also minimize the direct fill of wetlands and allow for the additional wetland area to be recreated on-site after bridge construction.

In addition, despite the impacts to listed species from construction activities, over the long-term, the project is likely to benefit both the California red-legged frog and the Contra Costa Goldfields, and will likely improve the water quality of Americano Creek. The USFWS states, and Coastal Commission biologists agree, that the greater length and height of the new bridge

will enhance habitat connectivity for the California red-legged frog and other wildlife through an expansion of the existing Americano Creek migration corridor. From the USFWS BO:

The completed project is likely to have long-term benefits for the California red-legged frog. Raising the bridge profile by 6 feet and lengthening the span by [121 feet] will increase the habitat connectivity within the Americano Creek corridor.¹⁰

Moreover, the raised embankments of the new bridge and approaches may serve as a barrier to California red-legged frog and other wildlife attempting to cross on the actual roadway, thus reducing the potential for frog mortality that occurs now with the existing bridge and roadway.¹¹ The bridge lengthening component of the project would also result in a net increase of wetland habitat of 4,560 square feet through moving the bridge abutments up and out of the immediate floodplain into the broad area that becomes seasonally wet.

The larger bridge structure and raised roadway approaches are also predicted to benefit the Contra Costa Goldfields by increasing the area of ponding in the biological study area by 1.5 acres (**Exhibit 6**), and by increasing the length of time over which floodplain drainage occurs.¹² Flow velocity within the creek is predicted to increase slightly at peak flooding because of the greater volume of water passing under the bridge, but the proposed bridge is designed to minimize this effect.¹³ Because the Contra Costa Goldfields has a higher affinity for deeper, wetter pools than drier swales and soils, a slight increase in inundation during regular flooding events is not likely to decrease population size, and may in fact be beneficial.

The new bridge should also enhance environmental aspects of the project by improving water quality. A decrease in flooding frequency will reduce the amount of toxins washed from the roadway directly into Americano Creek. From the Biological Opinion:

The new design will reduce flooding of SR 1. Raising the roadway above the flood plain will reduce water quality issues associated with direct contact of water on paved surfaces, the discharge of oil and other toxic compounds deposited on roads, and the release of similar materials when vehicles travel through the flooded roadway.¹⁴

Because flooding of the roadway is reduced to the 100 year storm frequency, toxins deposited on the roadway will be directed into the bridge drainage system and into bioswales when precipitation occurs. They will no longer enter the stream directly when flooding occurs.

Therefore, the Commission finds that the proposed new bridge design minimizes disturbance to wetland ESHA and enhances habitat, and is therefore the least damaging environmental alternative available, consistent with that provision of Section 30233(a).

¹⁰ Biological Opinion, page 18.

¹¹ USFWS Biological Opinion for the State Route 1 Americana Creek Bridge Replacement Project, Marin and Sonoma Counties, California, pg. 18-19, December 1, 2014.

¹² Genaro Doria, Caltrans Dept. of Hydraulics, personal communication, October 20, 2015.

¹³ *Ibid.*, October 20, 2015.

¹⁴ Biological Opinion, page 19.

Mitigation

Lastly, to satisfy the requirements of Coastal Act Section 30233(a), the project must incorporate appropriate mitigation measures. To minimize impacts to the California red-legged frog, a complete list of Avoidance and Minimization Measures must be followed by the Applicant, and these are detailed in **Exhibit 3**.¹⁵ Measures include the presence of biological monitors on-site, pre-construction surveys of vegetation clearance areas, and the restriction of vegetation clearance and grubbing to appropriate time periods, among others. To prevent direct impacts to the Contra Costa Goldfields, silt fences will be erected along the fence line adjacent to the field where the Contra Costa Goldfields were observed, which should prevent the inadvertent encroachment into Contra Costa Goldfields habitat by construction vehicles. Water quality best management practices will prevent dust and sediment from washing into or entering Contra Costa Goldfields habitat and subsequently affecting individual plants. Avoidance and minimization measures to reduce the possibility of take of, or adverse impacts to Myrtle's silverspot butterfly individuals to a less than significant level, are also incorporated into the project. Measures include conducting preconstruction surveys prior to any vegetation removal and removing vegetation outside the time of year when Myrtle's silverspot butterfly adults are active, typically from June 1 through August 31.

The Applicant also proposes to recreate and enhance the existing wetland ditches that will be filled on-site and to restore appropriate native vegetation to all wetland and upland areas where it will be temporarily removed. Permanently impacted areas will be restored on-site at a ratio of 1:1 or greater immediately following construction. In addition, mitigation will occur off-site at a ratio of 3:1 for wetland restoration and 2:1 for areas cleared of riparian vegetation.

The project also requires consistency with the narrower purposes of Section 30233(c), which requires that dredging and fill in wetlands maintain and enhance the functional capacity of the wetlands. As discussed above, this project should ultimately improve the functional capacity of the ecosystem once fully-restored, and improve water quality. Further, because the Estero Americano watershed is one of the 19 Coastal Watersheds identified in the report, *Acquisition Priorities for the Coastal Wetlands of California*. The purposes of dredging and filling under subsection (c) must be limited to "very minor incidental public facilities." As discussed above, the bridge demolition and construction will be temporary actions that will cease upon completion of the new bridge and the bridge replacement does not constitute a permanent roadway expansion. Therefore, the proposed project, as conditioned, is consistent with Section 30233(c).

To ensure consistency with Sections 30233(a) and (c), the Commission requires several special conditions regarding the project components which involve fill in wetlands and open coastal water ESHA. Specifically, **Special Condition 2** requires submission of a Restoration and Monitoring Plan which ensures all impacted wetland areas on-site are properly restored, and even improved from their pre-construction condition, and that a comprehensive mitigation plan be prepared and carried out for all off-site mitigation at the appropriate and agreed upon ratios. This condition further requires that the Restoration and Monitoring Plan include a detailed site

¹⁵ Estero Americano Bridge Replacement Final Initial Study with Negative Declaration, December 2014.

plan of the restoration area, a baseline assessment of the habitat, design and construction methods that would be used to restore the habitat, submission of as-built plans, and that a reporting schedule including annual reports be submitted to the Commission. **Special Condition 3** requires the submittal of a Construction Site Plan that assures construction areas are labeled, construction is timed not to interfere with California red-legged frog breeding season, that BMPs for erosion control and water quality are incorporated, and that a designated construction site coordinator is available to be contacted if there are problems or questions regarding construction. **Special Condition 3** also requires that areas where construction and staging activities occur are minimized and kept out of sensitive habitat, that work be confined to daylight hours to reduce lighting impacts, and that earth moving activities only occur outside of the California red-legged frog breeding season, that construction best management practices as detailed in the CDP be included in construction plans and conspicuously posted at the construction site, and that construction workers are educated in these methods and agree to abide by them, that areas used during construction be restored immediately after construction is completed, and that North Central Coast Commission staff be notified before and after construction begins or ends. **Special Condition 4** requires that a final SWPPP plan is submitted which requires that runoff from the project does not increase sedimentation, pollutants associated with construction do not pollute coastal waters, BMPs are implemented and scheduled to prevent pollution of coastal waters, and that on-site spill prevention and control response program are in place and implemented.

Conclusion

As proposed, and as conditioned by the Commission, the proposed project is consistent with Coastal Act Sections 30233. Appropriate protections are provided to minimize potential adverse environmental effects associated with dredge and fill activities. Given these measures and the project alternatives the Applicant examined, the Commission finds that there is no feasible less environmentally damaging alternative that could also ensure species and habitat protection, maintain public access, maintain and improve water quality, and reduce flooding of the bridge. Moreover, the overall amount of fill impacting the wetlands is small enough to be described as fulfilling an incidental public purpose under section 30233(a) and is found to create only a minor incidental public service facility as allowed by section 30233(c). Therefore, the activity of fill required by the project is consistent with the limited purposes proscribed by this subsection of 30233.

E. STREAM ALTERATION, HAZARDS AND BIOLOGICAL INTEGRITY

Applicable Policies

Coastal Act Section 30236 requires that any alterations of streams or rivers incorporate the best mitigation measures feasible, and be limited to projects that are necessary for water supply, flood control for protection of existing development and public safety, when no other options are feasible, or when the primary function is the improvement of fish and wildlife habitat. Coastal Act Section 30236 states:

Channelizations, dams, or other substantial alterations of rivers and streams shall incorporate the best mitigation measures feasible, and be limited to (1) necessary water supply projects, (2) flood control projects where no other method for protecting existing

structures in the flood plain is feasible and where such protection is necessary for public safety or to protect existing development, or (3) developments where the primary function is the improvement of fish and wildlife habitat.

Coastal Act Section 30253 also addresses the risk of flooding and requires new development to minimize risks to life and property in areas of flood. Coastal Act Section 30253 states:

New development shall do all of the following:

- (a) Minimize risks to life and property in areas of high geologic, flood, and fire hazard.*
- (b) Assure stability and structural integrity, and neither create nor contribute significantly to erosion, geologic instability, or destruction of the site or surrounding area or in any way require the construction of protective devices that would substantially alter natural landforms along bluffs and cliffs.*

Coastal Act Section 30231 requires that the quality of coastal waters and streams be maintained, stating:

The biological productivity and the quality of coastal waters, streams, wetlands, estuaries, and lakes appropriate to maintain optimum populations of marine organisms and for the protection of human health shall be maintained and, where feasible, restored through, among other means, minimizing adverse effects of waste water discharges and entrainment, controlling runoff, preventing depletion of ground water supplies and substantial interference with surface waterflow, encouraging waste water reclamation, maintaining natural vegetation buffer areas that protect riparian habitats, and minimizing alteration of natural streams.

Analysis

The intent of the project is to maintain and enhance public access to and from the coast by replacing a bridge that has outlasted its natural service life, and which floods at an approximately two-year return interval. During flood events, ponding occurs on the bridge, adjacent roadway and surrounding floodplain, preventing access to Highway 1 and diverting vehicles to less direct routes. Coastal Act Section 30253 requires that new development minimize risks to life and property in areas where floods occur. The new bridge is designed to reduce flooding by 100-year storm events by elevating the bridge deck six feet and widening the creek corridor by increasing bridge length from 146 to 266 feet.

Analysis by Caltrans engineers demonstrates that the highest forecasted sea level rise of 66 inches for the year 2100 in Bodega Bay should not impact the tailwater elevation used in the proposed new bridge design model and thus, sea level rise will not affect future flooding of the new bridge. Reduction of flooding of the bridge will ensure its structural integrity into the future. In addition, the particular bridge design has been evaluated by Caltran's hydraulic modeling division to show that the design will not increase flooding in the area of nearby roadways. The area of ponding overall is predicted to increase by 1.5 acres, but these expanded seasonal wetlands will not increase the flooding of Highway 1 or Valley Ford Road as demonstrated in **Exhibit 6**. Because the bridge project should greatly reduce flooding frequency along the bridge and adjacent roadway and will thereby reduce damage to the bridge, as well as

improve the safety of those crossing the bridge, it is consistent with Coastal Act Section 30253(a). It is also consistent with 30253(b) because the replacement bridge enhances the structural integrity of Highway 1 through replacing a degraded structure with one less likely to become degraded through flood events, by virtue of its greater height and longer length. Although erosion may increase temporarily during the construction period when riparian vegetation is removed, restoration with fast-growing species following construction should quickly alleviate this possible impact. Finally, the proposed project increases public safety along this route by widening the bridge deck and approaches, and by creating six-foot shoulders on either side of the roadway

Moreover, although this project is being undertaken to alleviate flood risk, and not with the express purpose of improving habitat for fish and wildlife, it will likely have this effect. By enlarging the opening beneath the bridge, it will facilitate wildlife migration along the stream corridor. In recognition of this benefit, the Coastal Commission agrees with the Applicant that the area liberated within the creek channel by virtue of the increased bridge length and wider abutments (4560 sq. ft. or 0.11 acre) may be counted as part of the total required mitigation. Given the above-listed observations, the Commission finds the proposed project is consistent with Coastal Act Section 30236.

Lastly, this project is also consistent with Coastal Act Section 30231 in that it maintains and enhances the water quality of a coastal creek. In this case, water quality is enhanced in the creek by raising the bridge and bridge approaches. This action should reduce the number of flood events that will spill over the bridge and adjacent roadway from a two-year to a one hundred-year return interval. When flooding of the bridge occurs, all of the accumulated tars, oils, rubbers and other toxic substances deposited by vehicles crossing the bridge become mobilized, and are washed into the creek. Therefore, by reducing the number of flood events that overtop the bridge and roadway, toxic substances will be washed more gradually from the road bed when storms occur, and will pass through the bridge's constructed drainage infrastructure and into bioswales before entering the creek, as conditioned in **Special Condition 4**.

Conclusion

In summary, pursuant to Coastal Act Section 30236, the project is an allowed flood control and stream alteration project and it would avoid and minimize hazards as required by the Coastal Act, including Section 30253. As conditioned, the project would include the best mitigation measures feasible and would restore habitat and protect biological and marine resources, consistent with the Coastal Act, specifically Sections 30236 and 30231.

F. RECREATION AND PUBLIC ACCESS

Coastal Act Section 30210 requires public recreational access is provided consistent with public safety needs and states:

In carrying out the requirement of Section 4 of Article X of the California Constitution, maximum access, which shall be conspicuously posted, and recreational opportunities shall be provided for all the people consistent with public safety needs and the need to protect public rights, rights of private property owners, and natural resource areas from overuse.

Coastal Act Section 30211 requires that development not interfere with the public's ability to access the sea, and states:

Development shall not interfere with the public's right of access to the sea where acquired through use or legislative authorization, including, but not limited to, the use of dry sand and rocky coastal beaches to the first line of terrestrial vegetation.

Coastal Act Section 30252 encourages new development to facilitate alternative transportation by:

(3) providing non-automobile circulation within the development...

There are public access and recreation opportunities in close proximity to the project area; Bodega Bay offers attractions such as Doran Regional Park, the Bodega Dunes Campground, Salmon Creek, and Pinnacle Gulch Trail, as well as the town and the harbor of Bodega Bay and numerous state beaches. Visitors and residents may enjoy, among other activities, boating, birding, hiking, mountain biking, horseback riding, rock climbing, whale watching and fishing.

Highway 1 importantly serves as the primary access route and a critical link to a large stretch of the Pacific coastline in this area north of the San Francisco. Currently, coastal access along this route is adequate for motor vehicles. However, it is inadequate or unsafe for cyclists and pedestrians in the vicinity of the existing bridge, given the lack of a sufficient shoulder on either side of the bridge. Moreover, although the bridge is not currently failing, it is decrepit and has surpassed the end of its intended service life.

The proposed larger replacement bridge would improve public access in this area by widening the structure from a total of 24 feet to 40 feet, and by providing for greatly improved bicycle access by the addition of six-foot shoulders on either side. Although no specific pedestrian access is proposed, safety would improve considerably due to the shoulder inclusion for any pedestrian intending to cross the new bridge. The safety conditions will similarly be greatly improved for cyclists seeking access to the coast via this route. Therefore, the construction of this bridge would increase public access and safety to these important recreational areas of the northern coast consistent with Coastal Act Sections 30210, 30211, and 30252.

As proposed, construction will take place in two phases in order to provide for continuous public access to the coast via Highway 1. The northbound lane construction will occur first while the current bridge is still standing. In the second phase, the existing bridge will be demolished and the southbound lane will be constructed. During this time, public access will shift from the old bridge to the newly-constructed northbound lane. One-way traffic will be maintained through the use of 24-hour signalized one-way traffic control. In the beginning of the second phase of construction, intermittent bridge closure is anticipated, with an estimate of ten days in all if needed. When closures occur, a detour route has been mapped out, with separate detour routes for cyclists and for motor vehicles, which appear in **Exhibit 9**. Two bike detour routes are envisioned, one when approaching the bridge turnoff along Valley Ford Road from the east, and one from the west. A single detour route has been mapped out for motorists. The detour route is expected to add an additional 12 minutes to the transit time for motor vehicles, and is expected to

be minimal for cyclists. Given the provision of continued access for one way traffic and the temporary detour routes during construction closures on Highway 1 in the project vicinity, there would be no significant adverse impacts to vehicle or pedestrian travel and as a result no significant adverse impacts to public access to and along Highway 1. Therefore, this project is consistent with Coastal Act Sections 30210, 30211 and 30252. Moreover, the completed project will enhance public access in the project area and is consistent with the public access and recreation policies of the Coastal Act.

G. VISUAL RESOURCES

Applicable Policies

The scenic and visual qualities of coastal areas are protected under Coastal Act Section 30251. Coastal Act Section 30251 states:

The scenic and visual qualities of coastal areas shall be considered and protected as a resource of public importance. Permitted development shall be sited and designed to protect views to and along the ocean and scenic coastal areas, to minimize the alteration of natural land forms, to be visually compatible with the character of surrounding areas, and, where feasible, to restore and enhance visual quality in visually degraded areas. New development in highly scenic areas such as those designated in the California Coastline Preservation and Recreation Plan prepared by the Department of Parks and Recreation and by local government shall be subordinate to the character of its setting.

Analysis

Competing opinions exist as to what the visual impact of the bridge will be to viewers of the bridge from any of several public locations, and to viewers traversing the bridge. In the Visual Impact Assessment completed by the Applicant, Caltrans engineers concluded that the bridge replacement will improve the aesthetic experience of those traversing the bridge as a result of the added height of the bridge deck (six feet) and the approaches.¹⁶ Although objectively a larger structure, the Applicant states that the visual impact of widening the bridge will be minor to those crossing the bridge, as well as to those viewing the bridge from a distance, due to the anticipated rapid growth of willows and other vegetation to be planted along the bridge margins. Immediately following construction, vegetation will be planted in the recreated wetland roadside ditches and along the creek banks, which will eventually obscure the structure's true size beginning approximately three years post-planting. See **Exhibit 10** for project simulations.

In contrast to this view, some members of the public are concerned that the visual character of the surrounding landscape will be marred by replacement of the current bridge with a considerably larger and higher structure. These members of the public are concerned that the larger bridge will be incompatible with the pastoral rural character of this section of Highway 1. The most prominent land use in this area is agriculture. Homes are relatively few, and commercial structures are absent from this area along the border of Marin and Sonoma counties.

¹⁶ Visual Impact Assessment, Highway 1 Bridge Replacement Estero Americano in Marin and Sonoma Counties at the County Line, California Department of Transportation, October 15, 2014, page 10.

The existing bridge is almost hidden due to its low elevation and overgrowth of surrounding riparian vegetation. Adjacent roadways in Marin and Sonoma Counties are elevated by embankments and have lane widths of 10-11 feet with partially paved and dirt/vegetated shoulders of variable width up to 6 feet. See **Exhibit 8** for photos of the existing bridge, the adjacent roadways and shoulders.

The Applicant justifies the larger structure as needed for flood control and for public safety, especially the safety of cyclists and pedestrians as discussed further in previous sections. The Applicant states that each design element cumulatively requires a larger structure in all dimensions. The greater height of the structure is necessary to reduce flooding frequency along the bridge and roadway. The additional length of the bridge and bridge approaches are dictated by the greater height, without which access to the replacement bridge would be too steep and abrupt. The wider design serves both safety and environmental concerns, and is dictated by the length of the bridge approaches. To prevent a precipitous fall from the roadway edges the new bridge design calls for railings to be installed where roadway edges are steep and roadway embankments are absent. The railed portion of the bridge and abutments are of a length that a cyclist or pedestrian may feel uncomfortably confined, or be unable to escape an impending collision, without an ample shoulder width. It would take an average cyclist approximately 2 minutes to traverse the railed portion of the structure. The Applicant favors a retaining wall design with barriers over a design with longer embankments because it would limit the amount of wetland area impacted by the project. A greater embankment length, which would have possibly reduced the length of adjacent railing and shoulders along the approaches, would have dictated the removal of additional roadside wetland ESHA habitat. Moreover, it is the Applicant's intent to enhance public recreation and access to the coast by including six-foot wide bicycle lanes (originally proposed as eight feet, which is the standard for Caltrans bridges). Marin and Sonoma County cycling groups have contacted Commission staff in support of a design with six foot shoulders.

To further reduce visual impacts and address potential visual resource concerns the Applicant redesigned the bridge approaches on the southern end over the areas of embankment to consist of 4 foot paved shoulders with the additional 2 feet of vegetated shoulder (see **Exhibit 10** for a simulation).

Conclusion

The proposed development has been designed to protect views of a scenic coastal area and minimize alteration of natural landforms. The Commission therefore finds the current design to be visually compatible with the character of the surrounding area and consistent with Coastal Act Section 30251.

H. CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA)

Section 13096 of the California Code of Regulations requires that a specific finding be made in conjunction with coastal development permit applications showing the application to be consistent with all applicable requirements of CEQA. Section 21080.5(d)(2)(A) of CEQA prohibits a proposed development from being approved if there are feasible alternatives or

feasible mitigation measures available which would substantially lessen any significant adverse effect which the activity may have on the environment.

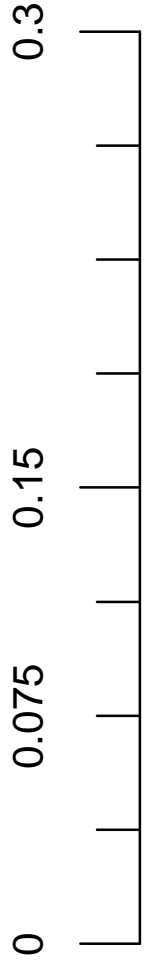
Caltrans is the lead agency responsible for CEQA review. Caltrans approved an Initial Study and Mitigated Negative Declaration for this project on December 1, 2014. The initial study found potential impacts to aesthetics, biological resources, and water quality, but found all impacts, as mitigated, to be less than significant. Mitigation under CEQA includes the restoration of wetlands and plants, along with the replacement of riparian trees and other landscape improvements to mask the presence of the bridge.

The Coastal Commission's review and analysis of land use proposals has been certified by the Secretary of Resources as being the functional equivalent of environmental review under CEQA. The Commission has reviewed the relevant coastal resource issues associated with the proposed project, and has identified appropriate and necessary modifications to address adverse impacts to such coastal resources. The preceding CDP findings in this staff report have discussed the relevant coastal resource issues with the proposal, and the permit conditions identify appropriate mitigations to avoid and/or lessen any potential for adverse impacts to said resources consistent with the requirements of the Coastal Act. All public comments received to date have been addressed in the findings above. All above findings are incorporated herein in their entirety by reference.

The Commission finds that only as modified and conditioned by this permit will the proposed project avoid significant adverse effects on the environment within the meaning of CEQA. As such, there are no additional feasible alternatives or feasible mitigation measures available which would substantially lessen any significant adverse environmental effects that approval of the proposed project, as modified, would have on the environment within the meaning of CEQA. If so modified, the proposed project will not result in any significant environmental effects for which feasible mitigation measures have not been employed consistent with CEQA Section 21080.5(d)(2)(A).

Appendix A – Substantive File Documents

1. State of California, Department of Transportation, 95% Project Plans for Construction of State Highway in Marin and Sonoma County near Valley Ford, July 2015.
2. Estero Americano Bridge Replacement Project, Marin and Sonoma Counties, California, Initial Study with Mitigated Negative Declaration, December 2014.
3. United States Fish and Wildlife Service Biological Opinion for the State Route 1 Americana Creek Bridge Replacement Project, Marin and Sonoma Counties, California, December 2014.
4. California Coastal Commission Wetlands and Streams Delineation Report, Estero Americano Bridge Replacement Project, Marin and Sonoma Counties, California, October 2014.
5. Biological Assessment, Estero Americano Bridge Replacement Project, Caltrans District 04 Marin and Sonoma Counties, California, July 2014.
6. Visual Impact Assessment Highway 1 Bridge Replacement Estero Americano, Marin-Sonoma Route 1, October 2014.



Miles

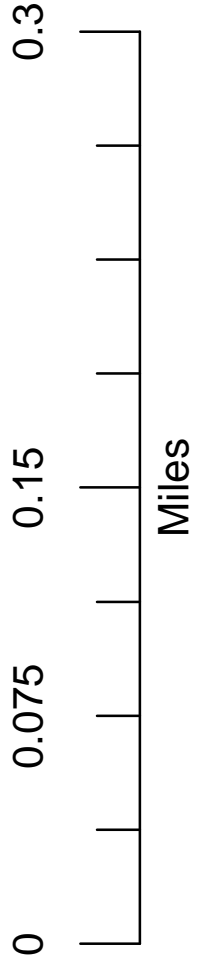
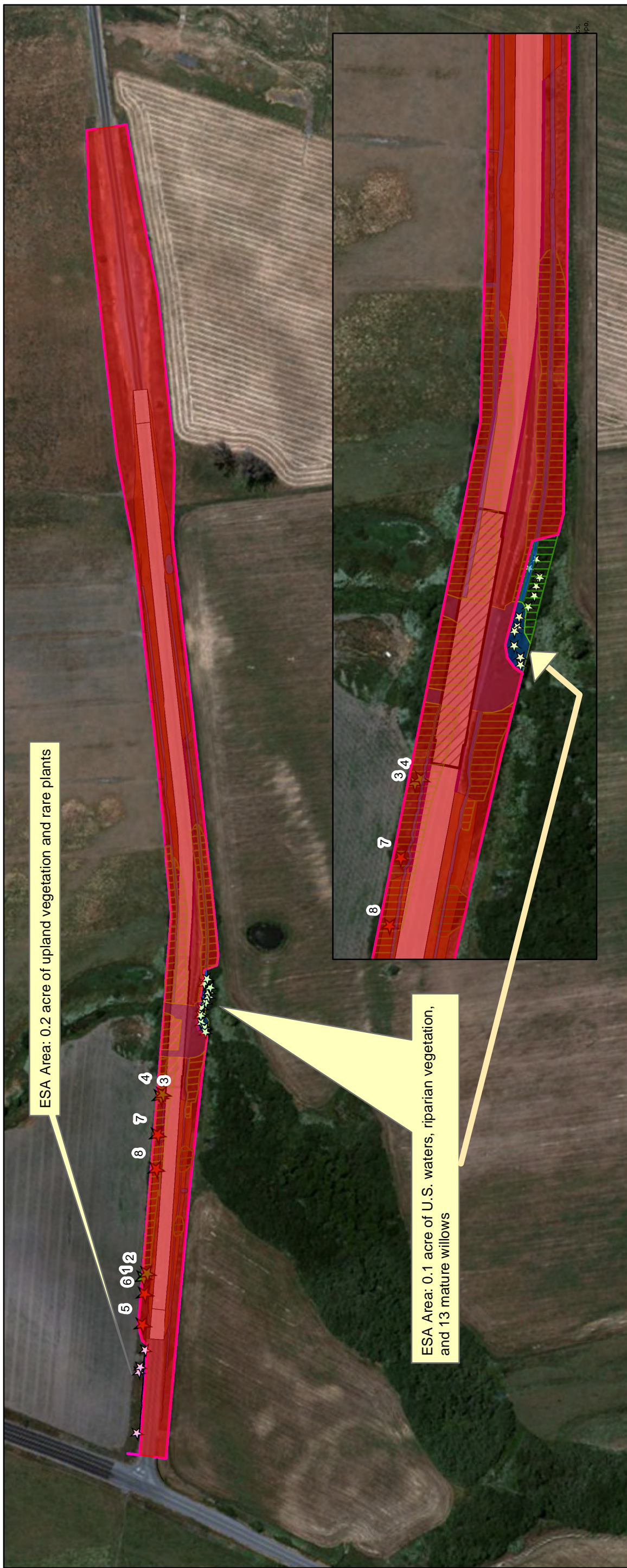


Legend

- ★ Oregon ash
- ★ Klamath hawthorn
- ☆ Mature Red Willows
- ☆ Rare Plants
- Willow Thickets
- U.S. Waters
- Wetlands
- Project Footprint
- Bridge
- State Route 1 Pavement
- Retaining Walls
- Embankment Fill Slope

**FIGURE 4
NATURAL RESOURCES
WITHIN PROJECT FOOTPRINT**

Estero Americano Creek
 Bridge Replacement
 SON-1-PM 0.0/0.1, MRN-1-PM 50.1/50.5,
 EA 04-20950, Project ID 04-1200-0116
 Sonoma and Marin Counties



**FIGURE 5
PROJECT IMPACTS**

- Legend**
- Project Impact Area
 - Mixed willow thicket
 - Bridge
 - Oregon ash
 - U.S. Waters
 - Retaining Walls
 - Klamath hawthorn
 - Wetlands
 - Embankment Fill Slope
 - Mature Red Willows
 - ESA Fence
 - Rare Plants
 - Project Footprint
 - Arroyo willow
 - State Route 1 Pavement

Estero Americano Creek
 Bridge Replacement
 SON-1-PM 0.0/0.1, MRN-1-PM 50.1/50.5,
 EA 04-20950, Project ID 04-1200-0116
 Sonoma and Marin Counties

Appendix G: Avoidance and Minimization Measures

Caltrans has incorporated several avoidance and minimization measures into the proposed project to avoid and minimize the impacts of this project on special-status species, migratory birds, and protected resources that occur in the project area. Special-status species known to occur or with a potential to occur in the project area include the California red-legged frog (CRLF), Myrtle’s silverspot butterfly (MSB), Contra Costa goldfields (CCG), steelhead trout, tricolored blackbird, bats, and migratory birds. Measures taken to minimize the likelihood of take of federally listed species (CRLF, MSB, and CCG) have been identified through consultation with the USFWS pursuant to section 7 of the federal Endangered Species Act. Proposed avoidance measures include conducting construction activities during specific work windows to avoid the time of year when protected species is most active, worker education awareness training, and species surveys of the project area ahead of construction. Caltrans has also developed other measures to avoid impacts to species of special concern as part of the proposed project. The principal measures listed below are not all inclusive and not an iterative list. For example, the final biological opinion contains several, very specific measures that will ultimately be incorporated into the contractor’s bid package but are not listed here. The list below is categorized by species and includes a general overview of the most important and applicable measures. The proposed avoidance and minimization measures are as follows:

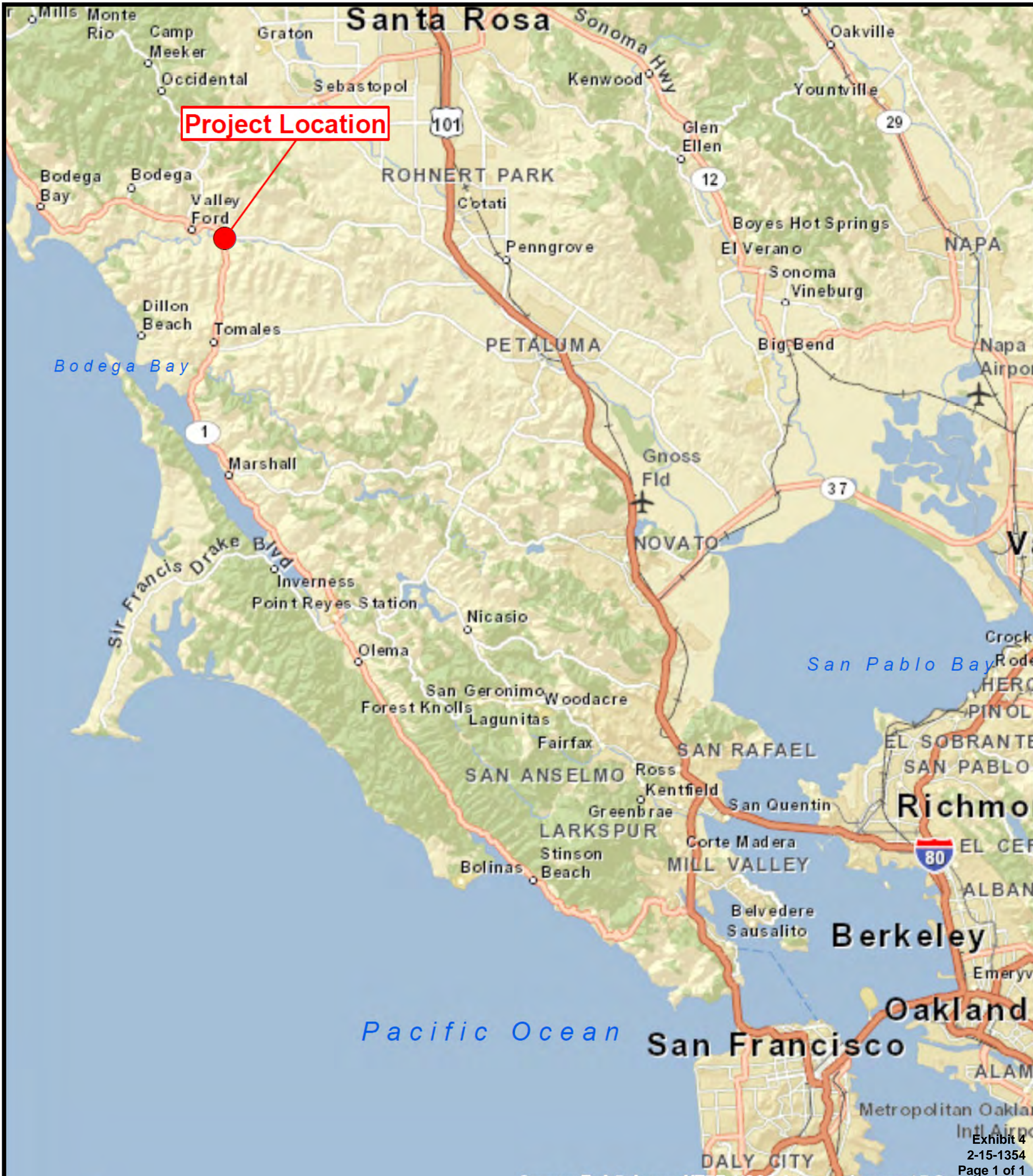
Protected or Regulated Resource	Proposed Avoidance and Minimization Measures
<p>General Avoidance and Minimization Measures</p>	<ol style="list-style-type: none"> 1. Vegetation will be cleared only where necessary; grubbing will be minimized to the maximum extent practicable. Efforts will be taken to minimize impacts to well-established vegetation, particularly within the Americano Creek floodplain where feasible 2. Construction activities will only be conducted between April 15 and November 1 outside the creek. Work in the creek will be limited to when the creek is dry or mostly dry as much as practicable, likely June 1 through November 1. These windows were implemented to avoid working during the time of year when the CRLF is most active and to avoid working in the creek during the wet season when construction activities would have a higher likelihood of impacting areas downstream. 3. Grubbing will only be conducted during the summer dry season and during the time when work is allowed in the creek. 4. Nighttime work will be avoided to the maximum extent practicable. Should nighttime work need to be conducted, all lighting will be directed downwards and towards the construction work taking place. 5. All construction personnel will attend a mandatory environmental education program delivered by a USFWS-approved biologist prior to working on the project site. The program will include an explanation of how to best avoid the incidental take of listed species and how to avoid impacting sensitive areas. The program will include an explanation of applicable federal and state laws protecting endangered species as well as the importance of compliance with Caltrans and various resource agency conditions. 6. Project-related vehicle traffic will be restricted to established roads and construction areas. Access roads will be constructed

Protected or Regulated Resource	Proposed Avoidance and Minimization Measures
	<p>to the minimum amount necessary. Project vehicles will observe a 20-mile-per-hour speed limit while in the action area.</p> <p>7. Dust control measures will be implemented consisting of regular truck watering of construction access areas and disturbed soil areas, including the use of organic soil stabilizers if needed.</p> <p>8. All food-related trash items such as wrappers, cans, bottles, and food scraps will be disposed of in closed containers and removed at least once daily from the project footprint.</p> <p>9. Dedicated fueling and refueling practices will be designated as part of the approved SWPPP. Dedicated fueling areas will be protected from stormwater run-on and will be located at least 50 feet from downslope drainage facilities and water courses. Fueling must be performed on level-grade areas. On-site fueling will only be used when and where it is impractical to send vehicles and equipment off-site for fueling.</p> <p>10. All grindings and asphaltic-concrete waste will be stored within previously disturbed areas absent of habitat and at a minimum of 150 ft from any downstream riparian habitat, aquatic habitat, culvert, or drainage feature.</p> <p>11. Any and all dredge material produced as a result of removing the existing bridge abutments and constructing the new abutments will be fully contained within the project limits and removed offsite.</p> <p>12. All areas that are temporarily affected during construction will be revegetated with an assemblage of native species. The wetland ditches that line the roadway will be reconstructed within the ROW as part of the project. All riparian vegetation removed will be replanted at a 1:1 ratio on site.</p>
<p>California red-legged frog (CRLF)</p>	<p>1. USFWS-approved biological monitors will be present daily during all initial, major vegetation removal and all grubbing activities. Prior to the vegetation clearing and initial ground-disturbing activities, a pre-construction survey will be conducted. Once the project footprint is cleared, there will be daily biological monitoring during the early stages of the project. Monitoring activities and the intensity needed will be determined in coordination with the USFWS throughout the project.</p> <p>2. All USFWS-approved biologists on site will have the authority to halt work through coordination with the Resident Engineer in the event that a California red-legged frog gains access to the project footprint. The Resident Engineer will ensure construction activities remain suspended in any construction area where the biologist has determined that take of CRLF could occur. Work will resume once the animal leaves the site voluntarily, is removed by the biologist(s) to a release site using USFWS-approved handling techniques, or it is determined that the frog is not being harassed by construction activities.</p> <p>3. The boundaries of each active construction area will be delineated with temporary, high-visibility, wildlife exclusion fencing to prevent the</p>

Protected or Regulated Resource	Proposed Avoidance and Minimization Measures
	<p>encroachment of construction personnel and equipment beyond the described construction footprint and to promote exclusion of the CRLF into active work areas. The fencing will be removed only when all construction equipment is removed from the job site, following each construction season.</p> <ol style="list-style-type: none"> 3. All major vegetation removal will be conducted between September 1 and October 15. Vegetation will be cleared only where necessary and grubbing will be minimized to the maximum extent practicable. Grubbing will only be conducted between April 15 and November 1 outside the creek and June 1 and November 1 within the creek. 4. If nighttime work is needed to avoid safety issues or to complete work within the allotted construction season, all lighting will be directed downwards and towards the construction work taking place. 5. Project-related vehicle traffic will be restricted to established roads and construction areas. Access roads will be constructed to the minimum amount necessary. Project vehicles will observe a 20-mile-per-hour speed limit while within the project limits. 6. To prevent the inadvertent entrapment of the California red-legged frog, all excavated, steep-walled holes or trenches more than 1 foot deep will be covered at the close of each working day by plywood or similar materials. If it is not feasible to cover an excavation, one or more escape ramps constructed of earthen fill or wooden planks will be installed. 6. Plastic mono-filament netting (erosion control matting) or similar material will not be used at the project site. Acceptable substitutes include coconut coir matting or tackified hydroseeding compounds. 7. Rodenticides will not be used at the project site. Herbicides will only be used if needed to control noxious weeds. 8. Injured California red-legged frog will be cared for by a USFWS-approved biologist or a licensed veterinarian, if necessary. 9. Caltrans will submit post-construction compliance reports prepared by the USFWS-approved biologist to the USFWS within 60 calendar days following completion of each construction season or within 60 calendar days of any break in construction activity lasting more than 60 calendar days.
<p>Myrtle's silverspot butterfly</p>	<ol style="list-style-type: none"> 1. A USFWS-approved biologist will conduct surveys for foraging Myrtle's silverspot butterfly adults ahead of any major vegetation clearing within the project footprint and at regular intervals until all clearing is completed. 2. Major vegetation removal at the project site will be conducted outside the typical MSB adult flight period.

Protected or Regulated Resource	Proposed Avoidance and Minimization Measures
Bats	<ol style="list-style-type: none"> 1. Nighttime work will be avoided to the maximum extent practicable. If nighttime work must be conducted, all lights will be directed onto the road and active construction areas. 2. Any large snags or trees with large cavities potentially used as roosting sites within the construction impact area will be removed using a two-phased approach to allow any roosting bats to leave on their own volition. This approach involves removing limbs from the tree on the afternoon of the first day and stumping the tree on the following day.
Contra Costa goldfields	<ol style="list-style-type: none"> 1. Wildlife exclusion fencing or silt fencing will be erected at the edge of the project footprint along the edge of the field where CCG have been observed. 2. Water quality and dust control BMPs will be implemented to prevent dust and sediment from washing into or entering Contra Costa goldfields habitat.
Purple-stemmed checkerbloom and Johnny nip	<ol style="list-style-type: none"> 1. Environmentally sensitive area fencing will be erected around the area where purple-stemmed checkerbloom is known to occur. This area lies just north of the northernmost project limits. The fencing will prevent the inadvertent encroachment of construction personnel and vehicles into the area where the species has been observed. 2. Water quality BMPs will prevent dust generated from construction activities from washing into the field where Johnny nip has been observed.
Tri-colored Blackbird	<ol style="list-style-type: none"> 1. Species-specific surveys for the tricolored blackbird will be conducted in 2015 to determine if the species is present at the project site. If so, the measures below will minimize impacts to the species during construction. Additional measures will be identified as necessary. 2. If present, pre-construction surveys for the tricolored blackbird will be conducted ahead of all vegetation removal, grubbing, and ground-disturbing activities (2015-2017). Major vegetation removal will be conducted outside the typical migratory bird nesting season, which will help avoid the tricolored blackbird nesting season. If any nesting birds are present within the vicinity during construction, disturbance to the nesting birds will be avoided by implementing a 50-foot project buffer or the minimum amount necessary to avoid disturbing the species until all birds have fledged. 3. If tricolored blackbird nests are observed within the project footprint, Caltrans will coordinate necessary measures to protect the species with the California Department of Fish and Wildlife. 3. The project footprint will be reseeded with a native seed mix and by replanting all impacted riparian vegetation following construction to restore the area to its pre-project condition. This will replace suitable blackbird habitat lost during construction.

Protected or Regulated Resource	Proposed Avoidance and Minimization Measures
Migratory Birds	<ol style="list-style-type: none"> 1. All initial, vegetation clearing, but not grubbing, will be conducted outside the typical bird nesting season, February 15 to August 31. Major vegetation removal will be conducted between September 1 and October 15. 2. At least five (5) days prior to construction or any vegetation clearing, the project area will be surveyed for migratory birds and their nests, regardless of the time of year. Should any active nest be found, appropriate buffers will be applied. No work will be allowed to occur within 50 feet of nesting passerine birds or 300 feet of nesting raptors. Any nesting migratory birds within or near the project footprint will be regularly monitored for signs of disturbance; work will be avoided in such areas until all birds have fledged.
Salmonids	<ol style="list-style-type: none"> 1. If necessary, a fish relocation plan will be implemented to remove protected steelhead (<i>Oncorhynchus mykiss</i>) away from the project site. This plan will be submitted to CDFW and NMFS for approval prior to project implementation.
Invasive Species	<ol style="list-style-type: none"> 1. Caltrans will implement a non-standard special provision to require the cleaning and decontamination of all equipment brought into the construction area and to require this of any vehicles and equipment used on multiple construction sites.



Project Location

INDEX OF PLANS

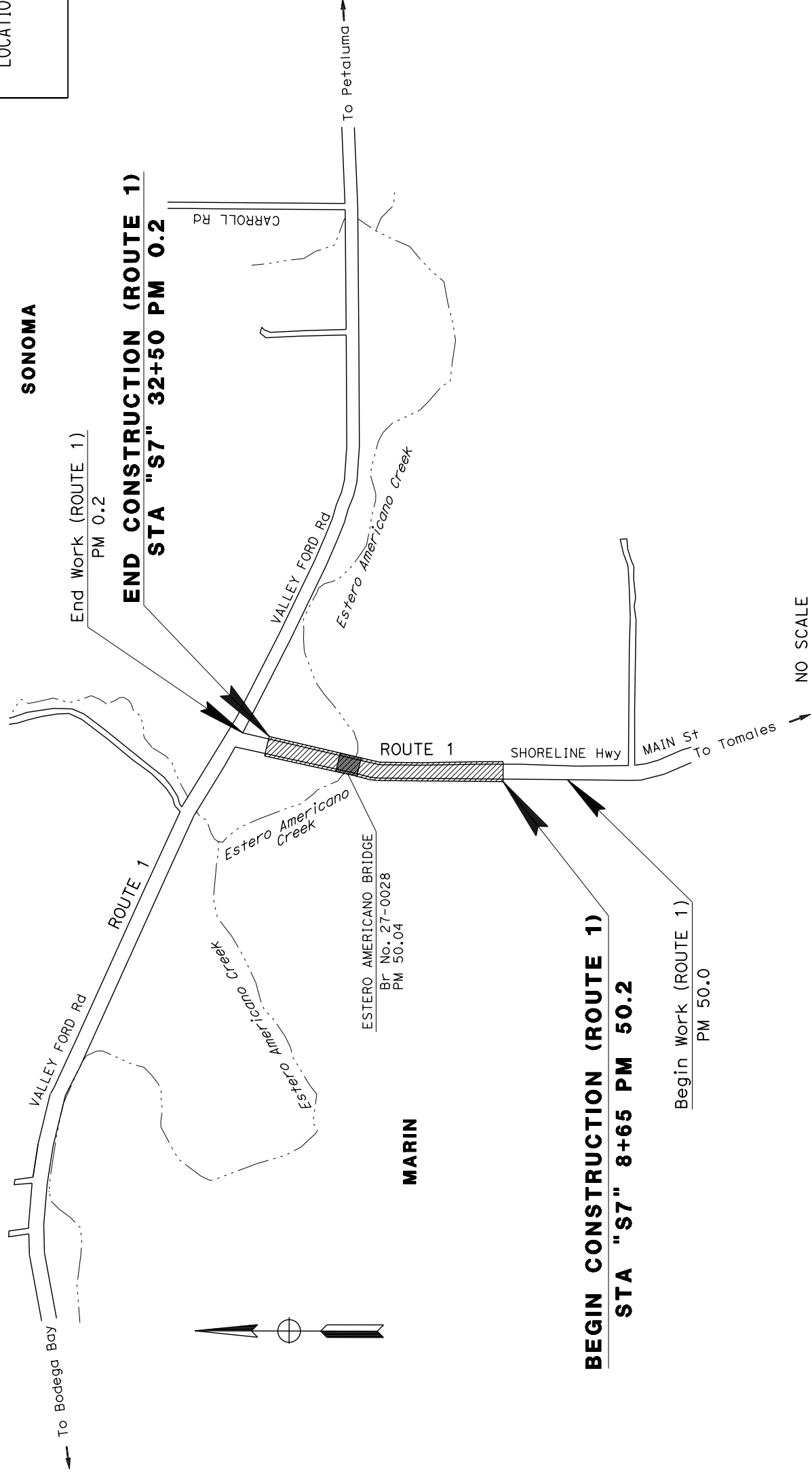
SHEET No.	DESCRIPTION
1	TITLE SHEET AND LOCATION MAP
2	TYPICAL CROSS SECTIONS
3 - 4	LAYOUT
5 - 9	CONSTRUCTION DETAILS
10 - 14	EROSION CONTROL PLANS
15 - 25	DRAINAGE PLAN, PROFILES, DETAILS, QUANTITIES & SUBSURFACE DRAINAGE PLAN
26	UTILITY PLAN
27 - 28	CONSTRUCTION AREA SIGNS
29 - 30	TRAFFIC HANDLING PLAN AND QUANTITIES
31 - 33	PAVEMENT DELINEATION PLANS, AND QUANTITIES
34 - 36	SIGN PLAN, DETAILS AND QUANTITIES
37 - 38	SUMMARY OF QUANTITIES
39 - 41	ELECTRICAL PLANS AND DETAILS
42 - XX	REVISED STANDARD PLANS
XX - XX	STRUCTURE PLANS

THE STANDARD PLANS LIST APPLICABLE TO THIS CONTRACT IS INCLUDED IN THE NOTICE TO BIDDERS AND SPECIAL PROVISIONS BOOK.

**STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
PROJECT PLANS FOR CONSTRUCTION ON
STATE HIGHWAY**

**IN MARIN AND SONOMA COUNTY
NEAR VALLEY FORD
FROM 0.4 MILE SOUTH OF ESTERO AMERICANO BRIDGE
TO 0.2 MILE NORTH OF ESTERO AMERICANO BRIDGE**

TO BE SUPPLEMENTED BY STANDARD PLANS DATED 2010



NO SCALE

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	Mtn, Son	1	50.1/50.5, 0.0/0.2	1	XX



LOCATION MAP



DESIGN MANAGER HILLAL HAMDAN	PROJECT MANAGER WAJAHAT NYAZ
---------------------------------	---------------------------------

THE CONTRACTOR SHALL POSSESS THE CLASS (OR CLASSES) OF LICENSE AS SPECIFIED IN THE "NOTICE TO BIDDERS."

BORDER LAST REVISED 10/4/2013 CALTRANS WEB SITE IS: [HTTP://WWW.DOT.CA.GOV/](http://www.dot.ca.gov/)

RELATIVE BORDER SCALE 0 1 2 3 IS IN INCHES

USERNAME => s127688
DGN FILE => 0412000116.dgn

UNIT 0752 PROJECT NUMBER & PHASE 04120001161

CONTRACT No.	04-209501
PROJECT ID	0412000116

PROJECT ENGINEER REGISTERED CIVIL ENGINEER DATE _____

PLANS APPROVAL DATE _____

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

DESIGN	HILLAL HAMDAN	DESIGNED BY	VIENT HAN	REVISOR	A
	FUNCTIONAL SUPERVISOR	CHECKED BY	HILLAL HAMDAN	DATE REVISED	A

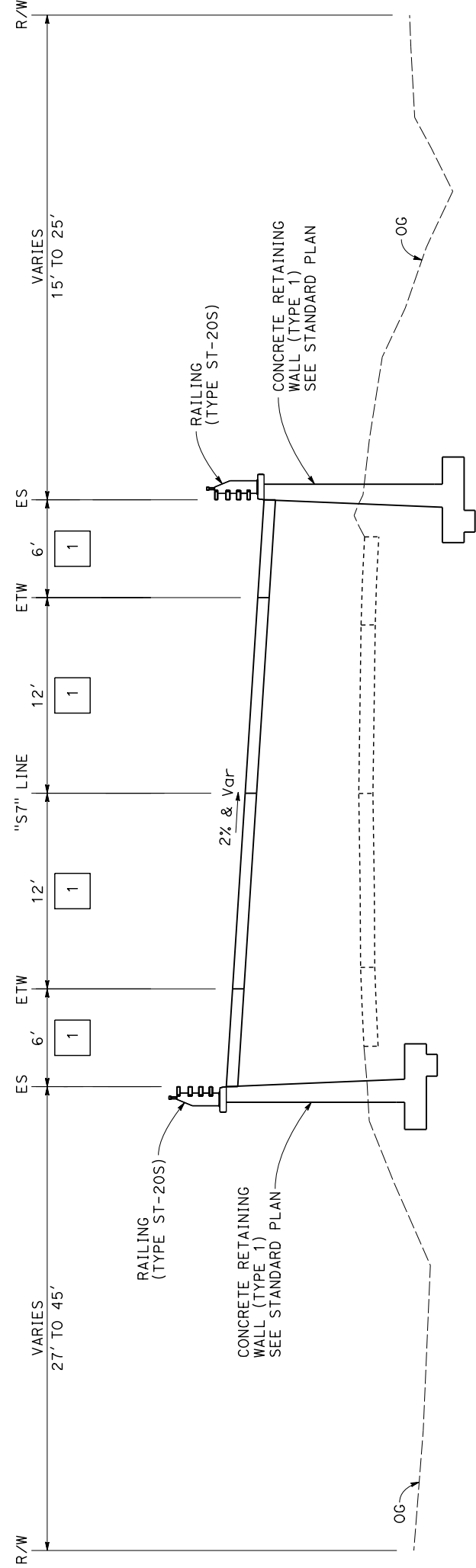


FOR NOTES, ABBREVIATIONS
AND LEGEND, SEE SHEET X-1

TYPICAL CROSS SECTIONS

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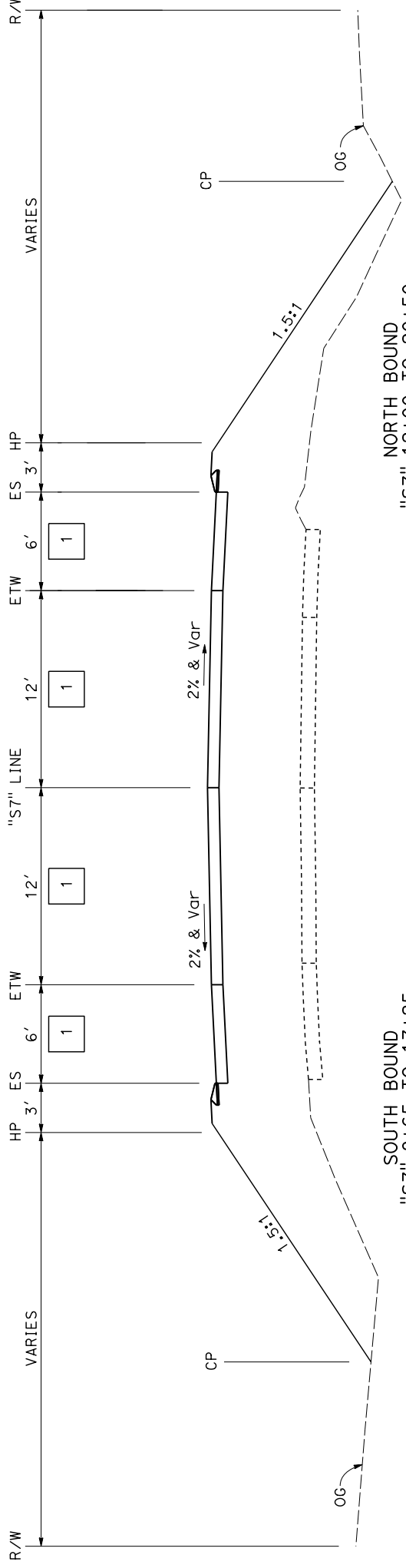
X-2



SOUTH BOUND
"S7" 17+25 TO 23+24.9
"S7" 25+90.9 TO 27+00

ROUTE 1

NORTH BOUND
"S7" 20+50 TO 23+24.9
"S7" 25+90.9 TO 27+75



SOUTH BOUND
"S7" 8+65 TO 17+25

ROUTE 1

NORTH BOUND
"S7" 12+00 TO 20+50

CP

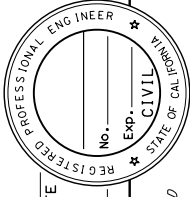
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1.5:1

OG

OG

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET TOTAL NO. SHEETS
04	MFD, SON	1	50.1/50.5, 0.0/0.2	A A



REGISTERED CIVIL ENGINEER DATE
PLANS APPROVAL DATE
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OR AGENTS SHALL NOT BE RESPONSIBLE FOR
THE ACCURACY OR COMPLETENESS OF SCANNED
COPIES OF THIS PLAN SHEET.

NOTE:

FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.

"COORDINATE VALUES SHOWN ARE CCS -83- ZONE -3- " .

LEGEND:

- No. STRUCTURAL SECTION NUMBER
- REMOVE AC SURFACING
- ROADWAY EXCAVATION
- CURVE DATA NUMBER

NOTES:

1. FOR DIKE TRANSITIONS SEE CONSTRUCTION DETAILS.
2. LOCATIONS OF UTILITY FACILITIES SHOWN ON THESE PLANS ARE APPROXIMATE AND SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION.

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET TOTAL No. SHEETS
04	MFD, Son	1	50.1/50.5, 0.0/0.2	A A

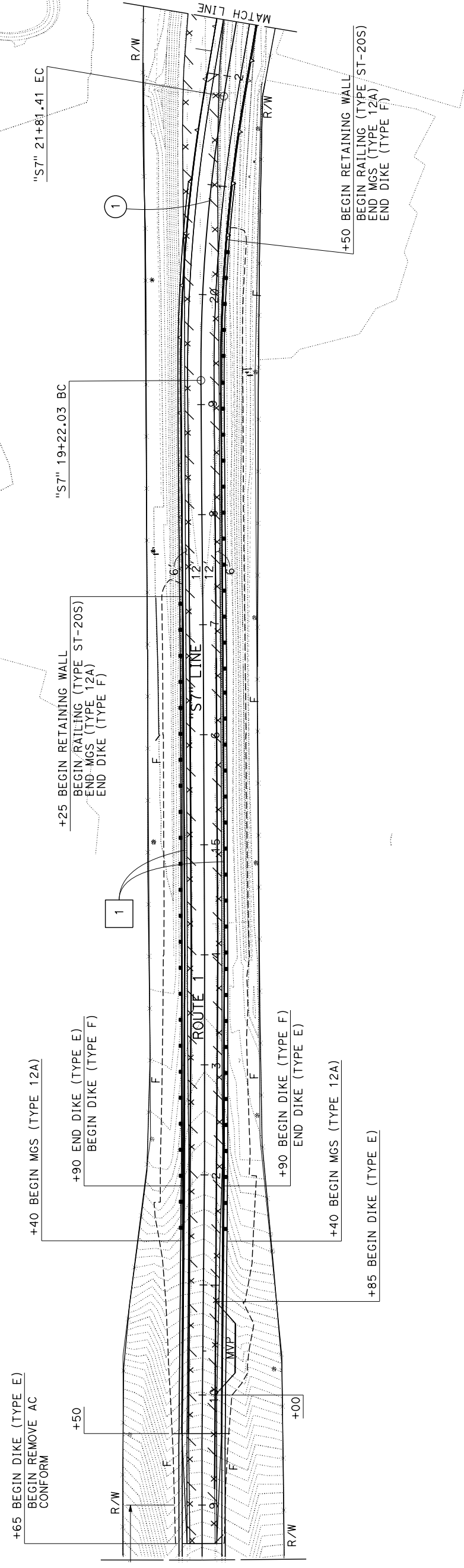
REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

REGISTERED PROFESSIONAL ENGINEER

No. Exp. CIVIL



CURVE DATA

No.	R	Δ	T	L	N-COORDINATE	E-COORDINATE
1	1500'	09° 54' 27"	130.01'	259.37'	2308893.770	5875307.071

LAYOUT
SCALE: 1" = 50'

L-1

DESIGNED BY	VLET HAN	DATE REVISED	A
CHECKED BY	HILLAL HAMDAN	DATE REVISED	A
FUNCTIONAL SUPERVISOR	HILLAL HAMDAN		

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

DESIGN

Exhibit 5

2-15-1354

Page 3 of 5

NOTE:

FOR ACCURATE RIGHT OF WAY DATA, CONTACT
RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.

DESIGNED BY VIET HAN	DESIGNED BY HILLAL HAMDAN
REVISOR A	REVISOR A
DATE REVISOR	DATE REVISOR

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
DESIGN
 HILLAL HAMDAN
 FUNCTIONAL SUPERVISOR

CURVE DATA

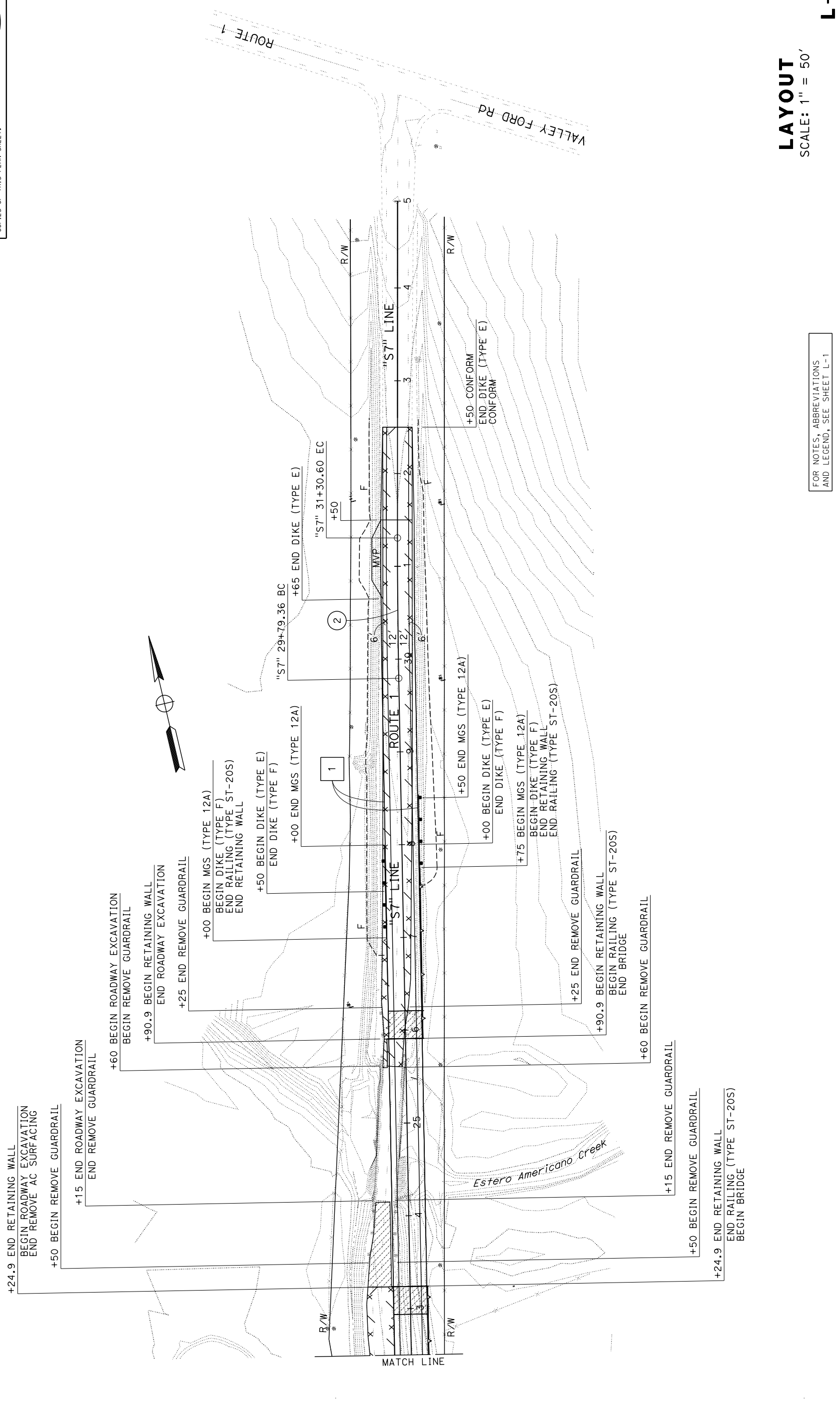
No. @	R	Δ	T	L	N-COORDINATE	E-COORDINATE
2	8000'	01° 04' 59"	75.62'	151.22'	2308335.289	5881832.010

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET TOTAL NO. SHEETS
04	MFD, Son	1	50.1/50.5, 0.0/0.2	A A

REGISTERED CIVIL ENGINEER DATE _____

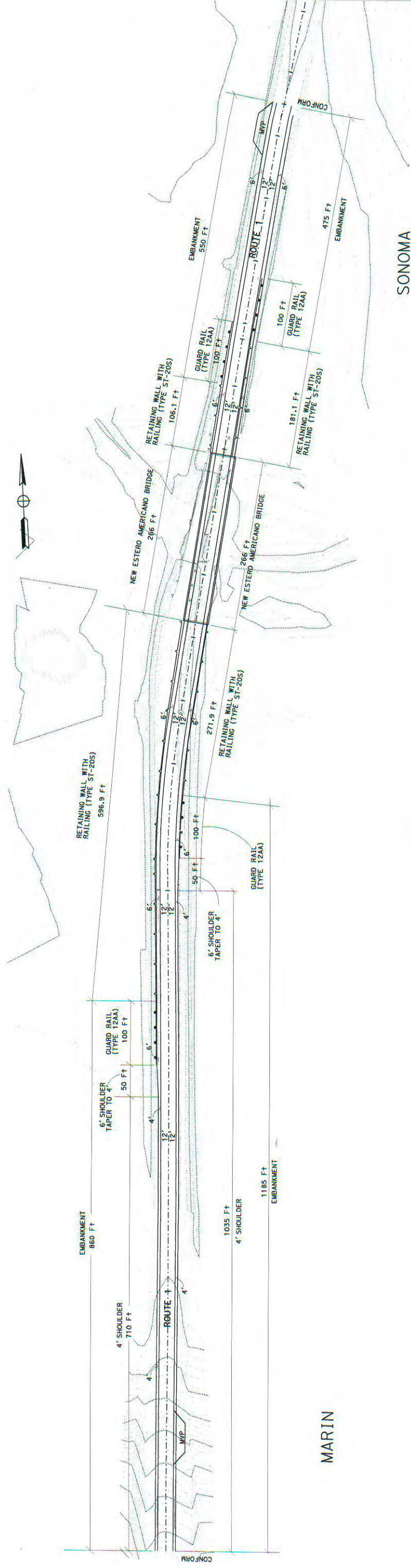
PLANS APPROVAL DATE _____

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COPIES OF THIS PLAN SHEET.



FOR NOTES, ABBREVIATIONS
AND LEGEND, SEE SHEET L-1

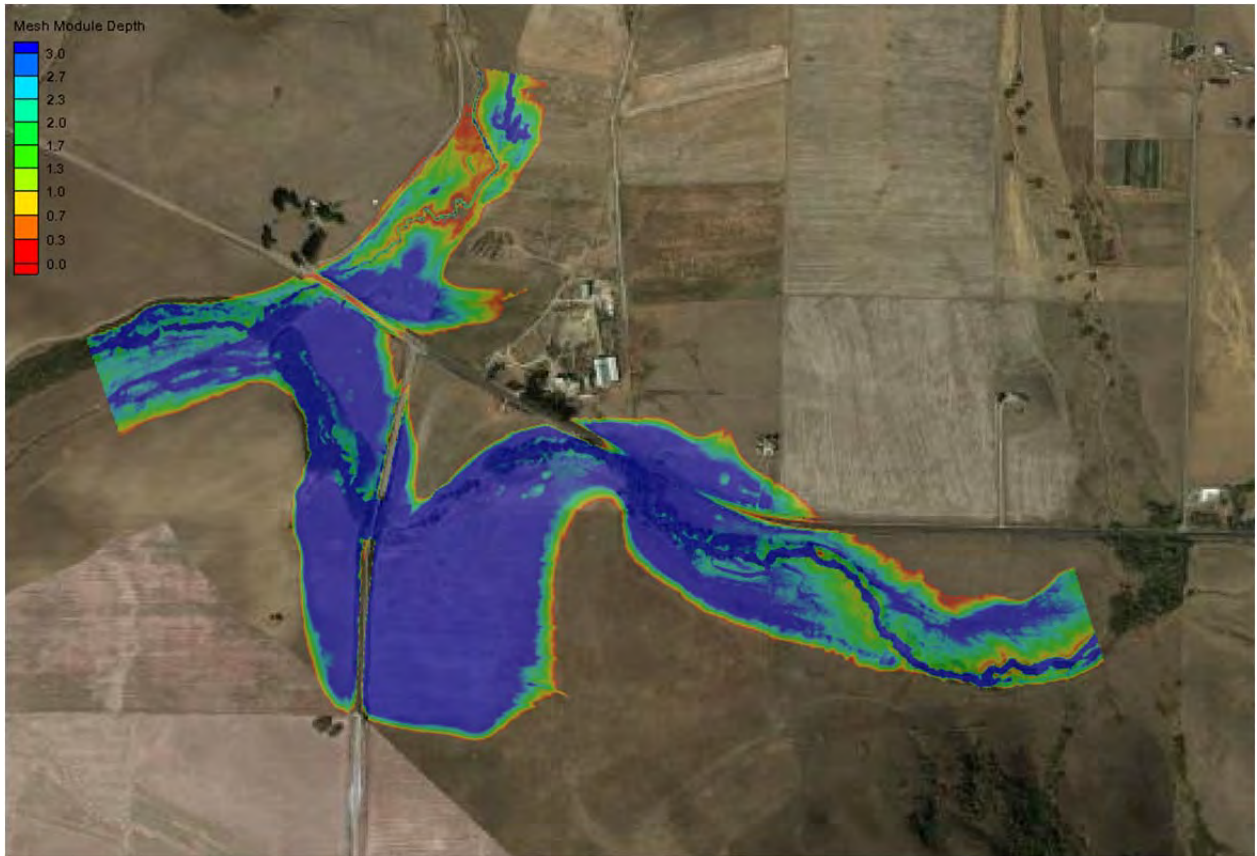
ESTERO AMERICANO BRIDGE PROJECT



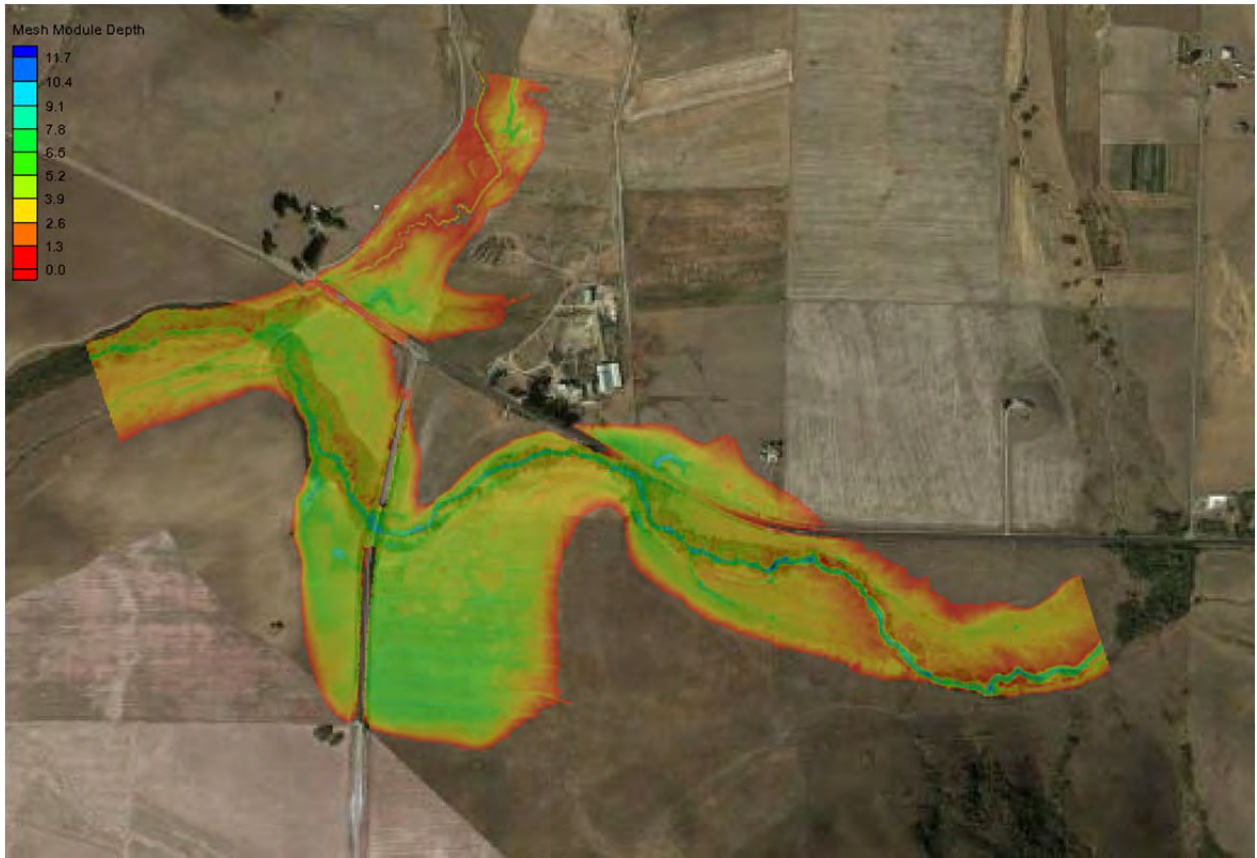
LAYOUT

SONOMA

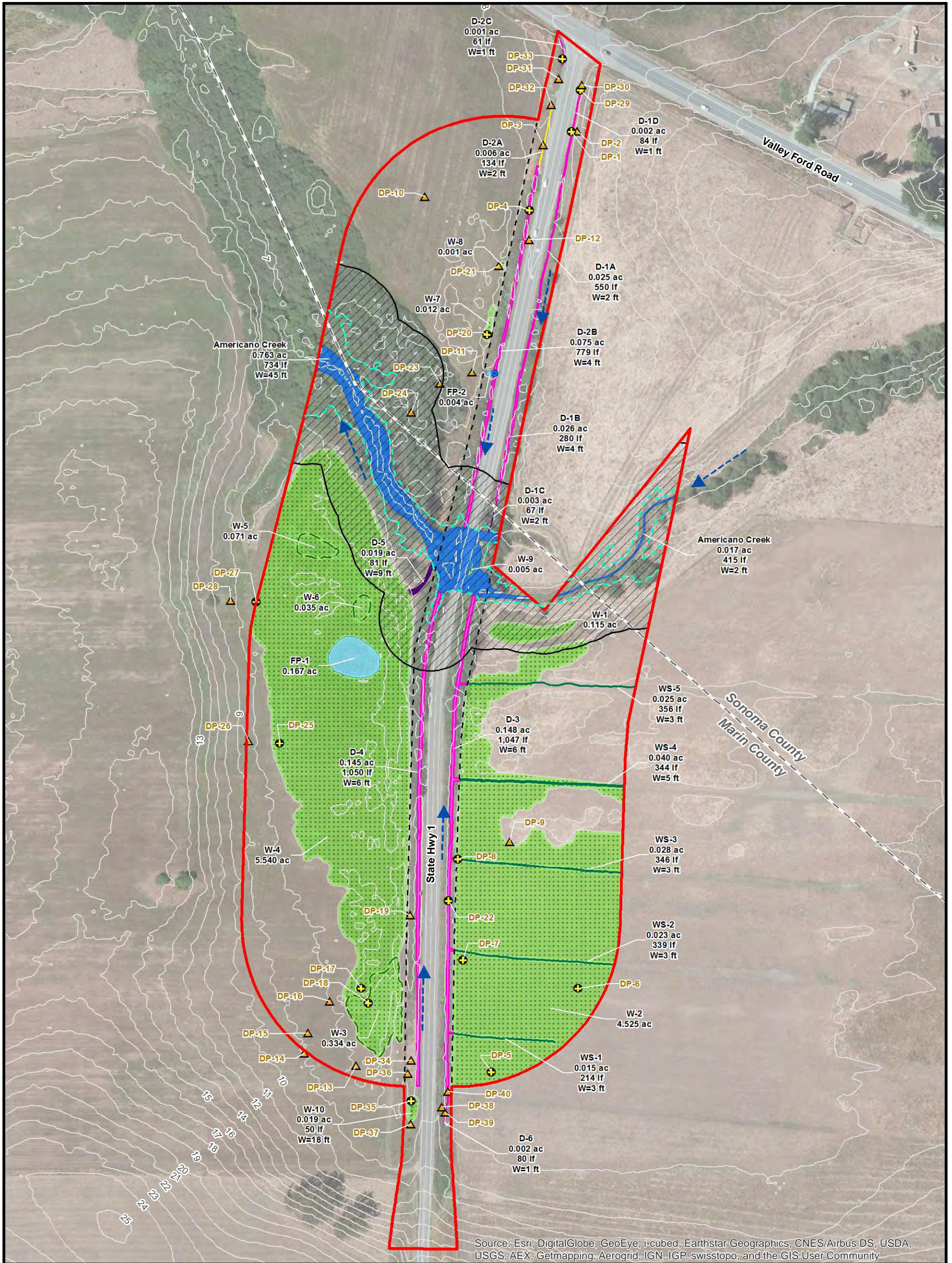
MARIN



Flooding from Q100 Storm before Bridge Project

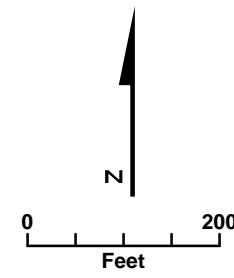


Flooding from Q100 Storm after Bridge Project



LEGEND

- ▭ CCC Verification Boundary (30.96 Acres)
- ROW
- ⬇ 1 foot Contours from USGS
- ⊗ Culvert
- ▲ Upland Survey Point
- ▲ Wetland Survey Point
- ➔ Flow Direction
- ⬇ Top of Bank
- 100 feet from top of bank (6.65 acres)
- ⬇ Potential Jurisdictional Wetland Ditch (0.42 acre, 3,931 lf)
- ⬇ Potential Jurisdictional Stream (0.74 acre, 1,149 lf)
- ⬇ Freshwater Pond (0.17 acre)
- ⬇ Non-Jurisdictional Roadside Drainage Ditch (0.006 acre, 134 lf)
- ⬇ Potential Jurisdictional Excavated Ditch / Trench (0.022 acre, 148 lf)
- ⬇ Potential Jurisdictional Wetland (10.66 acres)
- ⬇ Potential Jurisdictional Wetland Swale (0.13 acre, 1,599 lf)



Note:
contours generated from National Elevation Dataset (NED) 1/9 Arc Second

**FIGURE 3-1
POTENTIAL JURISDICTIONAL CCC
WETLANDS AND STREAMS**
CCC Wetlands and Streams Delineation Report
Estero Americano Bridge Replacement Project
SR 1
PM 50.1 to 50.5 MRN/0.0 to 0.2 SON, EA 20950
Marin and Sonoma Counties, California



View of Bridge and Bridge Shoulder, Facing North



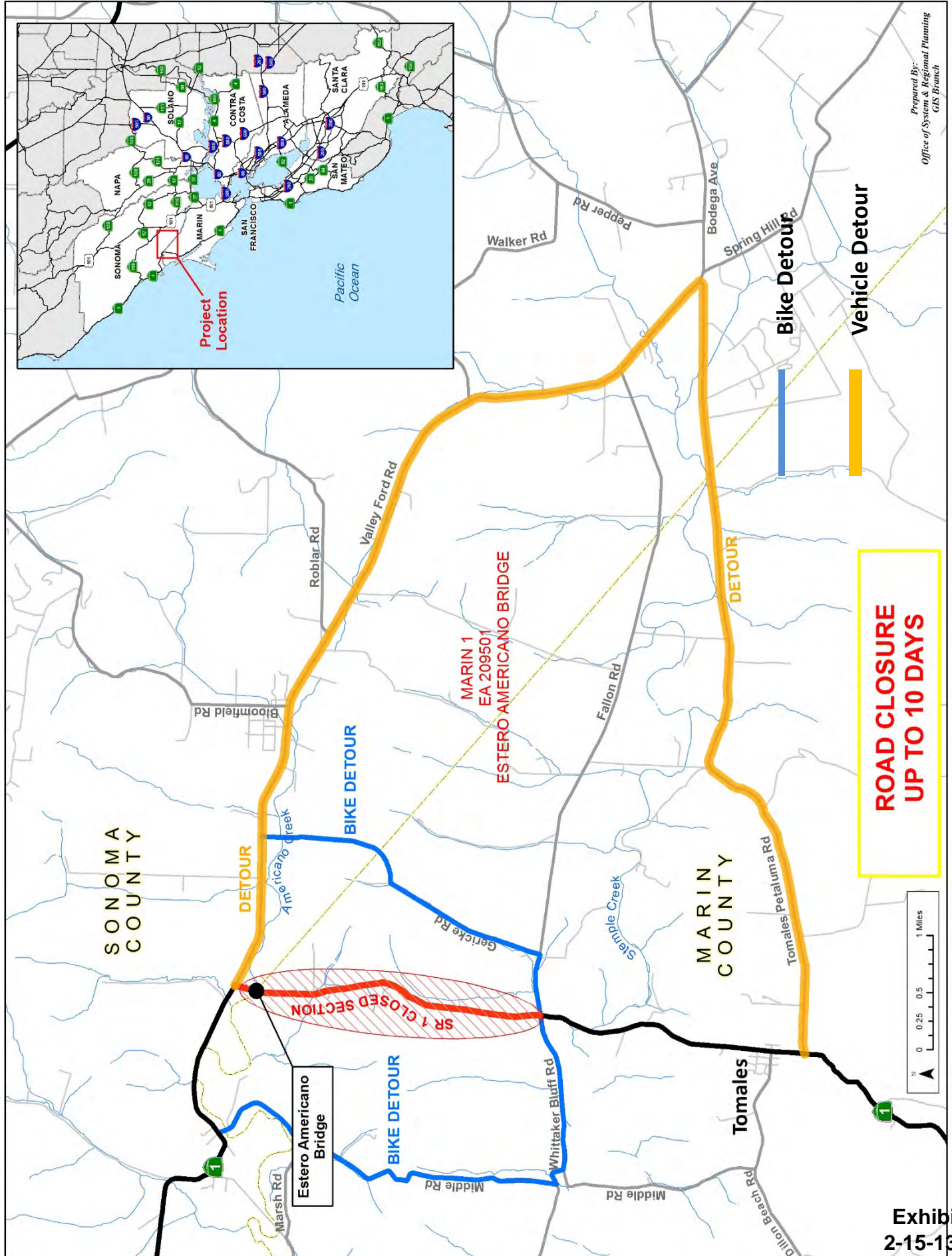
View of Bridge Shoulder with Cyclist, Facing North



View of Roadway Shoulder and Embankment, Facing South, Just Beyond the Bridge



View of Bridge Shoulder and Roadway Embankment, Facing South



**ROAD CLOSURE
UP TO 10 DAYS**



Visualization of Bridge a Few Years Post-Construction



Visualization of Bridge 3 Years Post-Construction

