Dover Canyon Road at Jack Creek
Bridge Replacement Project - NES

Natural Environment Study

Dover Canyon Road, Paso Robles, San Luis Obispo County

Bridge Replacement Project

Existing Bridge Number 49C-0037

Federal Project Number BRLO-5949(152)

October 2020

Caltrans
CALIFORNIA DEPARTMENT OF TRANSPORTATION

Natural Environment Study

STATE OF CALIFORNIA
Department of Transportation
and
County of San Luis Obispo Department of Public Works

Prepared By: _____ Date: 10-21-2020
Lauren Brown, Senior Biologist
(805) 543-7095
1422 Monterey Street, San Luis Obispo, CA 93401
SWCA Environmental Consultants

Prepared By: _____ Date: 11/9/20
Keith Miller, Environmental Division Manager
805-781-5714
976 Osos Street, Room 206, San Luis Obispo, CA 93408
County of San Luis Obispo Department of Public Works

Recommended for Approval By: _____ Date: 11-24-20
Barrett Holland, District Biologist
(805) 835-6605
Environmental Stewardship Branch
Caltrans District 5

Approved By: _____ Date: 11/24/2020
Randy LaVack, Senior Environmental Planner
(805) 594-3182
Environmental Stewardship Branch
Caltrans District 5

For individuals with sensory disabilities, this document is available in Braille, large print, on audiocassette, or computer disk. To obtain a copy in one of these alternate formats, please call or write to Caltrans, Attn: Randy LaVack, District 5, 50 South Higuera Street, San Luis Obispo, CA 93401; (805) 549-3182 Voice, or use the California Relay Service TTY number, (800) 735-2929.

Summary

The County of San Luis Obispo Public Works Department (County) is proposing to replace the existing bridge on Dover Canyon Road at Jack Creek (Bridge No. 49C-0037) just south of the confluence of east-west trending Jack Creek and north-south trending Summit Creek. The proposed project will replace the existing bridge (classified as structurally deficient) with a new concrete, two-lane bridge that will carry emergency vehicles, including fully-loaded fire trucks, and improve access to the public and properties served by Dover Canyon Road. The project is a safety improvement project, funded in part by the Federal Highway Administration (FHWA) through the California Department of Transportation's (Caltrans) Highway Bridge Program (HBP).

The Dover Canyon Road at Jack Creek Bridge Replacement Project (project) study area is located where Dover Canyon Road crosses Jack Creek in rural Paso Robles, San Luis Obispo County, California. The bridge replacement is located along Dover Canyon Road in a rural environment, with the primary land uses being open space and rural residential estates.

Vegetative communities present within the Biological Study Area (BSA) include valley oak woodland, annual brome grassland, arroyo willow thicket, stream channel, and developed habitat. Jack Creek is a jurisdictional feature within the BSA regulated by the U.S. Army Corps of Engineers (USACE), California Department of Fish and Wildlife (CDFW), and Regional Water Quality Control Board (RWQCB).

Based on a 5-mile search radius using the California Natural Diversity Database (CNDDB), and official species lists from the U.S. Fish and Wildlife Service (USFWS) and the National Oceanic and Atmospheric Administration National Marine Fisheries Service (NMFS), a total of 11 special-status plant species, 16 special-status animal species, and three sensitive habitats were evaluated for potential to occur within the BSA.

Of the species that were considered, two special-status plant species, eight special-status wildlife species, and two special-status wildlife groups were determined to have potential to occur in the BSA. These species include:

- mesa horkelia
- Oregon meconella
- South-Central California Coast steelhead Distinct Population Segment
- California red-legged frog
- Coast Range newt
- lesser slender salamander
- western pond turtle
- least Bell's vireo
- southwestern willow flycatcher
- Townsends big-eared bat
- nesting migratory birds
- roosting bats

One federally designated critical habitat overlays the BSA. Critical habitat within the BSA is designated for South-Central California Coast steelhead (*Oncorhynchus mykiss irideus*) Distinct Population Segment. Valley oak woodland, mapped within the BSA, is considered a natural community of concern by CDFW.

Botanical surveys were conducted for the special-status plant species listed above during the flowering season (May 2016) to determine presence/absence of special-status plant species. Suitable habitat is present for mesa horkelia (*Horkelia cuneata* ssp. *puberula)* and Oregon meconella (*Meconella oregana*), both California Rare Plant Rank (CRPR) 1B.1 species. Neither mesa horkelia or Oregon meconella was observed or are expected to occur within the BSA.

Suitable habitat is present for eight special-status wildlife species listed above; however, no special-status wildlife species were observed in the BSA during the field surveys. Regardless of the absence of special-status wildlife species during the surveys, the presence of special-status wildlife cannot be dismissed due to the mobility of wildlife in general. Of note, the BSA supports suitable habitat for South-Central California Coast steelhead (federally threatened) and California red-legged frog (*Rana draytonii*; federally threatened). The County infers the presence of these species based on the critical habitat designation and existing habitat conditions in Jack Creek. A Biological Opinion from NMFS has been obtained for adverse effects to steelhead and federally designated critical habitat for steelhead, whereas a Biological Opinion has been obtained from USFWS for adverse effects to California red-legged frog. The USFWS Biological Opinion is also expected to concur with anticipated Endangered Species Act Section 7 determinations for least Bell's vireo and southwestern willow flycatcher.

The project will impact a total of 2.85 acres (0.11 acre permanent and 2.74 acres temporary impacts; a summary of habitat impacts is provided in the table below. The project will also require the removal of up to 28 native trees.

Estimated Impacts to Habitat and Natural Communities of Concern

Habitat	Total Acres within BSA	Estimated Impacts (Acres)	
		Permanent	Temporary
Annual Brome Grassland	2.12	0.02	2.05
Valley Oak Woodland	0.55	0.01	0.34
Arroyo Willow Thicket	0.30	0.04	0.21
Stream Channel[1] (includes Steelhead Critical Habitat)	0.13	0.00	0.12
Developed (paved)	0.72	0.04	0.02
Total	**3.82**	**0.11**	**2.74**

[1] Delineated by Ordinary High Water Mark (OHWM).

With regards to permits and agreements that would be required for this project, it is anticipated that the following would be necessary:

- Section 7 Biological Opinion from USFWS and NMFS;
- Clean Water Act Section 404 Permit from USACE;
- Lake and Streambed Alteration Agreement from CDFW; and
- Section 401 Water Quality Certification from RWQCB.

Lastly, a total of 17 invasive plant species as identified by the California Invasive Plant Council (Cal-IPC) Inventory were observed within the BSA. Himalayan blackberry (*Rubus armeniacus*) was the only non-native plant species with a Cal-IPC category rating of High observed in the BSA. Eight plant species were observed with a Cal-IPC category rating of Moderate, and eight species were observed with a category rating of Limited. Avoidance and minimization measures have been included to address this issue. Non-native vegetation will be removed in accordance with Executive Order 13112 (Invasive Species) and in accordance with the *Programmatic Biological Opinion for Projects Funded or Approved under the Federal Highway Administration's Federal Aid Program* (USFWS 2011). However, due to the presence of invasive species near open water habitat, herbicides may need to be utilized within 60 feet of these open water surfaces in order to effectively remove invasive species that are particularly difficult to remove by hand. Herbicides would not be the primary method of removal, as feasible. Therefore, given the site conditions and species present, Caltrans has removed Measure 18.f from the Programmatic Biological Opinion, which precludes use of herbicides within 60 feet of open water surfaces.

This page intentionally left blank.

Table of Contents

Chapter 1 - Introduction

The purpose of this Natural Environment Study (NES) is to provide biological technical information regarding the existing environment and how the County of San Luis Obispo Department of Public Works' (County) proposed Dover Canyon Road at Jack Creek Bridge Replacement Project (project) affects that environment, including special-status biological resources. This NES is prepared to satisfy the requirements of the National Environmental Policy Act (NEPA) and California Environmental Quality Act (CEQA) processes, with Federal Highway Administration (FHWA) and California Department of Transportation (Caltrans) regulation, policies, and guidance. The environmental review, consultation, and any other actions required by applicable federal environmental laws for this project are being, or have been, carried out by Caltrans pursuant to United States Code Title 23, Section 327 and the Memorandum of Understanding dated December 23, 2016, and executed by FHWA and Caltrans.

Project History

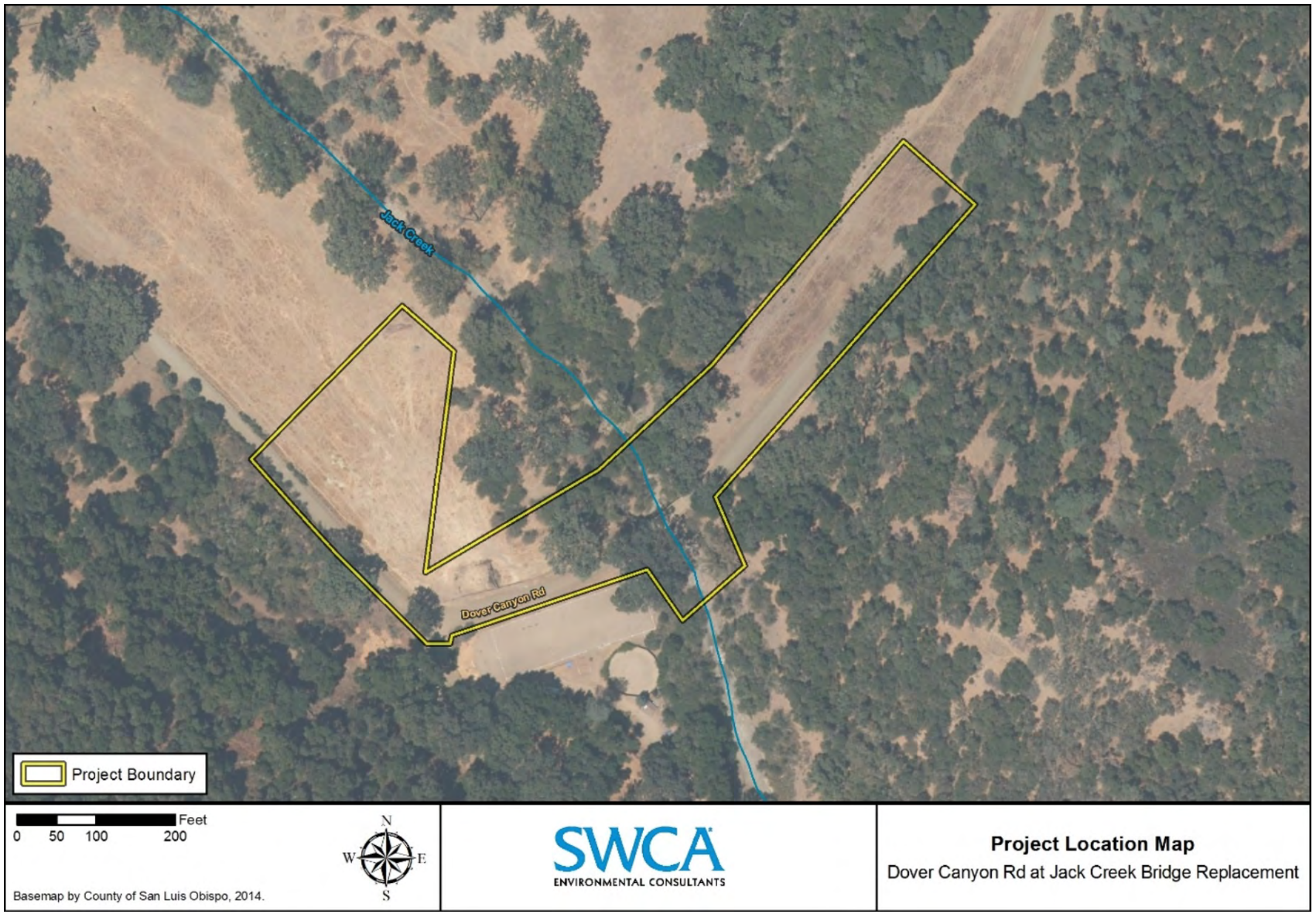
The purpose of this project is to replace a 95-year-old, single-lane bridge (Bridge No. 49C-0037) where Dover Canyon Road crosses Jack Creek near rural Paso Robles, San Luis Obispo County, California (Figure 1). The bridge is located just south of the confluence of east-west trending Jack Creek and north-south trending Summit Creek (Figure 2). The project area appears on the U.S. Geological Survey (USGS) York Mountain, California 7.5-minute topographic quadrangle in Township 27 South, Range 11 East, Section 18. The immediate project area is sparsely populated. The bridge and approach roadway are located entirely within the boundaries of one parcel (Assessor's Parcel Number 014-211-001). The single-family residence associated with the parcel is located approximately 1,000 feet from the bridge. Adjacent properties are zoned rural agricultural and are part of the Adelaida Sub Area of the North County Planning Area. The surrounding terrain is generally mountainous oak woodland, typical of the Santa Lucia Mountain Range.

Dover Canyon Road is a low-volume, low-speed, two-way, local road. Constructed in 1920, the bridge is classified as structurally deficient by Caltrans. The bridge will be replaced with a new concrete, two-lane bridge that will carry emergency vehicles, including fully loaded fire trucks, and improve access to the public and properties served by Dover Canyon Road. The existing bridge is "posted" for only a little more than half the State's "legal" loads. The project is a safety improvement project, funded in part by the FHWA and administered by Caltrans under the federal Highway Bridge Program (HBP).

Figure 1: Project Vicinity Map

Path: G:\Projects\38000\P38997_Dover_Canyon_Rd_at_Jack_Crk_Bridge_Replacement_County_of_SLO\P38997_Dover_Canyon_Rd_NES_ProjectVicinity.mxd

Figure 2: Project Location Map



Project Description

The roadway geometric design is based on AASHTO (American Association of State Highway and Transportation Officials) *A Policy on Geometric Design of Highways and Streets*, supplemented by the Caltrans Highway Design Manual and San Luis Obispo County standards as determined applicable. The bridge design is based on AASHTO Load and Resistance Factor Design Specifications with the Caltrans Amendments. The bridge seismic design is based on Caltrans' Seismic Design Criteria. The bridge design also utilizes Caltrans' Memo to Designers and Bridge Design Aids. The project plans are included in Appendix A.

The existing bridge is a single-span, simply-supported, steel Warren pony truss with steel floor beams and a timber deck. The existing structure is founded on concrete spread footing abutments and is 63 feet long by 16 feet wide, with a clear width of 15.75 feet between the bridge rails. The new bridge is proposed to be a single-span, precast prestressed concrete slab unit bridge slightly longer than the existing bridge. The replacement structure will be approximately 79 feet long, allowing it to clear Jack Creek and align the abutments with the approximate existing top of bank. The structure will be approximately 26 feet wide to accommodate two 9-foot lanes, 2-foot shoulders, and barriers. The abutments will sit on spread footing foundations with cast-in-drilled-hole piles anchoring them to the bedrock. Rock slope protection (RSP) will be keyed into the scour resistant rock at a depth to be determined by the Geotechnical Engineer during construction due to varying geologic conditions (see project plans in Appendix A). The removal of up to 28 native trees, including valley and coast live oak (*Quercus lobata* and *Q. agrifolia,* respectively) trees, and vegetation clearing will be required.

The project will require temporary construction easements (TCE) and that the County resurrect and enforce its existing right-of-way (ROW), and acquire any new additional ROW needed for the project. A TCE will be needed to construct a detour bridge over the creek while construction takes place. The detour bridge will be located approximately 12 feet north of the existing bridge. The detour road will veer off the existing roadway, free span the creek using a standard temporary railcar bridge (approximately 62 feet long and 9 feet wide), and then rejoin the roadway. The TCE will also be used for construction staging and it will occupy approximately 0.71 acre. This area is currently an unused, uncultivated, undeveloped field. South of the roadway a TCE with an area of approximately 0.25 acre will be used in construction. Access to local residences will be kept clear while construction takes place.

AT&T communication lines are within the project limits and will likely be relocated to the proposed structure. No other private or public utilities are expected to be encountered within the project limits. Utility relocation notifications and procedures will follow standard County

procedure and Caltrans *Local Assistance Procedures Manual* (LAPM), Chapter 14: Utility Relocation (Caltrans 2019) procedures.

The project will result in temporary impacts to the creek channel during construction. Stream flow data suggests that daily flows in the proposed action area from June through October are expected to be less than 1 cubic foot per second (cfs). Due to the low volume of summer flow, a horizontal cofferdam and pipe diversion is not anticipated to be necessary and fish would have continual access to the low stream channel during construction. However, if surface flows are present within the work area, water would be temporarily diverted away from the streambanks. Although exact materials, lengths, and locations used to construct the diversion system will depend on field conditions, the County may use a system of concrete k-rail, washed gravel-filled bags, potentially longitudinal culverts, and impermeable sheet plastic allowing flows to remain within the primary low-flow channel of the creek through the project site. The approximately 160-foot-long diversion structures will act as cofferdams to divert flow from the work areas (abutments). The diversion will remain in place until construction activities are complete. Upon completion of diversion activities, the County will remove equipment and infrastructure associated with the diversion in a manner that will not adversely impact water quality and its beneficial uses. Diversion locations will be restored to preexisting conditions.

The diversion will be designed to completely isolate the work area from the wetted channel. If surface flow is present within the work area after the diversion is installed or if groundwater is encountered during construction, the County will conduct dewatering activities. This will be accomplished by pumping the water from inside the diversion confines, which will likely be groundwater not surface water. Pumps will be fitted with appropriately sized protective screens (according to NMFS' *Pump Intake Screen Criteria for Drafting*) at intake ends to prevent fish and other aquatic species from entering the pumps. Water will be pumped to a temporary sediment basin or to adjacent uplands to capture waterborne sediment before being discharged at a location downstream of the dewatered area. Sediment trapped in the basin will be removed and either incorporated in the backfill material behind the abutment or removed from the site (refer to the Diversion and Dewatering Plan in Appendix B).

Construction will likely require the following equipment: air compressor, bobcat, bulldozer/loader, compactor, concrete truck and pump, crane, debris bin, drill rig, dump truck, flatbed truck, haul truck, holding tanks, mixing tanks, recirculating pumps, and water truck.

Chapter 2 - Study Methods

Regulatory Requirements

The project will require federal, state, and local regulatory authorizations for construction. These authorizations may be issued in the form of permits, agreements, or other forms of environmental review. Authorizations will likely include requirements for environmental compliance with Sections 404 and 401 of the Clean Water Act (CWA), Section 1602 of the California Fish and Game Code (CFG Code), and the Federal Endangered Species Act (FESA), which will be enforced through construction monitoring, documentation, and reporting. Prior to commencement of work, authorizations from these agencies must be secured. As part of its NEPA assignment of federal responsibilities by the FHWA, effective October 1, 2012 and pursuant to 23 USC 326, Caltrans is acting as the lead federal agency for Section 7 of the FESA.

UNITED STATES POLICIES AND REGULATIONS

National Environmental Policy Act

The NEPA directs “a systematic, interdisciplinary approach” to planning and decision-making and requires environmental statements for “major federal actions significantly affecting the quality of the human environment.” Implementing regulations by the Council on Environmental Quality (Code of Federal Regulations [CFR] Title 40, Parts 1500–1508) requires federal agencies to identify and assess reasonable alternatives to proposed actions that will restore and enhance the quality of the human environment and avoid or minimize adverse environmental impacts. Federal agencies are directed to emphasize significant environmental issues in project planning and to integrate impact studies required by other environmental laws and Executive Orders into the NEPA process.

Federal Endandered Species Act

The FESA of 1973 provides legal protection for plant and animal taxa that are in danger of extinction and classified as either threatened or endangered. Section 7 of the FESA requires federal agencies to make a finding on all federal actions as to the potential to jeopardize the continued existence of any listed species potentially affected by the action, including the approval by an agency of a public or private action, such as issuance of a U.S. Army Corps of Engineers (USACE) permit under CWA Section 404.

Section 9 of the FESA protects federally listed plant and animal species from unlawful “take,” which is defined as “to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct.” The U.S. Fish and Wildlife Service (USFWS) regulates activities that may result in take of federally endangered or threatened species, or candidate species. Project-related activities that could result in impacts, such as take, to listed species would require any involved federal agencies to consult with USFWS

to determine the extent of impacts to listed species. Project-related activities that could result in impacts, such as take, to listed marine fish species would require any involved federal agencies to consult with the National Oceanic and Atmospheric Administration National Marine Fisheries Service (NMFS) to determine the extent of impacts to listed marine fish species.

If there is the potential for a project to impact federally listed species and/or designated critical habitat, and there is a federal nexus, a Biological Assessment (BA) must be prepared by the applicant and submitted to the federal lead agency involved with the project. The BA is a study analyzing specific effects on species listed under the FESA. The BA would likely include certain recommended measures prior to construction, including, but not limited to: 1) surveying and mapping any locations where listed species are observed; 2) surveys for listed plant species during the appropriate time periods (blooming season); 3) avoidance and minimization measures for special-status plant species; 4) pre-construction surveys for special-status animal species during the appropriate time periods (protocol surveys); and 5) avoidance and minimization measures for special-status animal species.

Due to the potential for federally listed species to occur within the project site, Section 7 consultation with USFWS and NMFS will be conducted prior to construction. The documentation submitted to these agencies is typically a BA. Upon review of a BA, USFWS and/or NMFS may issue a federal Biological Opinion and Incidental Take Statement that includes provisions for legal take, provided that specific mitigation measures are employed for construction.

Federal Migratory Bird Treaty Act

The federal Migratory Bird Treaty Act of 1918 (MBTA) protects migratory birds, including their eggs, nests, and feathers. The MBTA was originally drafted to end the commercial trade in bird feathers popular in the latter part of the 1800s. The MBTA is enforced by USFWS and potential impacts to species protected under this law may be evaluated by USFWS during the consultation process.

Magnuson-Stevens Fishery Conservation and Management Act

The Magnuson-Stevens Fishery Conservation and Management Act (MSA), as amended by the Sustainable Fisheries Act of 1996 (Public Law 104-267) and re-authorized in 2014, established procedures designed to identify, conserve, and enhance essential fish habitat (EFH) for those species regulated under a federal fisheries management plan. The Pacific Fishery Management Council (PFMC), one of eight regional fishery management councils created by the MSA, is responsible for the creation of a Fishery Management Plan (FMP) in federal waters off the coast of California and regulation for federally protected EFH (PFMC 2017). NMFS works with the PFMC to identify, describe, and map EFH for all federally managed fish species. The MSA requires federal agencies to consult with NMFS on all

actions, or proposed actions, authorized, funded, or undertaken by the agencies that may adversely affect EFH (MSA Section 305[b][2]). A component of this consultation process is the preparation and submittal of an Essential Fish Habitat Assessment (EFHA).

Section 404 of the CWA

USACE regulatory jurisdiction under Section 404 of the CWA extends to work in, over, and under waters of the United States that results in a discharge of dredged or fill materials within USACE jurisdiction. Under Section 404, USACE regulates traditional navigable waters, wetlands adjacent to traditional navigable waters, relatively permanent non-navigable tributaries that typically flow year-round or have a continuous flow at least seasonally (typically 3 months), and wetlands that directly abut relatively permanent tributaries. USACE will determine jurisdiction over waters that are non-navigable tributaries that do not typically flow year-round or have continuous flow at least seasonally, wetlands adjacent to such tributaries, and wetlands adjacent to but that do not directly abut a relatively permanent, non-navigable tributary, only after making a significant nexus finding.

USACE jurisdiction over non-tidal waters of the United States extends laterally to the Ordinary High Water Mark (OHWM) with the presence of bed and bank, or beyond the OHWM to the limit of any adjacent wetlands, if present (33 CFR 328.4). USACE jurisdiction over non-tidal waters typically extends upstream to the point where the OHWM is no longer perceptible. The OHWM is defined in 33 CFR 328.3 as:

> *"that line on the shore established by the fluctuations of water and indicated by physical characteristics such as clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas."*

Section 401 of the CWA

Section 401 of the CWA functions to ensure that federally permitted activities comply with the federal CWA and other state-mandated water quality laws. Section 401 is implemented through a review process that is conducted by the California Regional Water Quality Control Board (RWQCB) and is typically triggered by the Section 404 permitting process. RWQCB issues a Water Quality Certification via the Section 401 process, and a proposed project must comply with applicable effluent limitations, water quality standards, and other conditions of state law. Evaluating the effects of the proposed project on both water quality and quantity (runoff) falls under the jurisdiction of RWQCB. Any activities within the project area that have the potential to result in a need for a permit from USACE would also require an RWQCB Section 401 Water Quality Certification.

Executive Order 11990 – Protection of Wetlands

Executive Order 11990 established a national policy to avoid adverse impacts on wetlands whenever there is a practicable alternative. The U.S. Department of Transportation (DOT) promulgated DOT Order 5660.1A in 1978 to comply with this direction. Impacts on wetlands must be identified and alternatives that avoid wetlands must be considered for projects that receive federal funding. If wetland impacts cannot be avoided, then practicable measures to minimize the impacts must be included. This must be documented in a specific Wetlands Only Practicable Alternative Finding.

As an additional requirement, opportunities for early public involvement must be provided for projects that have potential to affect wetlands. FHWA provides technical assistance (Technical Advisory 6640.8A) and reviews environmental documents for compliance.

Executive Order 13112 – Invasive Species

The National Invasive Species Council (NISC) was established by Executive Order 13112 to ensure that federal programs and activities prevent and control invasive species and that these efforts are coordinated, effective, and efficient. The NISC is co-chaired by the Secretaries of Commerce, Agriculture, and the Interior. Executive Order 13112 defines invasive species as ". . . an alien (or non-native) species whose introduction does or is likely to cause economic or environmental harm or harm to human health."

STATE OF CALIFORNIA POLICIES AND REGULATIONS

California Enviromental Quality Act

Guidance for determining impacts under CEQA is based on the State CEQA Guidelines. Using these guidelines, activities requiring CEQA review within the project boundary would have a significant impact on biological resources if they would:

- Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations or by California Department of Fish and Wildlife (CDFW) or USFWS;
- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations or by CDFW or USFWS;
- Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the CWA;
- Interfere substantially with the movement of any resident or migratory species of wildlife, wildlife corridors, or wildlife nursery sites;
- Conflict with any local policies or ordinances protecting biological resources; and/or

- Conflict with the provisions of an adopted Habitat Conservation Plan (HCP), Natural Community Conservation Planning (NCCP), or other approved state, regional, or local HCP.

California Endangered Species Act

The California Endangered Species Act (CESA) ensures legal protection for plants listed as rare, threatened, or endangered, and wildlife listed as threatened or endangered. CDFW regulates activities that may result in the "take" of such species. The CESA definition of "take" is limited to direct take such as hunting, shooting, and capturing and does not include the broad "harm" and "harassment" definitions within the federal law. CDFW also maintains a list of California Species of Special Concern (SSC) based on limited distribution, declining populations, diminishing habitat, or unusual scientific, recreational, or educational value. Under state law, CDFW is empowered to review projects for their potential to affect state listed species, SSC, and their habitats. CDFW has authority during the CEQA process to review potential constraints to rare plant species and require mitigation to reduce the level of significance to insignificant levels. Plant species listed by CDFW and the California Native Plant Society (CNPS) that qualify as special-status and warrant listing are typically also considered under CEQA. These include California Rare Plant Rank (CRPR) Lists 1A, 1B, and List 2 plant species.

California Native Plant Protection Act

The California Native Plant Protection Act of 1977 (CNPPA) was enacted to preserve, protect, and enhance endangered and rare plants in California. It specifically prohibits the importation, take, possession, or sale of any native plant designated by the California Fish and Game Commission as rare or endangered, except under specific circumstances. Various activities are exempt from the CNPPA, although take as a result of these activities may require other authorization from CDFW under the CFG Code.

California Fish and Game Code, "Fully Protected" Species

California statutes also accord "fully protected" (FP) status to a number of specifically identified birds, mammals, reptiles, amphibians, and fish. Take" of these species is not allowed even with an Incidental Take Permit (CFG Code Sections 3505, 3511, 4700, 5050, and 5515).

Porter-Cologne Water Quality Control Act

Under the Porter-Cologne Water Quality Control Act, waters of the State fall under the jurisdiction of the State Water Resource Control Board (SWRCB) and nine RWQCBs. RWQCBs must prepare and periodically update water quality control basin plans. Each basin plan sets forth water quality standards for surface water and groundwater, as well as actions to control non-point and point sources of pollution to achieve and maintain these standards. In most cases, RWQCBs seek to protect these beneficial uses by requiring the

integration of water quality control measures into projects that will result in discharge into waters of the State. Projects that affect wetlands or waters of the State must meet the Waste Discharge Requirements (WDRs) of the RWQCBs, which may be issued in addition to, or in lieu of, a water quality certification under Section 401 of the CWA. This jurisdiction includes waters (including wetlands and isolated wetlands) USACE deems to be isolated or non-jurisdictional (see discussion above under Sections 404 and 401 of the CWA). For waters of the State not subject to Section 404, SWRCB and RWQCB would authorize impacts by issuing a WDR or, in some cases, a waiver of WDR.

California Fish and Game Code Section 1600

Pursuant to Sections 1600–1616 of the CFG Code, CDFW regulates diversions, obstructions, or changes to the natural flow or bed, channel, or bank of any river, stream, or lake. This jurisdiction includes dry washes that carry water ephemerally during storm events. California Code of Regulations (CCR) Title 14, Section 1.72 defines a stream as:

> *"[A] stream is a body of water that flows at least periodically or intermittently through a bed or channel having banks and supports fish or other aquatic life. This includes watercourses having a surface or subsurface flow that supports or has supported riparian vegetation."*

The term "stream," which includes creeks and rivers, is defined in 14 CCR 1.72 as:

> *"a body of water that flows at least periodically or intermittently through a bed or channel having banks and supports fish or other aquatic life. This includes watercourses having a surface or subsurface flow that supports or has supported riparian vegetation."*

In addition, the term stream can include ephemeral streams, dry washes, watercourses with subsurface flows, canals, aqueducts, irrigation ditches, and other means of water conveyance if they support aquatic life, riparian vegetation, or stream-dependent terrestrial wildlife.

The limits of CDFW jurisdiction are defined in the CFG Code as:

> *"the bed, channel or bank of any river, stream or lake designated by the department in which there is at any time an existing fish or wildlife resource or from which these resources derive benefit."*

In practice, CDFW usually extends its jurisdictional limit to the top of a stream/lake bank, or outer edge of the riparian vegetation, whichever is wider. CDFW can be expected to take jurisdiction over areas that have evidence of a cut bank and channel, or evidence of historical flows, to the point where no of bed and bank features are present.

Other California Fish and Game Code Sections

CFG Code Section 3503 includes provisions to protect the nests and eggs of birds. Sections 3511, 4700, 5050, and 5515 include provisions to protect FP species, such as: 1) prohibiting take or possession "at any time" of the species listed in the statute, with few exceptions; 2) stating that "no provision of this code or any other law shall be construed to authorize the issuance of permits or licenses to "take" a species that has been designated as FP; and 3) stating that no previously issued permits or licenses for take of these species "shall have any force or effect" for authorizing take or possession. CDFW is unable to authorize incidental take of "FP" species when activities are proposed in areas inhabited by those species.

Studies Required

This NES was completed in a manner consistent with Caltrans guidelines, as referenced in the Caltrans Standard Environmental Reference (SER). To satisfy the requirements of federal and state regulatory laws and to conduct the required CEQA analysis, seasonally timed botanical surveys and a formal wetland assessment of the project site and vicinity were conducted. Botanical surveys were conducted in accordance with the CDFW *Guidelines for Assessing the Effects of Proposed Projects on Rare, Threatened, and Endangered Plants and Natural Communities* (CDFW 2000) and the USFWS *Guidelines for Conducting and Reporting Botanical Inventories for Federally Listed, Proposed and Candidate Plants* (USFWS 2000).

Prior to conducting any field surveys, SWCA Environmental Consultants (SWCA) performed a literature and database review to determine which special-status species have been documented within the vicinity of the project. The California Natural Diversity Database (CNDDB) was queried to generate a list of species within a quad search area and a map of species recorded within a five-mile radius of the project site. In addition, CNPS Electronic Inventory and environmental documents that have been prepared for other projects in the general area were also reviewed. SWCA also obtained official species lists from USFWS (2020) and NMFS (2020) (Appendix C), which reaffirmed the CNDDB records and augmented the number of species for consideration. Because the various query results cover such a large geographic area, further evaluation was conducted to determine which species have the potential to occur within the project site and immediate vicinity. The evaluation considered the general habitat requirements of each species, the type and quality of habitat observed on-site, and which species have been documented within a five-mile radius of the project site. Species were eliminated from further consideration if the project site does not include the general habitat requirements (e.g. habitat type, elevation, soils), or if the project site is outside the known geographic distribution or documented range of that species. For those instances where general habitat requirements are present to some degree, focused studies were conducted to determine presence/absence of the species, or

professional judgement and regional expertise of the biologists who prepared this study was utilized to determine the likelihood that the species may occur.

Personnel and Survey Dates

Table 1 summarizes the survey efforts conducted for the project.

Table 1: Survey Tasks, Dates, and Personnel

Study or Survey	Dates	Personnel
Biological Survey	June 1, 2016	Jon Claxton (SWCA)
Biological Survey	March 24, 2017	Kate Ballantyne, Katie Drexhage, Kristie Scarazzo (County)
Botanical Surveys and Wetland Delineation	May 13, 2017	Barrett Holland (formerly SWCA)
Tree Inventory and Biological Survey	October 9, 2019	Matthew Willis (County)
Biological and Focused Fish Survey	December 9, 2019	Matthew Willis (County)

Agency Coordination and Professional Contacts

The following is a chronological summary of regulatory agency coordination and correspondence:

- **February 4, 2019:** An initial request was submitted through the USFWS online Information, Planning, and Conservation System (IPaC) species list system for an updated official USFWS species list for the project area, Consultation Code: 08EVEN00-2018-SLI-0313 (USFWS 2020; Appendix C). A request to update this list was made on July 2, 2020.
- **February 4, 2019:** An initial request was sent through the NMFS/West Coast Region website for an official NMFS species list or the project area (NMFS 2020; Appendix C). A request to update this list was made on July 2, 2020.

Limitations That May Influence Results

Special-status plant species with the potential to occur in the project site may be annual species that may be difficult to detect following seasons of abnormal rainfall, or during those times of the year when particular species do not typically flower. The botanical surveys conducted in support of this NES were timed to accommodate the flowering periods of the species considered in this document. The botanical surveys were comprehensive, and all plant species encountered during the surveys were identified to the lowest possible taxonomic level, which is required for accurate identification and reporting.

Special-status wildlife species with the potential to occur in the project site may be cryptic (difficult to detect) or transient, migratory species. The population size and locations of special-status species may fluctuate through time. Because of this, the data collected for this NES represents a “snapshot” in time and may not reflect actual future conditions.

The existing bridge and trees within the project site were inspected for nesting birds. Although no nesting birds were observed during the survey efforts, birds may establish nests within the project limits prior to the onset of construction. Nesting bird surveys are time sensitive and are often repeated several times before the onset of construction activities, especially if construction will occur during the typical nesting bird season (February 1 to September 1).

No formal protocol surveys were conducted for those special-status wildlife species that have established survey protocols and are considered to have the potential to occur within the proposed action area. The presence of California red-legged frog (*Rana draytonii*) is inferred due to the suitable habitat conditions within the Jack Creek channel and records of this species in the vicinity of the proposed action area (CNDDB 2020). No protocol-level surveys were conducted for least Bell’s vireo (*Vireo bellii pusillus*) or southwestern willow flycatcher (*Empidonax traillii extimus*) as these species are not expected to utilize the proposed action area for nesting purposes.

Chapter 3 - Results: Environmental Setting

Description of the Existing Physical and Biological Conditions

BIOLOGICAL STUDY AREA

The Biological Study Area (BSA) consists of 3.82 acres and encompasses all areas of potential ground disturbance (including staging areas) for the proposed project. The BSA is west of the City of Paso Robles in a rural area of the County surrounded by agricultural and low-density residential land uses. Dover Canyon Road is a winding, paved rural road through rolling oak woodland terrain typical of the Santa Lucia Mountain Range. There is an equestrian facility located immediately southwest of the project site and the bridge over Jack Creek serves 10 to 12 residential properties. The BSA supports valley oak woodland and grassland habitats adjacent to the bridge and arroyo willow thicket and streambed associated with the creeks. Elevation in this area is approximately 1075 to 1125 feet (325 to 340 meters) above mean sea level. Paso Robles is subject to a Mediterranean climate with hot and dry summer seasons and cooler temperatures with light to moderate precipitation during the winter seasons. The average temperatures in this area range between 33 degrees Fahrenheit (°F) during the months of January and December and 92 °F in July and August based on data collected at the Paso Robles, California Station (046730) (Western Regional Climate Center [WRCC] 2018). The average annual precipitation in this area is 15.21 inches, with the majority of rain falling between December and March (WRCC 2018).

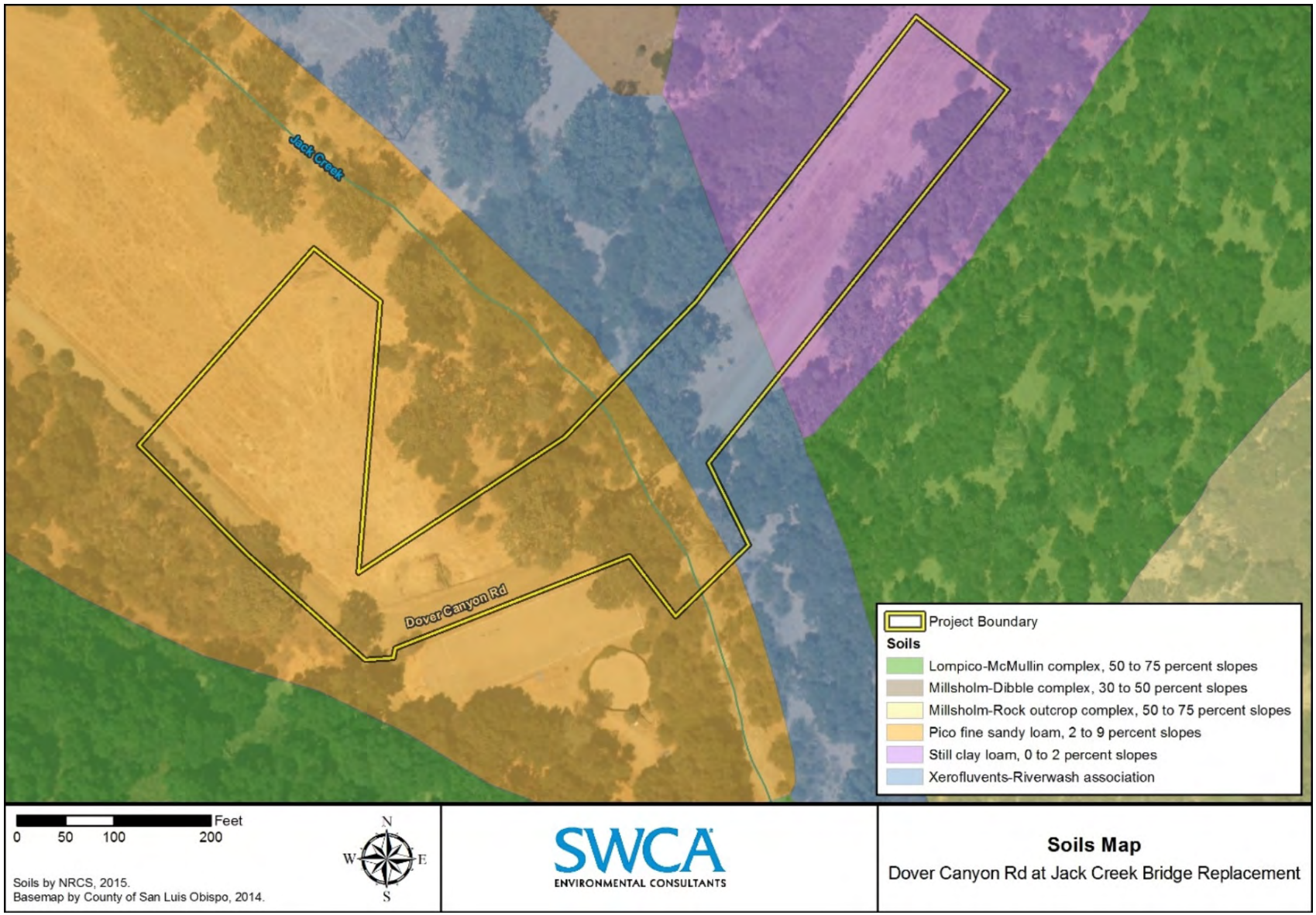
PHYSICAL CONDITIONS

Soils

A review of the Natural Resources Conservation Service (NRCS) web soil surveys map indicated the BSA is underlain by three soil types, described below and depicted in Figure 3 (NRCS 2020):

- **Pico fine sandy loam, 2 to 9 percent slopes**, are found on alluvial fans along footslopes and typically consist of alluvium derived from calcareous sedimentary sources. They are well-drained soils with a low runoff class, more than 80 inches to a restrictive layer and water table.
- **Still clay loam, 0 to 2 percent slopes,** are found on alluvial flats on toeslopes and consist of alluvium derived sedimentary rock. They are well-drained soils with a runoff class, more than 80 inches to a restrictive layer and water table. This soil type is considered prime farmland, if irrigated.
- **Xerofluevents-Riverwash Association, 0 to 5 percent slopes**, are found on alluvial fans, floodplains and stream terraces and consist of mixed alluvium derived from igneous and sedimentary rock. These are somewhat excessively drained soils with a very low runoff class and more than 80 inches to a restrictive layer and water table.

Figure 3: Soils Map



There was a distinct difference in soil/sediment texture in areas below and above the OHWM. The soils within the stream channel, below the OHWM observed during the surveys, consisted of gravel and cobble, with a few boulders, and areas above the OHWM were clayey.

Hydrologic Resources

Jack Creek at the project location flows generally east to west. The Dover Canyon Road Bridge is over Jack Creek, just south of the confluence of Summit Creek with Jack Creek. Jack Creek flows into Paso Robles Creek about 3 miles southeast of the BSA, and Paso Robles Creek flows into the Salinas River, which eventually drains to the Pacific Ocean. The project site is located within the Paso Robles Creek Subwatershed (Hydrologic Unit Code [HUC]: 180600050402), which is within the larger Paso Robles Creek – Salinas River Watershed (HUC: 1806000504) (Figure 4). The Paso Robles Creek-Salinas River Watershed encompasses approximately 143,654 acres in northern-central San Luis Obispo County and includes a portion of the Salinas River and adjacent tributaries. Upper Paso Robles Creek and its tributaries are steep pre-Quaternary non-infiltrative headwaters with steep, moderately infiltrative early to mid-tertiary valleys (SLO Watershed Project 2020). Jack Creek and Summit Creek are intermittent streams that convey water seasonally.

As of the SWRCB Final 2012 Integrated Report, Jack Creek, Summit Creek, and Paso Robles Creek are not identified as CWA Section 303(d) listed impaired waterbodies (SWRCB 2012).

BIOLOGICAL CONDITIONS

Natural Communities

The project site is in a rural area with low-density residential and agricultural land uses. The BSA is 3.82 acres and the vegetation are affected by the presence of the bridge as well as roads and land use adjacent to the BSA. The descriptions of plant communities use the naming conventions of *A Manual of California Vegetation* (Sawyer et al. 2009) and include the *Preliminary Description of Terrestrial Natural Communities of California* (Holland 1986) for comparison. Plant names follow the *Jepson Manual, Vascular Plants of California* (Baldwin et al 2012). The natural community classifications were cross-referenced with CNDDB to determine what natural communities are recognized as “sensitive” by CDFW. Figure 5 depicts the vegetation communities within the BSA in 2017, which are also listed in Table 2 below. A list of plants and wildlife observed within the BSA is included in Appendix D. Photographs of the BSA are included in Appendix E.

Figure 4: Hydrology Map

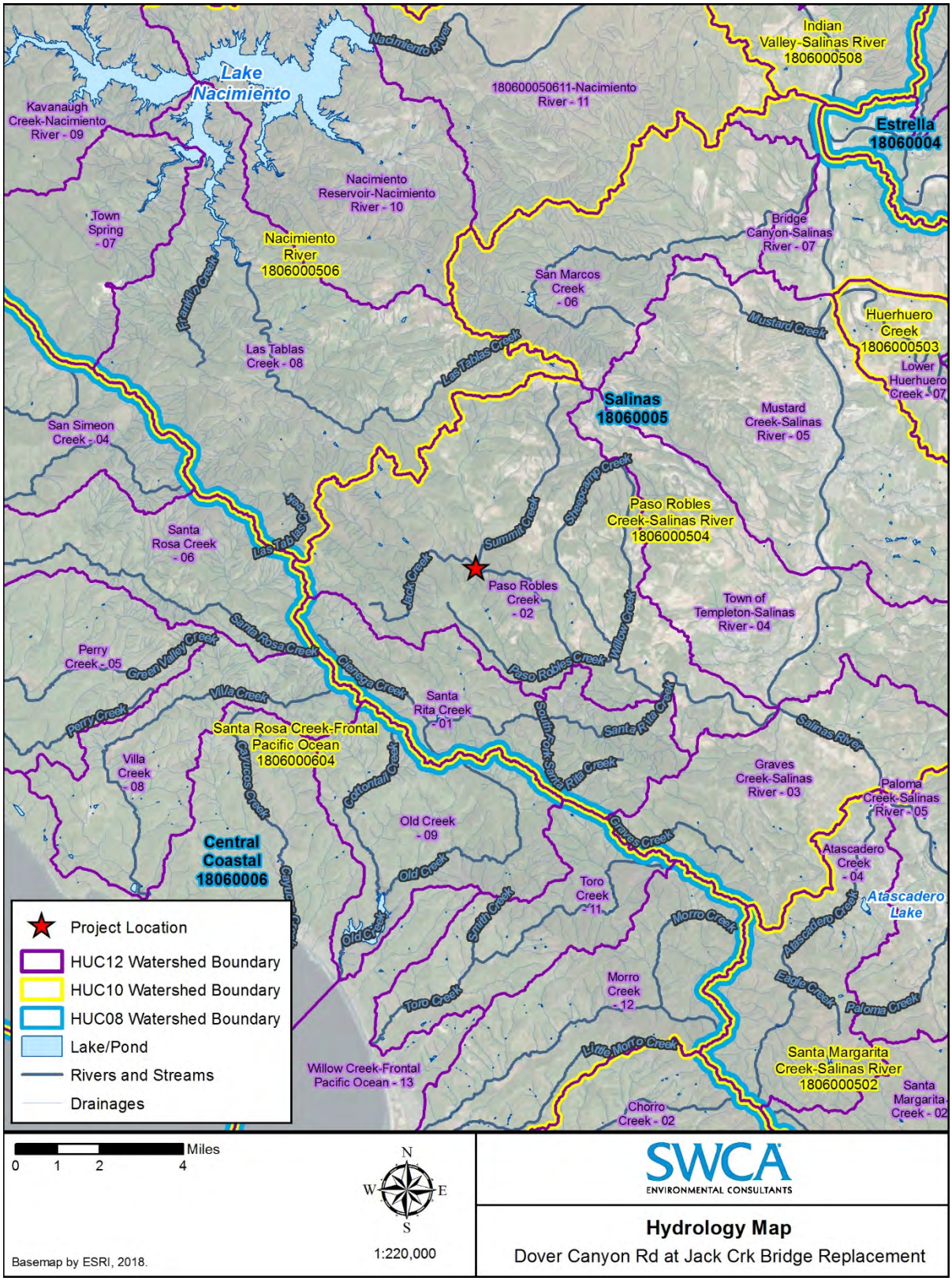


Figure 5: Natural Communities Map

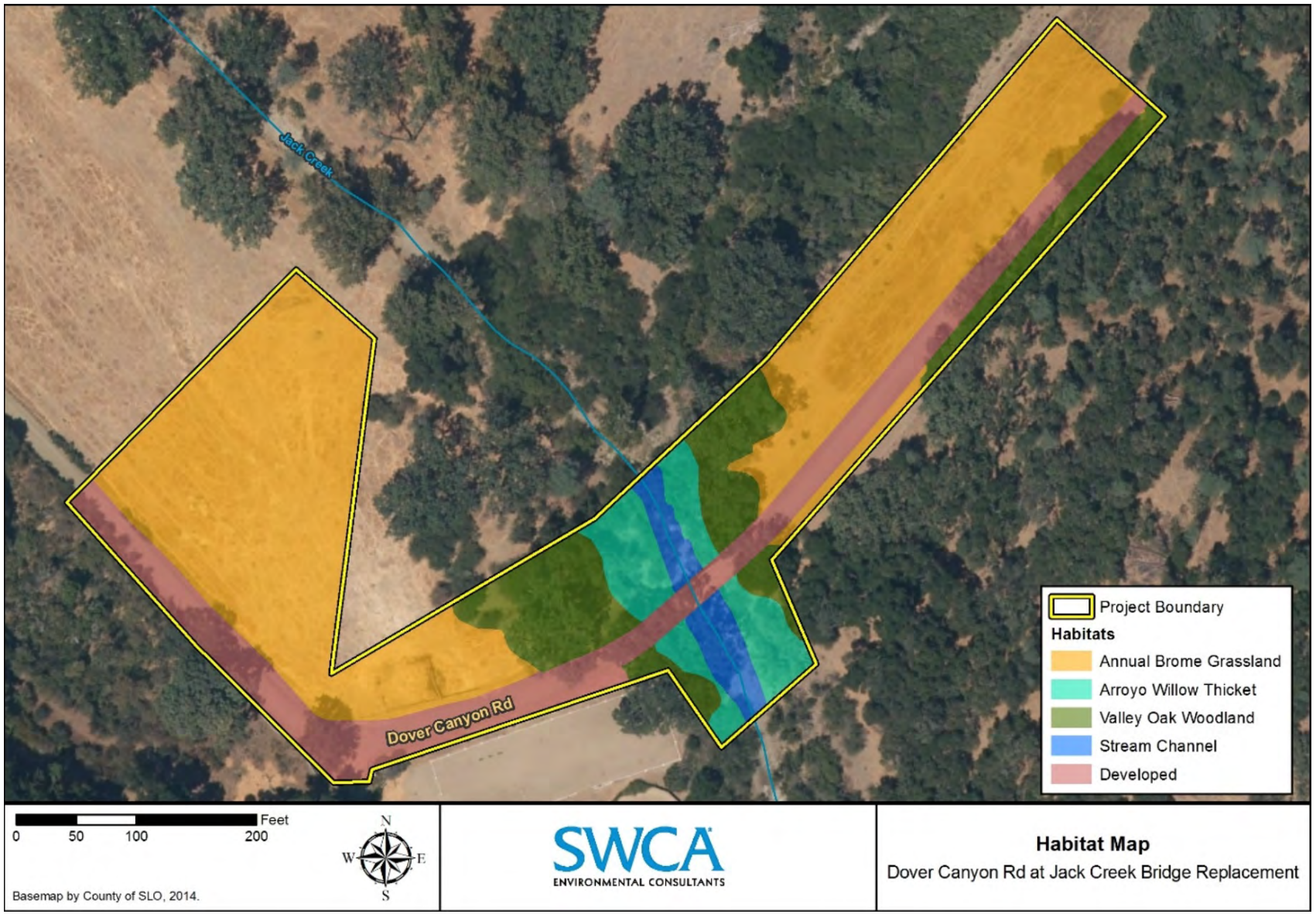


Table 2: Plant Community/Habitat Present within the BSA

Plant Community/Habitat	Total Acres within BSA
Annual Brome Grassland	2.12
Valley Oak Woodland	0.55
Arroyo Willow Thicket	0.30
Stream Channel[1]	0.13
Developed/Paved	0.72
Total	**3.82**

[1] Delineated by OHWM.

Annual Brome Grassland

Upland areas where non-native grasses and other native and non-native herbaceous plant species dominate are classified as annual brome grasslands (Sawyer et al. 2009) or non-native grassland (Holland 1986). Plant species within this habitat type are primarily non-native and naturalized grasses, including bromes (*Bromus diandrus, B. hordeaceus, B. catharticus*), wall barley (*Festuca bromoides*), wild oats (*Avena* spp.), and foxtail (*Hordeum murinum*). This habitat type provides limited resources for wildlife and is utilized primarily by species tolerant of human activities. The disturbed condition of these lands within the BSA reduces their habitat value and ability to sustain special-status plants or diverse wildlife assemblages, although they may provide shelter for reptiles and small mammals. A total of 2.12 acre of annual brome grassland is present within the BSA.

Valley Oak Woodland

Valley oak woodland alliance (Sawyer et al. 2009) or valley oak woodland (Holland 1986) is present within the BSA, with valley oak, dominant or co-dominant, and coast live oak forming an open to continuous canopy within and adjacent to the BSA. This plant community typically occurs on alluvial or residual soils in valley bottoms or lower slopes that may be intermittently flooded. Within the BSA, valley oaks are more prevalent adjacent to the riparian corridor and the coast live oak is more common on the upland slopes. The understory is a mix of native shrubs, such as coyote brush (*Baccharis pilularis*), common snow berry (*Symphoricarpos albus*), and poison oak (*Toxicodendron diversilobum*), and native and non-native grasses and herbaceous species including bromes, wild oats, deer grass (*Muhlenbergia rigens*), and California figwort (*Scrophularia californica*). Valley oak woodland is considered a natural community of concern by the CDFW (CDFW CA Code 71.040.00). A total of 0.55 acre of valley oak woodland was identified within the BSA, which includes portions of the oak tree canopy that overlaps Dover Canyon Road.

Arroyo Willow Thicket

Jack Creek supports arroyo willow thicket (Sawyer et al. 2009) or Central Coast riparian scrub (Holland 1986). Both shrub and tree forms of arroyo willow (*Salix lasiolepis*) are dominant on the banks of the creek, with red willow (*S. laevigata*), California sycamore (*Platanus racemosa*), and California bay (*Umbellularia californica*) present. Valley oak trees are also mixed in with the willows, although most of the oak canopy is from larger trees rooted outside the streambanks. The understory includes black elderberry (*Sambucus nigra* ssp*. caerulea*), mulefat (*Baccharis salicifolia*), mugwort (*Artemisia douglasiana*), and stinging nettle (*Urtica dioica* ssp. *holosericea*). The arroyo willow thicket (Central Coast riparian scrub) is considered a riparian plant community for jurisdictional purposes. A total of 0.30 acre of arroyo willow thicket is present in the BSA.

Stream Channel

The stream channel is classified as Riverine habitat (Cowardin et al. 1979). Within the stream channel, plant species include mulefat and mugwort, and patches of sedges (*Carex* spp., *Scirpus pungens*), rushes (*Juncus effusus, J. xiphioides*), hedge nettle (*Stachys ajugoides*), and other herbaceous plants. There were no areas dominated by emergent wetland vegetation outside the OHWM in the BSA. Riverine habitats located within the OHWMs are within USACE jurisdiction. A total of 0.13 acre of stream channel is present in the BSA. The stream channel is considered a sensitive habitat type because it is federally designated as steelhead critical habitat by the NMFS, whether or not individual steelhead are present.

Developed

Developed areas within the BSA consist of paved roads, road shoulders, driveways, and the Dover Canyon Road Bridge. A total of 0.73 acre of developed surfaces are present within the BSA.

Invasive Species

A total of 17 invasive plant species as identified by the California Invasive Plant Council (Cal-IPC) Inventory were observed within the BSA (refer to Table 3). Himalayan blackberry (*Rubus armeniacus*) was the only non-native plant species with a Cal-IPC category rating of High observed in the BSA. Eight plant species were observed with a Cal-IPC category rating of Moderate, and eight species were observed with a category rating of Limited.

Table 3: Plants Observed in the BSA that are included in the Cal-IPC Plant Inventory

Scientific Name	Common Name	Cal-IPC Rating	Relative Density within the BSA
Avena spp.	wild oats	Moderate	Low/Sparse
Bromus diandrus	ripgut brome	Moderate	Low/Sparse
Bromus hordeaceus	soft chess brome	Limited	Low/Sparse
Carduus pycnocephalus	Italian thistle	Moderate	Low/Sparse
Conium maculatum	Poison hemlock	Moderate	Low/Sparse
Cynosurus echinatus	dogtail grass	Moderate	Low/Sparse
Festuca perennis	Italian rye	Moderate	Low/Sparse
Hordeum murinum	foxtail barley	Moderate	Low/Sparse
Marrubium vulgare	horehound	Limited	Low/Sparse
Plantago lanceolata	narrow leaf plantain	Limited	Low/Sparse
Polypogon monspeliensis	rabbitsfoot grass	Limited	Low/Sparse
Rubus armeniacus	Himalayan blackberry	High	Low/Sparse
Rumex crispus	dock	Limited	Low/Sparse
Silybum marianum	milk thistle	Limited	Low/Sparse
Stipa miliacea	smilo grass	Limited	Low/Sparse
Torilis arvensis	hedge parsley	Moderate	Low/Sparse
Verbascum thapsus	wooly mullien	Limited	Low/Sparse

Habitat Connectivity

The California Essential Habitat Connectivity Project was queried for Essential Habitat Connectivity, which are the best available data describing key areas for maintaining connectivity between large blocks of land for wildlife corridor purposes (CDFW 2010). These key areas are referred to as Essential Connectivity Areas which are only intended to be a broad-scale representation of areas that provide essential connectivity. The BSA does not fall within an Essential Connectivity Area. It is expected that additional linkages will be identified as new data becomes available for various species. For the purposes of this analysis, it is reasonable to assume that the riparian corridor within the project site may be used by wildlife as movement corridors. The Jack Creek and Summit Creek riparian corridors provide habitat for many species.

Regional Species and Natural Communities of Concern

Regional species of concern include “special-status species.” Special-status species include taxa that are: 1) federally or state listed as endangered, threatened, or rare; 2) candidates for federal or state listing as endangered, threatened, or rare; 3) proposed for federal or state listing as endangered, threatened, or rare; or 4) considered a species of special

concern (SSC) or FP by the federal government (i.e., former USFWS Federal Species of Concern) and CDFW. Regional species of concern also include taxa afforded protection or considered special-status under various laws (e.g., NEPA, CEQA, MBTA) or under Sections 3503 and 3503.5 of the CFG Code (e.g., nesting birds), and those taxa recognized as locally important or special-status by CDFW and CNPS (CNPS 2020; CDFW 2020).

Habitats and natural communities of concern include those that are regulated or considered special-status by federal, state, and/or local agencies or NEPA/CEQA. The known occurrences of special-status species and sensitive habitats have been inventoried and mapped, to varying degrees of accuracy, by the CNDDB (CNDDB 2020). A nine-quadrangle search of the CNDDB was conducted to generate a list of species potentially occurring in the project area (Appendix C). A more refined five-mile radius query of the CNDDB was also conducted to generate maps depicting species and natural communities of concern reported as occurring within five miles of the BSA.

REGIONAL HABITATS AND NATURAL COMMUNITIES OF CONCERN

The CNDDB (2020) documents regional habitats and natural communities of concern that are considered sensitive as occurring within the search area. This also includes federally designated critical habitat for South-Central California Coast steelhead (*Oncorhynchus mykiss irideus*) Distinct Population Segment (DPS). The names of the habitats of concern considered are included in Table 4. Although not identified as within the BSA on the CNDDB map, the valley oak woodland observed and mapped within the BSA is identified as a natural community of concern (CDFW CA Code 71.040.00) by CDFW and is assigned a Global/State Rank of G3/S3, indicating this plant community is rare to locally common throughout its range (CDFW 2010).

Jack Creek, Summit Creek, and Paso Robles Creek are all designated critical habitat for the South-Central California Coast steelhead DPS. The following section describes this habitat in more detail.

South-Central California Coast Steelhead Critical Habitat

South-Central California Coast steelhead streams are streams known to support spawning populations of South-Central California Coast steelhead and that are within the South-Central California Coast steelhead DPS, from Monterey to San Luis Obispo County. Jack Creek is within the South-Central California Coast steelhead DPS Estero Bay Hydrologic Unit 3310 and Oceano Hydrologic Sub-area 331031.

Following a status review in 2005, a final listing determination was issued on January 5, 2006, for the South-Central California Coast steelhead DPS, and critical habitat was designated within 32 DPS watersheds, including Salinas River Watershed (NMFS 2005,

2011). The physical and biological features of this critical habitat designation include the following:

- Freshwater spawning sites with water quantity and quality conditions and substrate supporting spawning, incubation, and larval development;
- Freshwater rearing sites with:
  - (i) Water quantity and floodplain connectivity to form and maintain physical habitat conditions and support juvenile growth and mobility;
  - (ii) Water quality and forage supporting juvenile development; and,
  - (iii) Natural cover such as shade, submerged and overhanging large wood, log jams and beaver dams, aquatic vegetation, large rocks and boulders, side channels, and undercut banks.
- Freshwater migration corridors free of obstruction and excessive predation with water quantity and quality conditions and natural cover such as submerged and overhanging large wood, aquatic vegetation, large rocks and boulders, side channels, and undercut banks supporting juvenile and adult mobility and survival.
- Estuarine areas free of obstruction and excessive predation with:
  - (i) Water quality, water quantity, and salinity conditions supporting juvenile and adult physiological transitions between fresh- and saltwater;
  - (ii) Natural cover such as submerged and overhanging large wood, aquatic vegetation, large rocks and boulders, side channels; and,
  - (iii) Juvenile and adult forage, including aquatic invertebrates and fishes, supporting growth and maturation.

Jack Creek (within the BSA), Summit Creek (upstream of the BSA), and Paso Robles Creek (downstream of the BSA), are identified as critical habitat for South-Central California Coast steelhead.

REGIONAL PLANT SPECIES OF CONCERN

Based on a five-mile radius query of the CNDDB, the receipt of official species lists from USFWS, and a review of CRPR species lists, 12 special-status plant taxa (federally listed, state listed, and/or CRPR List 1B) were identified as having the potential to occur within a five-mile radius of the project site (refer to Table 5 and Figure 6). The resulting list of plant species is regional; therefore, an analysis of the range and habitat preferences was

conducted to identify which special-status plant species have the potential to occur within the BSA.

The analysis considered existing habitat, elevation, results of surveys conducted for the projects, and soils within the BSA. As a result, SWCA determined that the BSA supports suitable habitat for two of the 11 special-status plant species potentially present in the BSA including mesa horkelia (*Horkelia cuneata* ssp. *puberula*; CRPR 1B.1) and Oregon meconella (*Meconella oregana*; CRPR 1B.1). No special-status plants were observed during the botanical surveys conducted during the appropriate blooming period for each of these species (March and May 2017).

REGIONAL ANIMAL SPECIES OF CONCERN

Based on a five-mile radius query of the CNDDB, and the receipt of the official species list from USFWS, 16 special-status wildlife species were determine to have the potential to occur or have been documented within the vicinity of the project site (refer to Table 6 and Figure 6). This list of species is considered regional; therefore, an analysis of the range and habitat preferences was conducted to identify which special-status wildlife species have the potential to occur within the BSA.

SWCA determined that the following 8 special-status wildlife species have a potential to occur within or directly adjacent to the BSA: South-Central California Coast steelhead DPS, California red-legged frog (*Rana draytonii*), Coast Range newt (*Taricha torosa*), lesser slender salamander *(Batrachoseps minor)*, western pond turtle (*Emys marmorata*), least Bell's vireo (*Vireo bellii pusillus*), southwestern willow flycatcher (*Empidonax traillii extimus*), and Townsend's big-eared bat *(Corynorhinus townsendii)*, as well as migratory birds and roosting bats.

No special-status wildlife species were identified within the BSA during the field surveys, with the exception of bird species that are protected under the MBTA and CFG Code Sections 3503 and 3503.5. Although not observed, the presence of steelhead is inferred at the project location due to the Critical Habitat designation and suitable habitat conditions, and presence of California red-legged frog is inferred due to known occurrences near and downstream of the project site in addition to suitable habitat conditions within the project site.

Figure 6: CNDDB Map Botanical and Wildlife Occurrences

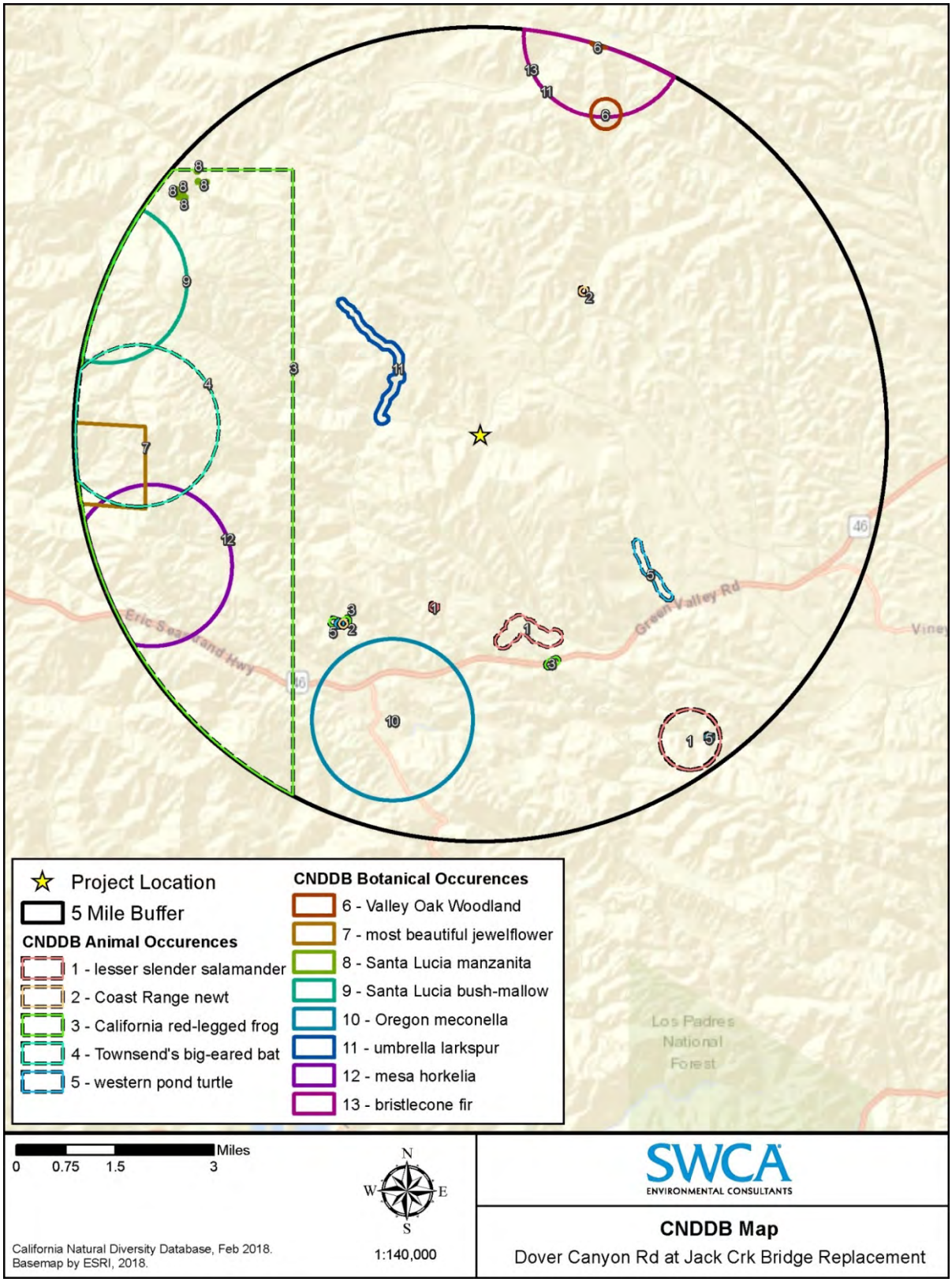


Table 4: Natural Communities Evaluated for Potential Occurrence

Common Name	Status Federal/ State	General Habitat Description	Habitat Present/ Absent	Rationale
Valley Oak Woodland	--/CDFW	Valley oak is dominant or co-dominant in the tree canopy, which may be open or continuous. Other species present may include coast live oak, California bay, and California sycamore. Valley oak woodland is assigned a Global/State Rank of G3/S3 which is identified for special protection (CDFW CA Code 71.040.00).	P	**Present:** Valley oak woodland has been mapped within the BSA.
Steelhead – South-Central California Coast DPS Critical Habitat	NMFS/--	South-Central California Coast steelhead streams are streams known to support spawning populations of South-Central California Coast steelhead and that are within the South-Central California Coast steelhead DPS, from Monterey to San Luis Obispo County.	P	**Present:** Jack Creek is within the South-Central California Coast steelhead DPS Salinas River Hydrologic Unit 3309, Paso Robles Hydrologic Sub-area 330981.
California Red-Legged Frog Critical Habitat	USFWS/--	California red-legged frog prefers aquatic habitats with little or no flow and surface water present through at least June, with adjacent riparian and upland habitats for foraging and dispersal.	A	**Absent:** Critical habitat Unit SLO 2 is 4 miles southwest and SLO 3 is 4 miles south of the south of the BSA; however, Jack Creek is not within the designated critical habitat area.

General References:

RareFind 5 search for 5-mile radius from project site (CNDDB 2020); CDFW 2010b; Sawyer et al 2009.

Status Codes:

CDFW = Identified as special status community (of limited distribution statewide or within a county or region) on the CDFW Natural Communities List (CDFW 2010b).
NMFS = Critical Habit for South-Central California Coast steelhead designated by NMFS in 2005 (NMFS 2005).

USFWS = Critical Habitat for California red-legged frog designated by USFWS

Habitat Presence/Absence:

Absent [A] – no habitat present and no further work needed; Present [P] – the habitat is present; species may or may not be present.

Table 5: Special-Status Plant Species Evaluated for Potential Occurrence

Common Name	Scientific Name	Status Federal/ State/CRPR	General Habitat Description	Habitat Present/ Absent	Rationale
California jewelflower	*Caulanthus californicus*	FE/SE/1B.1	Annual herb found in sandy soils in chenopod scrub, pinyon and juniper woodland, and valley and foothill grassland habitats. Elevation range: 61–1,000 meters. Blooms February to May.	A	**Suitable Conditions Absent/ Species Absent:** The species is currently known from the Carrizo Plain, Santa Barbara Canyon (adjacent to the Cuyama Valley in Santa Barbara County), and the Kreyenhagen Hills (Fresno County). There are no reported observations of this species in the project vicinity, it was not observed during appropriately timed botanical surveys, it is not expected to occur.
Chorro Creek bog thistle	*Cirsium fontinale* var. *obispoense*	FE/SE/1B.2	Perennial herb found in serpentinite seeps and drainages in chaparral, cismontane woodland, coastal scrub, and valley and foothill grassland habitats. Elevation range: 35–385 meters. Blooms February to September.	A	**Suitable Conditions Absent/ Species Absent:** Suitable habitat conditions not found within the BSA. This species is not expected to occur.
marsh sandwort	*Arenaria paludicola*	FE/SE/1B.1	Perennial stoloniferous herb that occurs in freshwater marshes and wetlands. Grows up through dense mats of cattails, rushes, and Tule rushes in freshwater marsh. Elevation range: 10–170 meters. Blooms May to August.	A	**Suitable Conditions Absent/ Species Absent:** Suitable habitat conditions not present and the BSA is above the typical elevation range of this species. This species is not expected to occur.

Common Name	Scientific Name	Status Federal/ State/CRPR	General Habitat Description	Habitat Present/ Absent	Rationale
spreading navarretia	*Navarretia fossalis*	FT/--/1B.1	Annual herb occurs in chenopod scrub, marshes and swamps (assorted shallow freshwater), playas, and vernal pool habitats. Elevation range is 30 to 655 meters. Blooms April to June.	A	**Suitable Conditions Absent/ Species Absent:** The BSA is located within the elevation range but does not support suitable habitat conditions for this species. There are no reported observations of this species in the project vicinity, it was not observed during appropriately timed botanical surveys, and it is not expected to occur.
bristlecone fir	*Abies bracteata*	--/--/1B.3	Perennial evergreen tree occurs in rocky areas in broadleaved upland forest, chaparral, lower montane coniferous forest, and riparian woodland. Elevation range is 183 to 1555 meters.	A	**Habitat Present/Species Absent:** The BSA is located within the appropriate elevation range and supports potentially suitable woodland habitat for this species. However, no fir species were identified during surveys and this species is not expected to occur
mesa horkelia	*Horkelia cuneata* ssp. *puberula*	--/--/1B.1	Perennial herb that occurs in chaparral, cismontane woodlands, and coastal scrub habitats on sandy or gravelly sites. Elevation range is 70–810 meters. Blooms February to September.	HP	**Habitat Present/Species Absent:** The BSA is located within the appropriate elevation range and supports potentially suitable habitat for this species. This species was not observed during appropriately timed botanical field surveys.
most beautiful jewel flower	*Streptanthus albidus s*sp. *peramoenus*	--/--/1B.2	Annual herb that occurs in serpentine soils in chaparral, cismontane woodland, and valley and foothill grassland habitat. Elevation range is 95 to 1,000 meters. Blooms March to October.	A	**Suitable Conditions Absent/ Species Absent:** The BSA is located within the elevation range but does not support suitable soil conditions for this species. This species was not observed during appropriately times botanical surveys and it is not expected.

Common Name	Scientific Name	Status Federal/ State/CRPR	General Habitat Description	Habitat Present/ Absent	Rationale
Oregon meconella	*Meconella oregana*	--/--/1B.1	Annual herb occurs in coastal prairies and coastal scrub habitat. Elevation range 250 to 620 meters. Blooms March to May.	HP	**Habitat Present/Species Absent:** The BSA is located within the appropriate elevation range and supports potentially suitable habitat for this species. This species was not observed during appropriately timed botanical field surveys.
Santa Lucia bush mallow	*Malacothamnus palmeri* var. *palmeri*	--/--/1B.2	A perennial deciduous shrub that occurs in rocky chaparral habitat. Elevation range is 60 to 360 meters. Blooms December to March.	A	**Suitable Conditions Absent/ Species Absent:** The BSA is located within the elevation range but does not support suitable habitat conditions for this species. No bush mallows were observed within the BSA and this species is not expected to occur.
Santa Lucia manzanita	*Arctostaphylos luciana*	--/--/1B.2	Perennial evergreen shrub that occurs in shale chaparral and cismontane woodland habitats. Elevation range is 350 to 850 meters. Bloom s December to March.	A	**Suitable Conditions Absent/ Species Absent:** The BSA is located slightly below the elevation range for this species and supports woodland habitat. No manzanitas were identified within the BSA, and this species is not expected to occur.
umbrella larkspur	*Delphinium umbraculorum*	--/--/1B.3	Perennial herb that occurs in chaparral and cismontane woodland habitat. Elevation range is 400 to 1,600 meters. Blooms April to June.	A	**Suitable Conditions Absent/ Species Absent:** Although the BSA supports suitable habitat, it is outside the elevation range for this species. This species was not observed during appropriately times botanical surveys and it is not expected to occur.

General References: CNDDB RareFind 5: 5-mile radius search from BSA (Accessed October 2020); USFWS IPaC Report (generated July 2, 2020, Appendix C).

Status Codes:

No Status (--);Federal Endangered (FE); Federal Threatened (FT); State Endangered (SE); California Rare Plant Rank (CRPR): Rare, threatened, or endangered in California and elsewhere (Rank 1B); Rare, threatened, or endangered in California, but more common elsewhere (Rank 2); Threat Code: Seriously endangered I California (over 80% of occurrences threatened / high degree and immediacy of threat) (.1); Fairly endangered in California (20-80% occurrences threatened) (.2); Not very endangered I California (<20% of occurrences threatened or no current threats known) (.3).

Habitat Presence/Absence:

Absent [A] – no habitat present and no further work needed; Habitat Present [HP] –habitat is, or may be present, the species may be present; Present [P] – the species is present.

Table 6: Special-Status Animal Species Evaluated for Potential Occurrence

Common Name	Scientific Name	Status Federal/ State/CDFW	General Habitat Description	Habitat Present/ Absent	Rationale
Invertebrates					
vernal pool fairy shrimp	*Branchinecta lynchi*	FT/--/--	Occurs in vernal pool habitats including depressions in sandstone, to small swales, earth slumps, or basalt-flow depressions with a grassy or, occasionally, muddy bottom in grassland.	A	**No Potential to Occur:** The BSA does not support vernal pool habitat. This species is not expected to occur.
Kern primrose sphinx moth	*Euproserpinus euterpe*	FT/--/--	Habitat for this moth is desert scrub, particularly in and around washes. It has a very restricted distribution and is currently known from only two sites at the southern end of California's Central Valley	A	**No Potential to Occur:** The BSA does not support desert scrub habitat suitable for Kern primrose sphinx moth.
Fish					
South-Central California Coast steelhead DPS	*Oncorhynchus mykiss irideus*	FT/--/ SSC	Clear, cool water with abundant in-stream cover, well-vegetated stream margins, relatively stable water flow, and a 1:1 pool-to-riffle ratio.	HP/P	**Habitat Present/Potential to Occur:** The BSA supports potentially suitable habitat for this species within Jack Creek. Critical habitat is designated along Jack Creek: Salinas River Hydrologic Unit 3309, Paso Robles Hydrologic Sub-area 330981.

Common Name	Scientific Name	Status Federal/ State/CDFW	General Habitat Description	Habitat Present/ Absent	Rationale
Amphibians					
California red-legged frog	*Rana draytonii*	FT/--/SSC	Aquatic habitats with little or no flow and surface water depths to at least 2.3 feet. Presence of fairly sturdy underwater supports such as cattails.	HP/P	**Habitat Present/Potential to Occur:** The BSA supports suitable habitat for this species within Jack and Summit Creeks and there are reported occurrences about 4 miles downstream. The BSA does not occur within a critical habitat unit. Protocol surveys were not conducted, presence within the BSA is inferred.
California tiger salamander	*Ambystoma californiense*	FT/ST/--	Requires underground refuges, especially ground squirrel burrows, and vernal pools or other seasonal water sources for breeding.	A	**Habitat Absent/No Potential to Occur:** The BSA does not support vernal pool habitat and is outside the current documented range of this species. This species is not expected to occur.
Coast Range newt	*Taricha torosa*	--/--/SSC	Found in wet forests, oak forests, chaparral, and rolling grasslands. In southern California, drier chaparral, oak woodland, and grasslands are used.	HP	**Habitat Present/Potential to Occur:** The BSA supports suitable riparian and grassland habitat for this species. This species was not observed during surveys of the BSA, but suitable habitat is present and has the potential to occur.
lesser slender salamander	*Batrachoseps minor*	--/--/SSC Federally Petitioned, Under Review (USFWS 2015)	Occurs in mesic canyons with shaded slopes and deep leaf litter in broadleaf upland forests with dense shrubs, such as poison oak, and surrounded by relatively dry habitats. Its distribution is restricted to the southern Santa Lucia Range of north-central San Luis Obispo County.	HP	**Habitat Present/Potential to Occur:** This species has been documented south of the BSA, although species identification has not been confirmed. The forest habitat within the BSA may provide suitable microhabitat for this species.

Common Name	Scientific Name	Status Federal/ State/CDFW	General Habitat Description	Habitat Present/ Absent	Rationale
Reptiles					
blunt-nosed leopard lizard	*Gambelia sila*	FE/SE/CFP	Usually inhabits semi-arid areas including grasslands and alkali flats; prefers sparse vegetation and areas with an abundance of rodent burrows in which to shelter. Soil in the habitat can be sandy, gravelly, or loamy.	A	**Habitat Absent/No Potential to Occur:** The BSA does not support suitable habitat and is outside the current documented range of this species. This species is not expected to occur.
western pond turtle	*Emys marmorata*	--/--/SSC	Quiet freshwater of ponds, lakes, streams, and marshes; typically in the deepest parts with an abundance of basking sites.	HP	**Habitat Present/Potential to Occur:** The BSA supports potentially suitable habitat for this species within Jack and Summit Creeks. This species was not observed during surveys of the BSA but is considered to have potential to occur.
Birds					
California clapper rail	*Rallus longirostris obsoletus*	FE/ SE/CFP	Salt-water and brackish marshes traversed by tidal estuaries near San Francisco Bay. Associated with abundant growths of pickleweed but feeds away from cover on invertebrates from mud-bottomed estuaries.	A	**Habitat Absent/No Potential to Occur:** The BSA does not support saltwater or brackish marsh habitat suitable for this species. This species is not expected to occur.
California condor	*Gymnogyps californianus*	FE/SE/CFP	Occurs in open savannahs, grasslands, and foothill chaparral, in mountain ranges with moderate altitudes. Nest in deep canyons on rock walls with clefts.	A	**Habitat Absent/No Potential to Occur:** The BSA does not support open savannahs, grasslands, or foothill chaparral in mountain ranges suitable for nesting or foraging. This species is not expected to occur.

Common Name	Scientific Name	Status Federal/ State/CDFW	General Habitat Description	Habitat Present/ Absent	Rationale
least Bell's vireo	*Vireo bellii pusillus*	FE/ SE/--	Summer resident of southern California in low riparian in vicinity of water or in dry river bottoms; below 2,000 feet. Nests placed along margins of bushes or on twigs projecting into pathways, usually willow, coyote brush and mesquite.	HP	**Habitat Present/Potential to Occur:** Arroyo willow thicket habitat in the BSA could provide suitable habitat for range expanding individuals. This species was not observed during surveys but is considered to have the potential to occur.
southwestern willow flycatcher	*Empidonax traillii extimus*	FE/ SE/--	Riparian woodlands in southern California.	HP	**Habitat Present/Potential to Occur:** Although BSA is not located within the current documented range of this species, arroyo willow thicket may provide habitat for this species. This species has been documented migrating through San Luis Obispo County; therefore, there is potential for occurrence of infrequent foraging individuals.
Other migratory bird species (nesting)	Class Aves	MBTA/§/--	Annual grasslands, coastal scrub, chaparral, and oak woodlands may provide nesting habitat.	HP/P	**Habitat Present/Potential to Occur:** Potential nesting habitat occurs throughout the site. Pre-disturbance nesting bird surveys are proposed to avoid impacts to nesting birds.
Mammals					
giant kangaroo rat	*Dipodomys ingens*	FE/SE/--	Giant kangaroo rats typically occur in dry areas that receive less than six inches of rainfall each year, in well-drained sandy soils that are sparsely populated by annual grassland.	A	**Habitat Absent/No Potential to Occur:** The BSA does not support suitable habitat and is outside the current documented range of this species. This species is not expected to occur.

Common Name	Scientific Name	Status Federal/ State/CDFW	General Habitat Description	Habitat Present/ Absent	Rationale
San Joaquin kit fox	*Vulpes macrotis mutica*	FE/ST/--	Historic range included most of the San Joaquin Valley from San Joaquin County southward to southern Kern County. Currently occur in the remaining native valley and foothill grasslands and saltbush scrub communities of the valley floor and surrounding foothills from southern Kern County north to Merced County.	A	**Habitat Absent/No Potential to Occur:** The BSA does not support suitable habitat and is outside the current documented range of this species. This species is not expected to occur.
Townsend's big-eared bat	*Corynorhinus townsendii*	--/--/SSC	Occurs in a wide variety of habitats; most common in mesic (wet) sites. May use trees for day and night roosts; however, requires caves, mines, rock faces, bridges, or buildings for maternity roosts. Maternity roosts are in relatively warm sites.	HP	**Suitable Habitat Present / Potential to Occur:** Caves and rock faces are absent, although bridge could provide roosting habitat and nearby grasslands provide foraging habitat. Avoidance/minimization measures are recommended.
Roosting bats	Class Chiroptera	--/--/--	Potential for roosting in several natural and artificial structures.	HP	**Habitat Present/Potential to Occur:** The BSA supports suitable foraging habitat for roosting bats. No sign of bats was observed during field surveys.

General References:

RareFind 5: 5-mile radius search from BSA (CNDDB accessed October 2020); USFWS IPaC Report (generated July 2, 2020, Appendix C); NMFS list (generated July 2, 2020, Appendix C).

Status Codes:

No status (--); Federal Endangered (FE); Federal Threatened (FT); Migratory Bird Treaty Act (MBTA); State Fully Protected Species (FP); State Endangered (SE); State Threatened (ST); CA Fish and Game Code §3503 and §3503.5 (§); CDFW California Special Concern Species (SSC);

Habitat Presence/Absence:

Absent [A] – no habitat present and no further work needed; Habitat Present [HP] –habitat is or may be present. The species may be present; Present [P] – the species is present. Critical Habitat [CH] – project footprint is located within a designated critical habitat unit but does not necessarily mean that appropriate habitat is present.

Chapter 4 - Results: Biological Resources, Discussion of Impacts and Mitigation

Habitats and Natural Communities of Concern

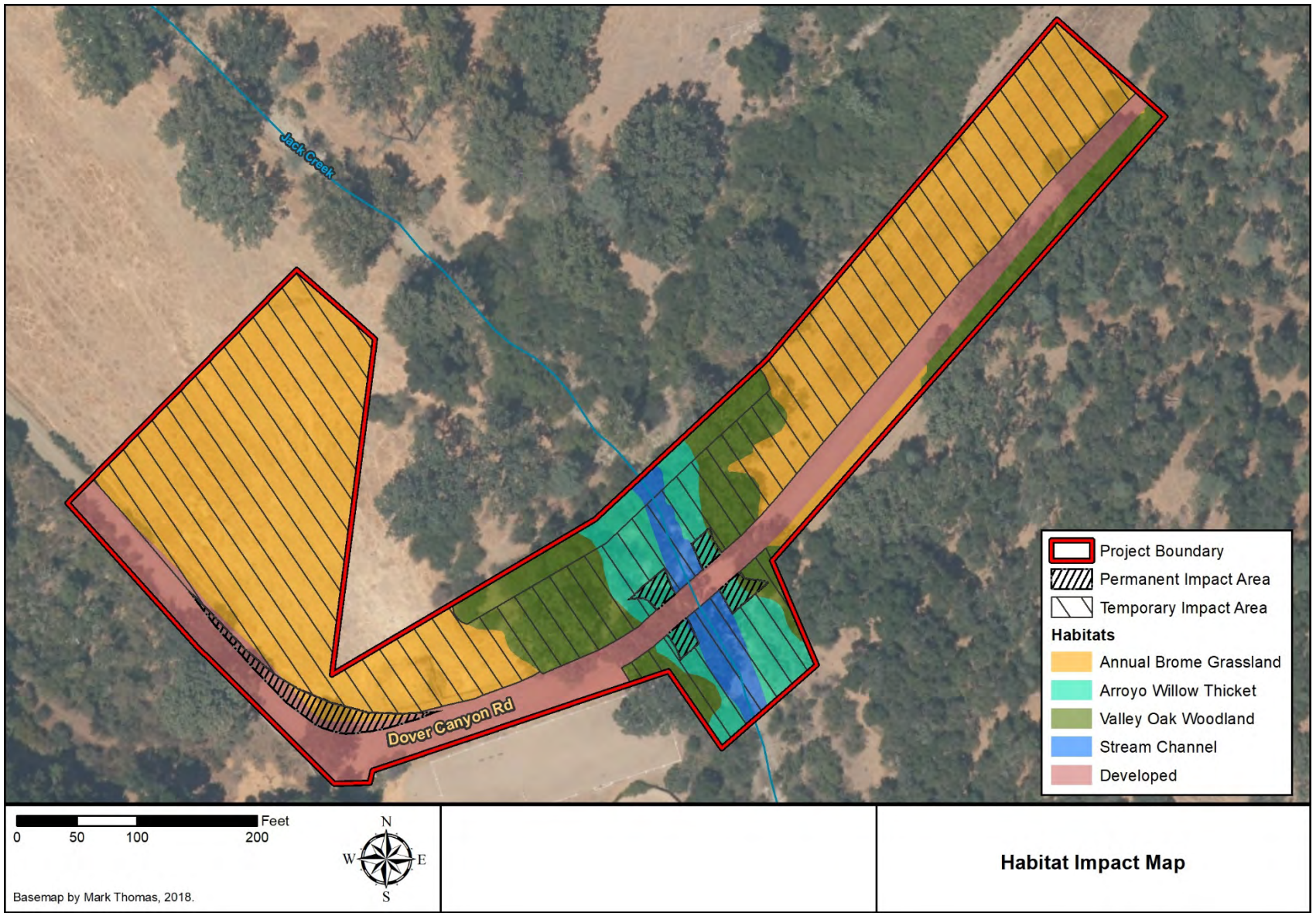
Impacts anticipated within the BSA have been quantified as either permanent or temporary. Impacts to natural communities would result from activities such as ground disturbance, vegetation removal or disturbance, and tree removal. Impacts to steelhead critical habitat, waters of the United States, and state jurisdictional features include activities such as the temporary diversion and dewatering of Jack Creek (refer to Appendix B) and construction activities that will occur below the OHWM, below the top of bank, and in riparian areas. The total amount of impacts anticipated from the project was quantified using geographic information system (GIS) technology. The project plans were overlaid onto the habitat map and the impacts were calculated. Estimated impacts to vegetation communities described in the Physical Conditions Section of Chapter 3 are presented below in Table 7. Figure 7 shows a graphical depiction of the habitat impacts. A total of 2.85 acres would be impacted, including 2.74 acres of temporary impacts and 0.11 acre of permanent impacts.

Table 7: Estimated Impacts to Habitat and Natural Communities of Concern

Habitat[1]	Total Acres within BSA	Estimated Impacts (Acres)	
		Permanent	Temporary
Annual Brome Grassland	2.12	0.02	2.05
Valley Oak Woodland	**0.55**	0.01	0.34
Arroyo Willow Thicket	0.30	0.04	0.21
Stream Channel[2] (includes Steelhead Critical Habitat)	**0.13**	0.00	0.12
Developed	0.72	0.04	0.02
Total	**3.82**	**0.11**	**2.74**

[1] Communities of Concern indicated in **bold**.
[2] Delineated by OHWM.

Figure 7: Habitat Impact Map



DISCUSSION OF VALLEY OAK WOODLAND AND NATIVE TREES

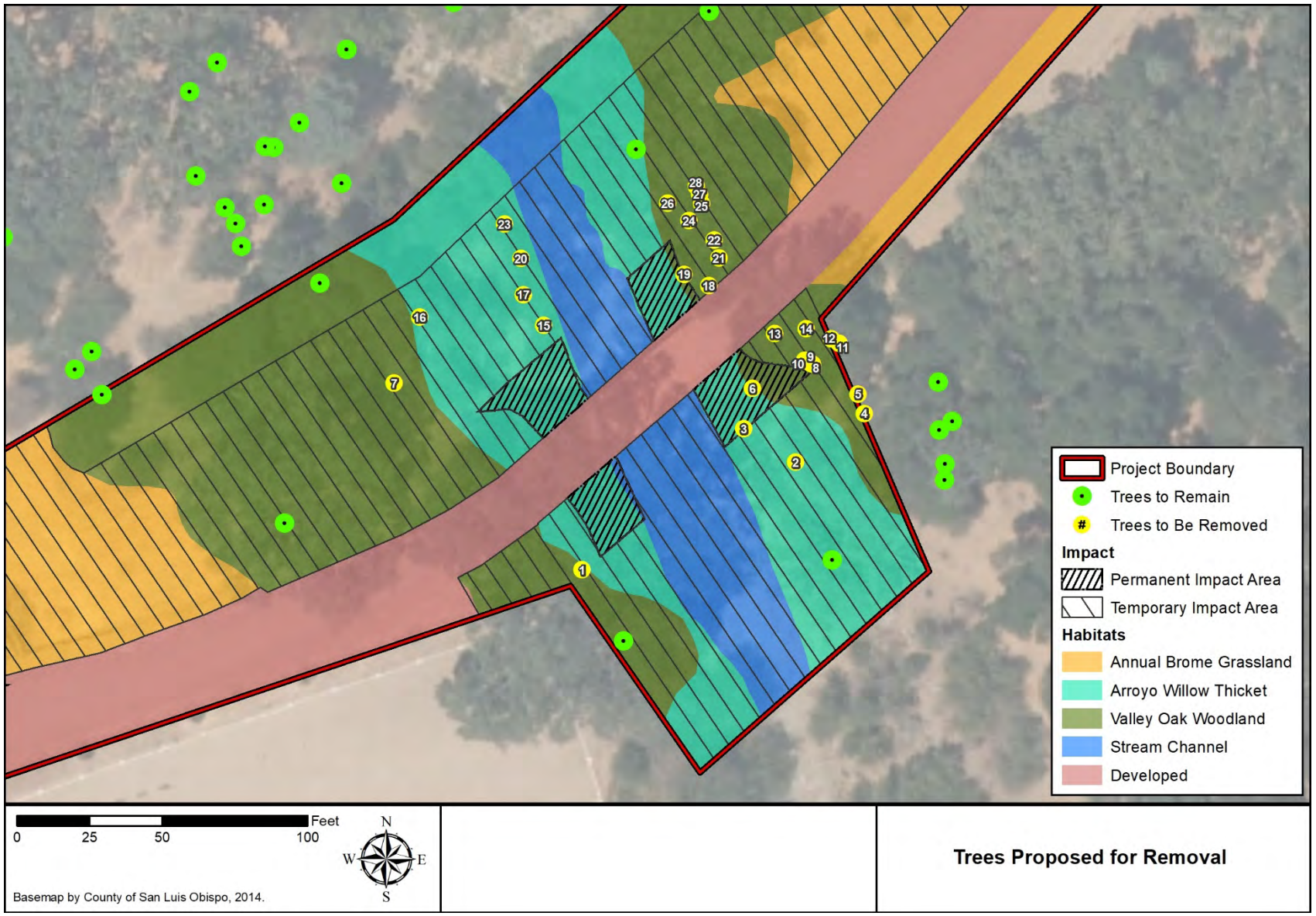
Survey Results

Valley Oak Woodland (CDFW CA Code 71.040.00) is considered sensitive in the State of California and has a rarity rank of S3, indicating this plant community is rare to locally common throughout its range (CDFW 2010b). The structure and species composition of this community/vegetation alliance are described in Chapter 3. Both valley and coast live oaks are present in the BSA including midsized to large mature trees (with a diameter at breast height [DBH] ranging between 6 and 48 inches) in the central (at the bridge crossing of Jack Creek) and western portions of the BSA above the creek's high-flow channel (see Table 8 and Figure 8, below, and Tree Removal Exhibit in Appendix A).

Table 8: Trees Proposed to be Removed

Tree Number	DBH (inches)	Tree Type	Tree Number	DBH (inches)	Tree Type
1	48	Valley Oak	15	36	Arroyo Willow
2	24	Red Willow	16	20	Coast Live Oak
3	24	Red Willow	17	10	Arroyo Willow
4	8	Coast Live Oak	18	8	Coast Live Oak
5	6	Valley Oak	19	10	Coast Live Oak
6	15	Red Willow	20	30	Arroyo Willow
7	10	Red Willow	21	10	Coast Live Oak
8	12	Coast Live Oak	22	10	Coast Live Oak
9	12	Coast Live Oak	23	36	Arroyo Willow
10	6	Coast Live Oak	24	15	Valley Oak
11	6	Coast Live Oak	25	12	Valley Oak
12	18	Coast Live Oak	26	8	California Bay
13	18	Coast Live Oak (split)	27	8	Valley Oak
14	18	Valley Oak	28	20	Valley Oak

Figure 8: Trees Proposed for Removal



Project Impacts

While most of the Valley Oak Woodland occurs outside the work areas, the permanent removal of 0.01 acre and temporary impacts to 0.34 acre of valley oak woodland, will occur in the area associated with the temporary detour and bridge construction (Figure 7). In addition, the project will result in the removal of 19 oak trees (16 trees from 6 to 18 inches DBH, 2 trees from 20 to 30 inches DBH, and 1 tree greater than 36 inches DBH) and 9 other native trees.

Avoidance and Minimization Efforts

1. To avoid and minimize impacts to native trees the project impact area will be minimized to the extent feasible to preserve existing trees. If possible, trimming of trees rather than complete removal is the preferred approach within temporary impact areas. Environmentally Sensitive Area (ESA) fencing will be placed along the edge of this habitat adjacent to the construction area to keep construction equipment, materials, and personnel out of adjacent areas supporting this vegetation. A qualified biologist will aid in the placement of the ESA fencing and will be on site to monitor tree removal.

Compensatory Mitigation

The project will disturb less than one acre of valley oak woodland. The compensatory mitigation for temporary impacts for this project should be onsite and in-kind (i.e., replacing the habitats to be impacted. If there is not sufficient area to meet mitigation requirements, additional mitigation strategies may need to be developed, such as contributing to a mitigation bank or in-lieu fee program, offsite mitigation within the Jack Creek, Summit Creek, and/or Paso Robles Creek Watershed, or contributing to an existing mitigation program, if acceptable programs or restoration areas are available. Approximately 19 valley and coast live oaks will be removed for this project.

2. Prior to construction, the County of San Luis Obispo will prepare a comprehensive Habitat Mitigation and Monitoring Plan (HMMP) that provides for a 1:1 restoration ratio for temporary impacts and a 3:1 enhancement ratio for permanent impacts, unless otherwise directed by regulatory agencies. Replacement plantings will be detailed in the California Department of Transportation's Landscape Architecture Landscape Planting Plan and the final HMMP. The HMMP will be developed in coordination with a biologist and will include developed planting specifications and grading plans to ensure survival of planted vegetation and re-establishment of functions and values. The final HMMP will detail mitigation commitments and will be consistent with standards and mitigation requirements from the applicable regulatory agencies. The HMMP will be prepared when full construction plans are prepared and will be finalized through the permit review process with regulatory agencies. It is

anticipated that restoration plantings will be onsite and in-kind and consist mainly of native trees and riparian species such as valley oak, coast live oak, arroyo willow, western sycamore, mulefat, California blackberry, and mugwort.

3. To the extent feasible, mitigation activities will be implemented within the Biological Study Area and/or the Jack Creek riparian corridor and in areas in and adjacent to the Biological Study Area that support non-native or invasive plant species or have erosion. These areas provide the most optimal mitigation opportunities onsite. Any revegetation will be conducted using only native plant species. The HMMP will identify the specific mitigation sites and will be implemented immediately following project completion.

Cumulative Effects

Cumulative effects include the effects of future state, tribal, local, or private actions that are reasonably certain to occur in the vicinity of the project area considered in this assessment. To date, the known Caltrans-related transportation projects to be considered for cumulative impacts would be the Jack Creek Road Bridge Replacement Project over Paso Robles Creek, the Graves Creek Bridge at Santa Lucia Road Bridge Replacement Project, and the Via Avenue Bridge Replacement Project over Atascadero Creek. All projects have the potential to impact streams that flow into the Salinas River. However, none of the projects are expected to result in, or contribute to, cumulative impacts to jurisdictional wetlands or other waters, as any impacts will be mitigated through implementation of the restoration plan, installation of Best Management Practices (BMPs), and other measures. Therefore, no cumulative effects are likely to occur to Valley oak Woodland and none are expected or anticipated.

DISCUSSION OF JURISDICTIONAL FEATURES

This report identifies jurisdictional features such as potential wetlands and waters of the United States, as defined by USACE, and potential waters of the State, as defined by the State of California, including CDFW, SWRCB, and RWQCB.

“Wetlands” are generally considered to be within USACE jurisdiction if the three-parameter criteria are satisfied (i.e., hydrophytic vegetation, hydric soils, and wetland hydrology). Based on the assessment, federal wetlands were not identified within the BSA per the USACE definition.

If an OHWM is observed but the three wetland parameters needed are not met, these areas are considered “other waters of the U.S.,” or commonly referred to as just “other waters.” These areas are generally considered to be within USACE jurisdiction.

State jurisdiction, governed by CDFW/RWQCB, typically extends to the top-of-bank or outside edge of riparian vegetation. These areas include the riparian corridor of San Luis Obispo Creek within the BSA.

In order to remain in compliance with Executive Order 11990, the project must make reasonable efforts to minimize temporary impacts to the wetlands and other waters. Resulting impacts must be offset through appropriate mitigation including replacement of permanently converted wetlands and restoration of temporarily impacted wetlands.

Survey Results

A jurisdictional delineation was not conducted for the project; potential federal and state jurisdictional areas were identified within the proposed BSA based aerial photos and observations during surveys, which included mapping of the OHWM. During the permit review process, the resource agencies may elect to conduct a site visit to verify the conditions and extents of the jurisdictional areas identified and will approve or request amendments to the boundaries based on their findings.

Based on the conditions observed in the field, Jack Creek is likely subject to USACE, CDFW, and RWQCB jurisdiction. This is due to the presence of a clearly identifiable OHWM, the evidence of a defined bed and bank, connectivity to permanent waters (Jack Creek flows into Paso Robles Creek, which connects with the Salinas River), evidence of wetland hydrology, and presence of riparian vegetation. The existing riparian corridor of Jack Creek extends to the top-of-bank; therefore, CDFW jurisdiction is mapped to include those areas within the outermost extent of riparian vegetation. RWQCB also asserts jurisdiction over waters of the State, through the Porter Cologne Act. The definition of this state jurisdiction is general, and no formal delineation process is in place at this time, therefore, RWQCB will also commonly utilize the extent of riparian as the extent of their jurisdiction under the Porter Cologne Act. Table 9 quantifies the total area of USACE, CDFW, and RWQCB jurisdictional waters within the project site.

Table 9: Jurisdictional Areas Present in the BSA

Jurisdictional Feature	Area Present
Clean Water Act (Sections 404/401 applicable)	
Other Waters of the United States (ordinary high water mark)	9,147 ft^2 (0.21 acre)
California Fish and Game Code (Sections 1600–1602 applicable)	
RWQCB/CDFW Jurisdictional Area*	20,473 ft^2 (0.47 acre)*

*Includes the 0.21 acre within the OHWM.

Project Impacts

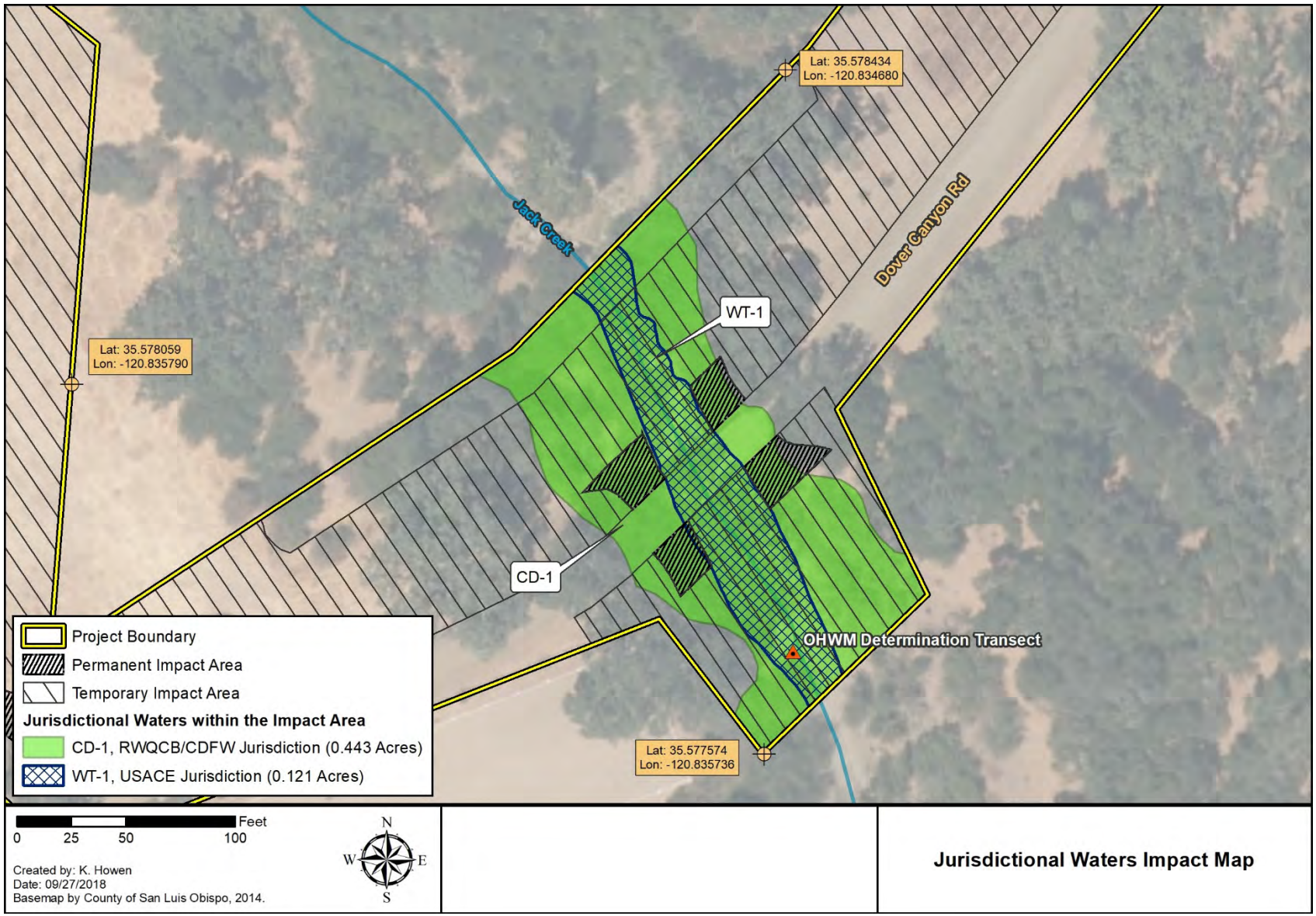
Jurisdictional areas that would be filled or otherwise replaced with a structure, or permanently altered from the current condition, were considered permanent impacts. Permanent impacts will result from installation of the approach abutments and placement of RSP. In general, no permanent impact would occur within the OHWM, although replacement of abutments may encroach into the OHWM and would likely include removal of concrete or other materials that have fallen into the stream. Temporarily impacted areas are expected to be returned to the pre-construction condition following project completion. Temporary impacts will occur within the areas that include the temporary detour bridge, dewatering/diversion structure, slopes and areas that will be revegetated, and associated riparian vegetation removal (Figure 9). Project staging areas have been selected to minimize unnecessary impacts to native riparian vegetation. Table 10 provides a summary of potential permanent and temporary project-related impacts that would be subject to environmental permitting by USACE, under Section 404 of the CWA; CDFW, under Sections 1600–1602 of the CFG Code; and RWQCB, under Section 401 of the CWA.

Table 10: Impacts to Jurisdictional Areas on the Project Site

Agency	Jurisdictional Areas	Temporary Impacts			Permanent Impacts		
		Area (ft^2)	Area (ac)	Linear Feet[1]	Area (ft^2)	Area (ac)	Linear Feet[1]
USACE	Other Waters of the U.S.[2]	5,100	0.12	179.0	46.5	0.001	25.0
	Total USACE Impacts	**5,100**	**0.12**	**179.0**	**46.5**	**0.001**	**25.0**
CDFW/ RWQCB	Stream Channel/ Intermittent Stream[2]	5,100	0.12	179.0	**46.5**	**0.001**	**25.0**
	Riparian[3]	9,214.8	0.320	179.0	1,825.3	0.042	45.0
	Total CDFW/RWQCB Impacts	14,441.8	0.44	179.0	1,871.8	0.043	45.0

[1] Linear feet are measured parallel to the stream channel.
[2] USACE waters of the U.S. include jurisdictional features at or below the OHWM that lack one or more of the wetland parameters; there would be a minor amount of incursion into the OHWM for removal of existing concrete and placement of rock slope protection. Stream Channel/Intermitted Stream = Other Waters of the United States.
[3] RWQCB and CDFW jurisdiction extends to the outer edge of the arroyo willow thicket riparian canopy, beyond top of bank.

Figure 9: Jurisdictional Delineation Impacts Map



Avoidance and Minimization Efforts

The project has the potential to impact state and federal jurisdictional aquatic features. The following measures are recommended to avoid or minimize impacts to these resources.

4. Prior to construction, the County of San Luis Obispo will obtain a Section 404 Permit from the U.S. Army Corps of Engineers, a Section 401 Water Quality Certification from the Regional Water Quality Control Board, and a Section 1602 Streambed Alteration Agreement from the California Department of Fish and Wildlife for project-related impacts that will occur in areas under state and federal jurisdiction.

5. Prior to construction, the County of San Luis Obispo will retain a qualified biological monitor(s) to monitor construction and ensure compliance with the avoidance and minimization efforts outlined within all of the project environmental documents. At a minimum, monitoring will occur during initial ground disturbance activities and vegetation removal within the Jack Creek corridor. Monitoring may be reduced to part time once initial disturbance and vegetation removal activities are complete. The duration of monitoring should be at least once per week throughout the remaining construction phases, unless specified otherwise by permitting agencies.

6. Prior to construction, all personnel will participate in an environmental awareness training program conducted by a qualified biologist. The program shall include a description of the special-status aquatic resources and federally designated critical habitat within the BSA and the boundaries within which the project may be accomplished. If appropriate, the biologist may train and designate a representative of the County of San Luis Obispo or other designee to provide training to subcontractors or personnel that will be onsite for short durations during the project.

7. Construction activities within jurisdictional areas will be conducted during the dry season when stream flows will be at annual lows (typically June 15 through October 31) in any given year, or as otherwise directed by the regulatory agencies. Deviations from this work window can be made with permission from the relevant regulatory agencies.

8. Prior to initiation of any construction activities, including vegetation clearing or grubbing, sturdy high-visibility fencing will be installed to protect the jurisdictional areas adjacent to the designated work areas. This fencing will be placed so that unnecessary adverse impacts to the adjacent habitats are avoided. No construction work (including storage of materials) will occur outside of the specified project limits. The fencing will remain in place during the entire construction period, be monitored periodically by a qualified biologist, and be maintained as needed by the contractor.

9. Prior to construction, a Storm Water Pollution Prevention Plan or a Water Pollution Prevention Plan will be prepared in accordance with County of San Luis Obispo

requirements. Provisions of this plan will be implemented during and after construction as necessary to avoid and minimize erosion and stormwater pollution in and near the work area.

10. Prior to construction, the contractor will prepare a Hazardous Materials Response Plan to allow for a prompt and effective response to any accidental spills. Workers will be informed of the importance of preventing spills and of the appropriate measures to take should a spill occur.

11. During construction, erosion control measures (e.g., silt fencing, fiber rolls, and barriers) will remain available onsite and will be utilized as necessary to prevent erosion and sedimentation in jurisdictional areas. No synthetic plastic mesh products will be used for erosion control and use of these materials onsite is prohibited. Erosion control measures and other suitable Best Management Practices used will be checked to ensure that they are intact and functioning effectively and maintained on a daily basis throughout the duration of construction. The contractor will also apply adequate dust control techniques, such as site watering, during construction to protect water quality.

12. During construction, the cleaning and refueling of equipment and vehicles will occur only within a designated staging area and at least 60 feet (20 meters) from wetlands or other aquatic areas. At a minimum, equipment and vehicles will be checked and maintained daily to ensure proper operation and avoid potential leaks or spills.

13. During construction, trash will be contained, removed from the work site, and disposed of regularly. Following construction, trash and construction debris will be removed from the work areas. Vegetation removed from the construction site will be taken to a certified landfill to prevent the spread of invasive species. If soil from weedy areas (such as areas with poison hemlock or other invasive plant species) must be removed offsite, the top six inches (152 millimeters) containing the seed layer in areas with weedy species will be disposed of at a permitted landfill.

14. During construction, no pets will be allowed on the construction site.

Compensatory Mitigation

The goal of compensatory mitigation is to prevent a net loss of wetlands or other aquatic resource acreage, function, and value. The USACE Mitigation Rule has established a preferred hierarchy for mitigation that includes, in descending order: 1) mitigation banks; 2) in lieu fee programs; and 3) permittee-responsible mitigation (USACE 2015). Since the project will disturb less than one acre of jurisdictional features, and there will be a need to stabilize bank slopes and revegetate areas temporarily impacted by construction, the compensatory mitigation for temporary impacts should be onsite and in-kind (i.e., replacing the habitats to be impacted. If there is not sufficient area to meet mitigation requirements,

additional mitigation strategies may need to be developed, such as contributing to a mitigation bank or in-lieu fee program, offsite mitigation within the Jack Creek, Summit Creek, and/or Paso Robles Creek Watershed, or contributing to an existing mitigation program, if acceptable programs or restoration areas are available.

The impacts to jurisdictional waters along Dover Canyon Road would be of a relatively small scale (0.001 acre of permanent impact and about 0.117 acre of temporary impact). Several types of compensatory mitigation may be available to offset impacts to waters of the United States, including restoration of riparian areas temporarily impacted by project activities.

Development of a Habitat Mitigation and Monitoring Plan (HMMP) to address compensatory mitigation for Valley Oak Woodland will also serve to mitigate impacts to jurisdictional features that may result from the project as well. No additional compensatory mitigation is proposed.

Cumulative Effects

Cumulative effects include the effects of future state, tribal, local, or private actions that are reasonably certain to occur in the vicinity of the project area considered in this assessment. To date, the known Caltrans-related transportation projects to be considered for cumulative impacts would be the Jack Creek Road Bridge Replacement Project over Paso Robles Creek, the Graves Creek Bridge at Santa Lucia Road Bridge Replacement Project, and the Via Avenue Bridge Replacement Project over Atascadero Creek. All projects have the potential to impact streams that flow into the Salinas River. However, none of the projects are expected to result in, or contribute to, cumulative impacts to jurisdictional wetlands or other waters, as any impacts will be mitigated through implementation of the restoration plan, installation of Best Management Practices (BMPs), and other measures. Therefore, no cumulative effects are likely to occur to jurisdictional features and none are expected or anticipated.

DISCUSSION OF STEELHEAD CRITICAL HABITAT

Jack Creek, Summit Creek, and Paso Robles Creek are designated as critical habitat for the South-Central California Coast steelhead DPS (70 CFR 52488–52627). Critical habitat designated in and near the BSA includes Salinas River Hydrologic Unit 3309, Paso Robles Hydrologic Sub-area 330981; the BSA falls within this critical habitat unit. There were no reported occurrences of the taxon in Jack Creek, although focused aquatic surveys were not conducted. The project area is just south of the confluence of Summit Creek with Jack Creek, Jack Creek flows into Paso Robles Creek about 3 miles southeast of the BSA, and Paso Robles Creek flows into the Salinas River. According to the South-Central California Coast Steelhead Recovery Plan (NMFS 2013), “Very High” threats to the Salinas River mainstem steelhead trout population include dams and surface water diversions, groundwater extraction, agricultural development, levees and channelization, flood control

maintenance, and agricultural effluents; “High” threats include recreational facilities and non-native species; and “Medium” threats include urban development, roads, and culverts and road crossings (passage barriers).

Adverse modification of critical habitat is defined as a “direct or indirect alteration that appreciably diminishes the value of critical habitat for both the survival and recovery of a listed species.”

Survey Results

The South-Central California Coast Steelhead Recovery Planning Area, one of 32 DPSs, extends from Monterey to San Luis Obispo County. Approximately 20,473 square feet (0.47 acre) of South-Central California Coast steelhead DPS critical habitat are present within the BSA.

Although Jack Creek is designated as critical habitat for South-Central California Coast steelhead, there are no reported CNDDB occurrences of South-Central California Coast steelhead within Jack Creek (CNDDB 2019). Additionally, according *San Luis Obispo County Regional Instream Flow Assessment* (Stillwater Sciences 2014), Jack Creek does not carry sufficient flows to provide steelhead habitat, although this information is based on gauging data prior to 1978. While habitat units are hydrologically connected, it is expected that streams in the project vicinity have insufficient water velocity to support food delivery or to provide migration among habitat units during the spring and summer. The study does state that additional data are needed for certain streams and does not address requirements of fish passage flows (Stillwater Sciences 2014). Individual steelhead were not identified within the BSA during the field surveys and are considered to have a low potential to occur, although their presence within the BSA during construction cannot be ruled out unless the stream is dry.

Project Impacts

Based on the current project plans, a total of 0.121 acre of stream channel habitat (i.e., below OHWM) in Jack Creek would be impacted as result of construction activities within the project work area, equipment access into the creek channel, and temporary water diversion activities. This includes less than 0.001 acre of permanent impacts associated with removal of the existing bridge and replacement of slope protection that would encroach within edges of the mapped OHWM and steelhead critical habitat.

Avoidance and Minimization Efforts

The avoidance and minimization efforts described for jurisdictional areas will serve to avoid and minimize impacts to steelhead critical habitat. These measures, intended to avoid and minimize impacts to steelhead critical habitat, would also reduce potential project-related impacts to water quality within Jack Creek. In addition to these measures, implementation of

additional Avoidance and Minimization Measures included in the discussion of South-Central California Coast steelhead below will specifically address steelhead and federally designated critical habitat for this species.

Compensatory Mitigation

Development of a HMMP to address compensatory mitigation requirements for Valley Oak Woodland will also serve to mitigate impacts to steelhead critical habitat that may result from the project. No additional compensatory mitigation is proposed.

Cumulative Effects

Cumulative effects include the effects of future state, tribal, local, or private actions that are reasonably certain to occur in the vicinity of the project area considered in this assessment. To date, the known Caltrans-related transportation projects to be considered for cumulative impacts would be the Jack Creek Road Bridge Replacement Project over Paso Robles Creek, the Graves Creek Bridge at Santa Lucia Road Bridge Replacement Project, and the Via Avenue Bridge Replacement Project over Atascadero Creek. All projects have the potential to impact streams that flow into the Salinas River. However, none of the projects are expected to result in, or contribute to, cumulative impacts to steelhead critical habitat, or other waters, as any impacts will be mitigated through implementation of the restoration plan, installation of BMPs, and other measures. Therefore, no cumulative effects are likely to occur to steelhead critical habitat and none are expected or anticipated.

DISCUSSION OF INVASIVE SPECIES

Executive Order 13112 is a directive aimed at preventing the introduction and spread of invasive species as a result of federal agency actions. This Executive Order requires federal agencies to work cooperatively to prevent and control the spread of invasive plants and animals. On August 10, 1999, FHWA issued implementing guidance on Executive Order 13112. On October 22, 1999, Caltrans issued a memo to implement the FHWA guidance. The guidance provides that a NEPA analysis for an action include an analysis of the probability of the action to cause or promote the introduction or spread of invasive species. If analysis indicates that disturbances caused by the action have the potential to promote the introduction or spread of invasive species, feasible and prudent measures must be taken to minimize this likelihood.

Survey Results

A total of 17 invasive plant species as identified by the Cal-IPC Inventory were observed within the BSA (refer to Table 3). Himalayan blackberry was the only non-native plant species with a Cal-IPC category rating of High observed in the BSA. Eight plant species were observed with a Cal-IPC category rating of Moderate, and eight species were observed with a category rating of Limited. It is also assumed that invasive wildlife species

such as bullfrog (*Lithobates catesbeianus*) and crayfish (*Cambarus* spp.) are present within Jack Creek.

Project Impacts

Project activities would require removing and replacing soil that may contain seeds of invasive plant species. Disturbance of the soil containing invasive species seeds could facilitate the spread of invasive species in and out of the BSA. The project is not expected to facilitate the spread of invasive wildlife, such as bullfrog and crayfish. To the contrary, the project would result in the removal of these individuals when found.

Avoidance and Minimization Efforts

The following measures are proposed for maintaining compliance with Executive Order 13112.

15. During construction, the project will make all reasonable efforts to limit the use of imported soils for fill. Soils currently existing onsite should be used for fill material. If the use of imported fill material is necessary, the imported material must be obtained from a source that is known to be free of invasive plant species, or the material must consist of purchased clean material such as crushed aggregate, sorted rock, or similar. To avoid the spread of invasive species, the contractor shall:

a. Stockpile topsoil and redeposit the stockpiled soil onsite at a sufficient depth to preclude germination or spread of those species after construction is complete; or,

b. Transport the topsoil to a permitted landfill for disposal.

16. Prior to construction, project plans will clearly identify the type of species, location, and methodology of removal and disposal of invasive species found within the project site. Removal and disposal of invasive plants and wildlife must be in accordance with state law and/or project authorizations from resource agencies (e.g., U.S. Fish and Wildlife Service Programmatic Biological Opinion). In particular, for those invasive plant species that are particularly difficult to remove, a combination of cutting and application of herbicide would likely be required, and thus require a request for an amendment to the standard conditions of the U.S. Fish and Wildlife Service Programmatic Biological Opinion if herbicides are used within 60 feet of open water. In addition, removal of bullfrog or crayfish must be conducted lawfully using methodologies outlined in the California Fish and Game Code.

17. During construction, the biological monitor(s) will ensure that the spread or introduction of invasive plant and wildlife species is avoided to the maximum extent possible.

18. All erosion control materials including straw bales, straw wattles, or mulch used onsite must be free of invasive species seed. Removal of invasive species may provide opportunities for planting native trees and shrubs to enhance the existing native plant communities, although these areas are limited within the BSA.

Compensatory Mitigation

With implementation of the avoidance and minimization measures, compensatory mitigation will not be necessary.

Cumulative Effects

Cumulative effects include the effects of future state, tribal, local, or private actions that are reasonably certain to occur in the vicinity of the project area considered in this assessment. To date, the known Caltrans-related transportation projects to be considered for cumulative impacts would be the Jack Creek Road Bridge Replacement Project over Paso Robles Creek, the Graves Creek Bridge at Santa Lucia Road Bridge Replacement Project, and the Via Avenue Bridge Replacement Project over Atascadero Creek. All projects have the potential to impact streams that flow into the Salinas River. However, none of the projects are expected to result in, or contribute to, cumulative impacts by introducing or spreading invasive plant species, as any impacts will be mitigated through implementation of the restoration plan, installation of BMPs, and other measures. Therefore, no cumulative effects are likely to occur, and none are expected or anticipated.

Special-Status Plant Species

DISCUSSION OF MESA HORKELIA AND OREGON MECONELLA

The USFWS, CNDDB, CNPS species lists, and the results of spring surveys, indicate 11 special-status plant taxa (federally listed, state listed, and/or CRPR List 1B or 2) as occurring within a five-mile radius of the project site (refer to Table 5, and Figure 6: CNDDB Map). The resulting list of plant species is regional; therefore, an analysis of the range and habitat preferences was conducted to identify which special-status plant species have the potential to occur within the BSA. The analysis considered existing habitat, elevation, results of previous surveys conducted for other projects, and soils within the BSA. As a result, SWCA determined that the BSA supports suitable habitat for two of the 11 special-status plant species, including mesa horkelia and Oregon meconella. A discussion of each of these species is provided below.

Mesa horkelia, a CRPR 1B.1 species, is a perennial herb that occurs in chaparral, cismontane woodlands, and coastal scrub on sandy or gravelly sites. It occurs at elevations ranging from 230 to 2,660 feet (70 to 810 meters) above mean sea level and typically blooms between February and September. There is a CNDDB occurrence of this species

(CNDDB Occurrence No. 101) on Black Mountain, about 4 miles west of the project site. This report is from a 1956 collection and is presumed extant (CNDDB 2018).

Oregon meconella, a CRPR 1B.1 species, is an annual herb that occurs in coastal prairies and coastal scrub habitat at elevations ranging from 820 to 2,660 feet (250 to 620 meters). It typically blooms between March and May. There are only 5 known occurrences of this species in California, one of which is in San Luis Obispo County approximately 4 miles south of the BSA (CNDDB Occurrence No. 6). This occurrence is from a 1956 collection and is noted as needing fieldwork, although is presumed extant (CNPS 2018, CNDDB 2018).

Survey Results

Although the BSA provides potentially suitable habitat for mesa horkelia and Oregon meconella, the suitable habitat within the project area is very limited and disturbed (i.e., along roadsides and rural developed areas), and none were observed in the BSA during botanical surveys conducted within the appropriate blooming periods of each species (March and May).

Project Impacts

Mesa horkelia and Oregon meconella were not identified and are not expected to occur within the BSA; therefore, no impacts to these species will occur.

Avoidance and Minimization Efforts

Although special-status plant species were not observed and are not expected to occur within the project area, the following measure is recommended to ensure potential project-related impacts to special-status plant species are minimized should the start of construction be delayed more than two years following the most recent botanical survey:

19. Prior to construction, a qualified botanist shall survey the Biological Survey Area during the appropriate blooming time to ensure special-status species are not present within a ground disturbance areas. If present, the location and number of individuals will be recorded and suitable mitigation will be incorporated into the project plans, such as seed collection and replanting of special-status species. Observations of these or other special-status species shall be documented on California Natural Diversity Database forms and submitted to the California Department of Fish and Wildlife upon project completion.

Compensatory Mitigation

Compensatory mitigation for special-status plant species is not warranted or proposed.

Cumulative Effects

Cumulative effects include the effects of future state, tribal, local, or private actions that are reasonably certain to occur in the vicinity of the project area considered in this assessment. To date, the known Caltrans-related transportation projects to be considered for cumulative impacts would be the Jack Creek Road Bridge Replacement Project over Paso Robles Creek, the Graves Creek Bridge at Santa Lucia Road Bridge Replacement Project, and the Via Avenue Bridge Replacement Project over Atascadero Creek. All projects have the potential to impact streams that flow into the Salinas River. However, none of the projects are expected to result in, or contribute to, cumulative impacts to special-status plant species because none are expected to occur or were observed within the BSA during the botanical surveys, which were conducted during the appropriate blooming periods for each species considered to have potential to occur. Therefore, cumulative effects special-status plant species are not expected.

Special-Status Animal Species Occurrences

DISCUSSION OF SOUTH-CENTRAL CALIFORNIA COAST STEELHEAD

Steelhead occupy streams in watersheds with perennial fresh water. The populations of steelhead on the California central coast are part of the South-Central California Coast DPS. The South-Central California Coast DPS of steelhead is federally listed as threatened, and the state considers the species to be an SSC.

Steelhead are genetically indistinct from rainbow trout and differ only in their behavior. They prefer cool, clear, coastal streams and rivers with a gradient less than 5%. Steelhead exhibit life cycle strategies similar to other salmonids, known as anadromy. Steelhead trout enter streams and rivers to prepare for migration to spawning grounds as soon as streamflow is adequate and the summer sand bar present at the mouths of many coastal lagoons have breached.

Optimal habitat for steelhead on the Pacific Coast can be characterized by clear, cool water with abundant instream cover (e.g., submerged branches, rocks, logs), well-vegetated stream margins, relatively stable water flow, and a 1:1 pool-to-riffle ratio (Raleigh et al. 1984). However, steelhead are occasionally found in reaches of streams containing habitat that would be considered less than optimal. Steelhead within the central coast region start to migrate up coastal drainages following the first substantial seasonal rainfall. Spawning typically occurs during the spring in riffle areas that consist of clean, coarse gravels. Juveniles (smolts), after rearing for one to three years within freshwater, and post-spawning adults out-migrate to the ocean from March to July, depending on stream flows.

Survey Results

Focused surveys for South-Central California Coast steelhead were not conducted. The South-Central California Coast Steelhead Recovery Planning Area, one of 32 DPSs, extends from Monterey to San Luis Obispo County. Approximately 5,662.8 square feet (0.13 acre) of South-Central California Coast steelhead DPS critical habitat is present within the BSA.

Although Jack Creek, as well as other nearby streams, is designated as critical habitat for South-Central California Coast steelhead, there are no CNDDB occurrences of South-Central California Coast steelhead within Jack Creek. Additionally, according to instream flow assessment data collected in spring and summer of 2013 for the *San Luis Obispo County Regional Instream Flow Assessment*, Jack Creek does not carry sufficient flows to provide steelhead habitat (Stillwater Sciences 2014). Individual steelhead are considered to have a low potential to occur within the project area, although their presence cannot be ruled out unless the stream is dry.

Project Impacts

If present within the BSA during project activities, individual steelhead may be directly impacted. They may be stranded in portions of the creek that must be dewatered, become caught in dewatering pumps, or made vulnerable to predation from foraging birds and mammals. With the implementation of avoidance and minimization measures, these potential impacts may be avoided.

Potential indirect impacts to steelhead from the project may occur and include sediment deposition downstream of the work area, which may adversely impact downstream water quality. However, these potential indirect impacts to steelhead may be avoided through the use of appropriate silt and erosion control measures.

Avoidance and Minimization Efforts

The project has the potential to result in “take” of steelhead; therefore, Caltrans must consult with NMFS under Section 7 of the FESA to obtain a Biological Opinion for the project. The Biological Opinion will include several Reasonable and Prudent Measures and Terms and Conditions to reduce the effects on steelhead and their habitat. The avoidance and minimization efforts described for jurisdictional areas will require avoidance, minimization, and mitigation measures for impacts to special-status habitats that provide cover and shade for steelhead. In addition to the measures pertaining to jurisdictional areas, the following measures will serve to further avoid and minimize potential project-related impacts to steelhead.

20. Prior to initiation of stream diversion/dewatering, a qualified biologist shall conduct a worker environmental training program, including a description of steelhead,

steelhead critical habitat, its legal/protected status, avoidance/minimization measures to be implemented during the project, and the implications of violating Federal Endangered Species Act and permit conditions.

21. In-stream work will take place in any given year (typically between June 15 and October 31) when the surface water within Jack Creek is likely to be at seasonal minimum. Deviations from this work window will only be made with permission from the relevant regulatory agencies.

22. During in-stream work, a qualified biologist that is approved by the National Oceanic and Atmospheric Administration National Marine Fisheries Service and has experience in steelhead biology and ecology, aquatic habitats, biological monitoring (including diversion/dewatering), and capturing, handling, and relocating fish species will be retained. During in-stream work, the biological monitor(s) will continuously monitor placement and removal of any required stream diversions and will capture stranded steelhead and other native fish species and relocate them to suitable habitat, as appropriate and in accordance with the Project's Fish Relocation Plan. The approved biologist(s) will capture steelhead stranded as a result of diversion/dewatering and relocate steelhead to the nearest suitable in-stream habitat. The approved biologist(s) will note the number of steelhead observed in the affected area, the number of steelhead relocated, and the date and time of the collection and relocation.

23. All field equipment used at the project site will be decontaminated at the end of the project, or before using at other watersheds.

24. During in-stream work, if pumps are incorporated to assist in temporarily dewatering the site, intakes will be completely screened with no larger than 0.2-inch (five-millimeter) wire mesh according to NMFS's Pump Intake Screen Criteria For Water Drafting to prevent steelhead and other special-status aquatic species from entering the pump system. Pumps will release the diverted water so that suspended sediment will not re-enter the stream. The form and function of pumps used during the dewatering activities will be checked daily, at a minimum, by a qualified biological monitor to ensure a dry work environment and minimize adverse effects to aquatic species and habitats.

25. In areas where concrete is used, a dry work area will be maintained to prevent conveyance of runoff from curing concrete to the surface waters of the adjacent stream at all times. Water that inadvertently contacts uncured concrete must not be discharged into surface waters.

26. If concrete is used, it will be poured into tightly-sealed concrete forms and will not come into contact with waters until it has fully cured 30 days after it has been poured;

otherwise, concrete sealants will be applied and allowed to fully cure before coming into contact with water. Downstream pH will be monitored by a qualified biologist before concrete is poured and afterwards until it is cured. Any water that has come into contact with uncured concrete and has a pH above 9.0 will be pumped out and disposed of outside of the river channel.

27. Wattles and silt fences will be used to filter sediment from runoff. Construction mats and gravel bags will be used within the streambed to reduce disturbance and sediment mobilization.

Compensatory Mitigation

The proposed avoidance and minimization measures above will serve to reduce impacts to steelhead. No additional compensatory mitigation is proposed.

Cumulative Effects

Cumulative effects include the effects of future state, tribal, local, or private actions that are reasonably certain to occur in the vicinity of the project area considered in this assessment. To date, the known Caltrans-related transportation projects to be considered for cumulative impacts would be the Jack Creek Road Bridge Replacement Project over Paso Robles Creek, the Graves Creek Bridge at Santa Lucia Road Bridge Replacement Project, and the Via Avenue Bridge Replacement Project over Atascadero Creek. All projects have the potential to impact streams that flow into the Salinas River. However, none of the projects are expected to result in, or contribute to, cumulative impacts to steelhead, as any impacts will be mitigated through implementation of the restoration plan, installation of BMPs, and other measures. Therefore, no cumulative effects are likely to occur to steelhead and none are expected or anticipated.

DISCUSSION OF CALIFORNIA RED-LEGGED FROG

California red-legged frog is federally threatened and considered an SSC by CDFW. It is recognized by the reddish color that forms on the underside of its legs and belly and the presence of a diagnostic dorsolateral fold. The California red-legged frog historically ranged from Marin County southward to northern Baja California (Stebbins 2003). Presently, Monterey, San Luis Obispo, and Santa Barbara Counties support the largest remaining California red-legged populations within California.

California red-legged frogs use a variety of areas, including aquatic, riparian, and upland habitats. They prefer aquatic habitats with little or no flow, the presence of surface water to at least early June, surface water depths to at least 2.3 feet, and the presence of fairly sturdy underwater supports such as cattails (*Typha* spp.). The largest densities of this species are typically associated with dense stands of overhanging willows and an intermixed fringe of sturdy emergent vegetation (Jennings and Hayes 1994). The California red-legged

frog typically breeds from January to July, with peak breeding occurring in February and March. Softball-sized egg masses are attached to subsurface vegetation, and hatched tadpoles require 11 to 20 weeks to metamorphose. Metamorphosis typically occurs from July to September.

The California red-legged frog uses both riparian and upland habitats for foraging, shelter, cover, and nondispersal movement. Upland refugia may be natural, such as the spaces under boulders or rocks and organic debris (e.g., downed trees or logs), or manmade, such as certain industrial debris and agricultural features (e.g., drains, watering troughs, abandoned sheds, or stacks of hay or other vegetation); the California red-legged frog will also use small mammal burrows and moist leaf litter as refugia (USFWS 2010). Adults are predominantly nocturnal, while juveniles can be active at any time of day. Riparian habitat degradation, urbanization, predation by bullfrogs, and historic market harvesting have all reportedly contributed to the decline of the species.

Survey Results

No protocol surveys were conducted for California red-legged frog and the species was not observed during reconnaissance surveys. Potentially suitable in-stream aquatic habitat is present within the BSA. The banks of the creek support vegetation that could be used as refugia. California red-legged frog was documented in and asphalt-lined ditch on the south side of Highway 46, approximately 3 miles south if the project site, in January 2006 (CNDDB Occurrence Number 861); and in Rocky Creek near Santa Rosa Creek, approximately 3 miles southwest of the project site, in June 2006 (CNDDB Occurrence Number 898). There is also a non-specific occurrence from a stream with suitable wetland and well-developed riparian habitat 2.5 miles west of the project site from October 2006 (CNDDB Occurrence Number 381). California red-legged frog was documented in Paso Robles Creek in 2008, near the confluence of Paso Robles Creek with the Salinas River, more than 5 miles downstream of the project site (CNDDB Occurrence 617). There are also documented occurrences of California red-legged frog in other streams near the project area, including potential breeding colonies, west and south of the BSA (CNDDB 2019). Based on this information, presence within the BSA is inferred.

Project Impacts

Project construction could result in the injury or mortality of California red-legged frogs (if present) during the diversion/dewatering of Jack Creek. The potential need to capture and relocate California red-legged frogs could subject these animals to stresses that could result in adverse effects. Injury or mortality could occur via accidental crushing by worker foot-traffic or construction equipment. Erosion and sedimentation could also occur, which could directly or indirectly affect water quality. An unknown number of California red-legged frogs could be subjected to take, but the potential for these impacts is anticipated to be low due to no observations of the species within the BSA during surveys. It is acknowledged that this

could change through time, where habitat conditions and/or California red-legged frog numbers could fluctuate. Therefore, the presence of California red-legged frog is inferred the avoidance and minimization measures below are the relevant Programmatic Biological Opinion measures to qualify a project for programmatic concurrence for the purposes of USFWS formal consultation (USFWS 2011).

Avoidance and Minimization Efforts

Caltrans anticipates the proposed action will qualify for FESA incidental take coverage under the *Programmatic Biological Opinion for Projects Funded or Approved under the Federal Highway Administration's Federal Aid Program* (USFWS 2011), which includes the following applicable measures.

28. Only U.S. Fish and Wildlife Service-approved biologists will participate in activities associated with the capture and handling of California red-legged frogs. Biologists authorized under the Programmatic Biological Opinion do not need to resubmit their qualifications for subsequent projects conducted pursuant to the Programmatic Biological Opinion, unless the U.S. Fish and Wildlife Service has revoked their approval at any time during the life of the Programmatic Biological Opinion.

29. Ground disturbance will not begin until written approval is received from the U.S. Fish and Wildlife Service that the biologist(s) is qualified to conduct the work. The California Department of Transportation will request approval of the biologist(s) from the U.S. Fish and Wildlife Service

30. A U.S. Fish and Wildlife Service-approved biologist will survey the project area no more than 48 hours before the onset of work activities. If any life stage of the California red-legged frog is found and these individuals are likely to be killed or injured by work activities, the approved biologist will be allowed sufficient time to move them from the site before work activities begin. The U.S. Fish and Wildlife Service-approved biologist will relocate the California red-legged frogs the shortest distance possible to a location that contains suitable habitat and will not be affected by the activities associated with the project. The relocation site should be in the same drainage to the extent practicable. The California Department of Transportation will coordinate with the U.S. Fish and Wildlife Service on the relocation site prior to the capture of any California red-legged frogs.

31. Before any activities begin on a project, a U.S. Fish and Wildlife Service-approved biologist will conduct a training session for all construction personnel. At a minimum, the training will include a description of the California red-legged frog and its habitat, the specific measures that are being implemented to conserve the California red-legged frog for the current project, and the boundaries within which the project may

be accomplished. Brochures, books, and briefings may be used in the training session, provided that a qualified person is on hand to answer any questions.

32. A U.S. Fish and Wildlife Service-approved biologist will be present at the work site until California red-legged frogs have been relocated out of harm's way, workers have been instructed, and disturbance of the habitat has been completed. After this time, the County of San Luis Obispo will designate a person to monitor onsite compliance with minimization measures. The U.S. Fish and Wildlife Service-approved biologist will ensure that this monitor receives the training outlined in the previous measure, as well as training in the identification of California red-legged frogs. If the monitor or the U.S. Fish and Wildlife Service-approved biologist recommends that work be stopped because California red-legged frogs would be affected in a manner not anticipated by the California Department of Transportation, County of San Luis Obispo, and U.S. Fish and Wildlife Service during the review of the proposed action, they will notify the resident engineer (the engineer that is directly overseeing and in command of construction activities) immediately. The resident engineer will either resolve the situation by eliminating the adverse effect immediately or require that actions that are causing these effects to be halted. If work is stopped, the California Department of Transportation, County of San Luis Obispo, and U.S. Fish and Wildlife Service will be notified as soon as is reasonably possible.

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

34. All refueling, maintenance, and staging of equipment and vehicles will occur at least 60 feet from riparian habitat or water bodies and in a location from where a spill would not drain directly toward aquatic habitat (e.g., on a slope that drains away from the water). The monitor will ensure contamination of habitat does not occur during such operations. Prior to the onset of work, the California Department of Transportation and County of San Luis Obispo will ensure that a plan is in place for prompt and effective response to any accidental spills. All workers will be informed of the importance of preventing spills and of the appropriate measures to take should a spill occur.

35. Habitat contours will be returned to their original configuration to the greatest extent that is feasible at the end of project activities. This measure will be implemented in all areas disturbed by activities associated with the project, unless the U.S. Fish and Wildlife Service, California Department of Transportation, and County of San Luis Obispo determine that it is not feasible or modification or original contours would benefit the California red-legged frog.

36. The number of access routes, size of staging areas, and the total area of activity will be limited to the minimum necessary to achieve the project. Environmentally Sensitive Areas will be established to confine access routes and construction areas to the minimum area necessary to complete construction, and minimize the impact to California red-legged frog habitat; this goal includes locating access routes and construction areas outside of wetlands and riparian areas to the maximum extent practicable.

37. The County of San Luis Obispo and California Department of Transportation will attempt to schedule work for times of the year when impacts to the California red-legged frog would be minimal. For example, work that would affect large pools that may support breeding would be avoided, to the maximum degree practicable, during the breeding season (November through May). Isolated pools that are important to maintain California red-legged frogs through the driest portions of the year would be avoided, to the maximum degree practicable, during the late summer and early fall. Habitat assessments, surveys, and technical assistance between the California Department of Transportation and U.S. Fish and Wildlife Service during project planning will be used to assist in scheduling work activities to avoid sensitive habitats during key times of year.

38. To control sedimentation during and after project implementation, the California Department of Transportation and County of San Luis Obispo will implement the Best Management Practices outlined in any authorizations or permits issued under the authorities of the Clean Water Act that it receives for the specific project. If Best Management Practices are ineffective, the California Department of Transportation will attempt to remedy the situation immediately, in coordination with the U.S. Fish and Wildlife Service.

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

40. Unless approved by the U.S. Fish and Wildlife Service, water will not be impounded in a manner that may attract California red-legged frogs.

41. A U.S. Fish and Wildlife Service-approved biologist will permanently remove any individuals of invasive species, such as bullfrogs, crayfish, and centrarchid fishes

from the project area, to the maximum extent. The U.S. Fish and Wildlife Service-approved biologist will be responsible for ensuring their activities are in compliance with the California Fish and Game Code.

42. If the California Department of Transportation and County of San Luis Obispo demonstrate that disturbed areas have been restored to conditions that allow them to function as habitat for the California red-legged frog, these areas will not be included in the amount of total habitat permanently disturbed.

43. To ensure that diseases are not conveyed between work sites by the U.S. Fish and Wildlife Service-approved biologist, the fieldwork code of practice developed by the Declining Amphibian Task Force will be followed at all times.

44. Project sites will be re-vegetated with an assemblage of native riparian, wetland, and upland vegetation suitable for the area, using locally collected plant materials to the extent practicable. Invasive plants will be controlled to the maximum extent practicable. This measure will be implemented in all areas disturbed by activities with the project, unless the U.S. Fish and Wildlife Service, California Department of Transportation, and County of San Luis Obispo have determined that it is not feasible or practical.

45. The County of San Luis Obispo and California Department of Transportation will not use herbicides as the primary method to control invasive plants. However, if the County of San Luis Obispo and California Department of Transportation determine the use of herbicides is the only feasible method for controlling invasive plants at a specific project site, it will implement the following additional measures to protect California red-legged frog:

a. The County of San Luis Obispo and California Department of Transportation will not use herbicides during the breeding season for California red-legged frog.

b. The County of San Luis Obispo and California Department of Transportation will conduct surveys for California red-legged frog immediately prior to the start of herbicide use. If found, California red-legged frog will be relocated to suitable habitat far enough from the project area that no direct contact with herbicide would occur.

c. Black locust and other invasive plants will be cut and hauled out by hand and painted with glyphosate-based products, such as Aquamaster® or Rodeo®.

d. Licensed and experienced California Department of Transportation staff or a licensed and experienced contractor will use a hand-held sprayer for foliar

application of Aquamaster® or Rodeo® where large monoculture stands occur at an individual project site.

e. All precautions will be taken to ensure that no herbicide is applied to native vegetation.

f. Foliar applications of herbicide will not occur when wind speeds are in excess of three miles per hour.

g. No herbicides will be applied within 24 hours of forecasted rain.

h. Application of herbicides will be done by qualified California Department of Transportation staff, County of San Luis Obispo staff, or contractors to ensure that overspray is minimized, application is made in accordance with the label recommendations, and required and reasonable safety measures are implemented. A safe dye will be added to the mixture to visually denote treated sites. Application of herbicides will be consistent with the U.S. Environmental Protection Agency's Office of Pesticide Programs Endangered Species Protection Program county bulletins.

i. All herbicides, fuels, lubricants, and equipment will be stored, poured, or refilled at least 60 feet from riparian habitat or water bodies in a location where a spill would not drain directly toward aquatic habitat. The California Department of Transportation and County of San Luis Obispo will ensure that a plan is in place for a prompt and effective response to accidental spills. All workers will be informed of the importance of preventing spills and of the appropriate measures to take should a spill occur.

46. Upon completion of the project, the California Department of Transportation and County of San Luis Obispo will ensure that a Project Completion Report is completed and provided to the U.S. Fish and Wildlife Service Ventura Field Office. The California Department of Transportation and County of San Luis Obispo should include recommended modifications of the protective measures if alternative measures would facilitate compliance with the provisions of the consultation. In addition, the California Department of Transportation will reinitiate formal consultation in the event any of the following thresholds are reached as a result of the projects conducted under the provisions of the consultation associated with the Programmatic Biological Opinion:

a. Ten California red-legged frog adults or juveniles have been killed or injured in any given year (for this and all other standards, an egg mass is considered to be a California red-legged frog.);

b. Fifty California red-legged frogs have been killed or injured in total;

c. Twenty acres of critical habitat for the California red-legged frog that include the primary constituent elements of aquatic breeding and non-breeding aquatic habitat and upland and dispersal habitat have been permanently lost in any given year;

d. One hundred acres of critical habitat for the California red-legged frog that include the primary constituent elements of aquatic breeding and non-breeding aquatic habitat and upland and dispersal habitat have been permanently lost in total;

e. One hundred acres of critical habitat for the California red-legged frog that include the primary constituent elements of aquatic breeding and non-breeding aquatic habitat and upland and dispersal habitat have been temporarily disturbed in any given year; or

f. Five hundred acres of critical habitat for the California red-legged frog that include the primary constituent elements of aquatic breeding and non-breeding aquatic habitat and upland and dispersal habitat have been temporarily disturbed in total.

Compensatory Mitigation

The previously described avoidance and minimization measures for impacts to aquatic habitat and the implementation of a HMMP will minimize impacts to California red-legged frog and its habitat. The HMMP will detail revegetation and restoration methods for special-status species habitats based on agency consultations. Additional compensatory mitigation is not proposed.

Cumulative Effects

Cumulative effects include the effects of future state, tribal, local, or private actions that are reasonably certain to occur in the vicinity of the project area considered in this assessment. To date, the known Caltrans-related transportation projects to be considered for cumulative impacts would be the Jack Creek Road Bridge Replacement Project over Paso Robles Creek, the Graves Creek Bridge at Santa Lucia Road Bridge Replacement Project, and the Via Avenue Bridge Replacement Project. All projects have the potential to impact streams that flow into the Salinas River. However, none of the projects are expected to result in, or contribute to, cumulative impacts to California red-legged frog, as impacts will be mitigated through implementation of the restoration plan, installation of BMPs, and other measures. Therefore, no cumulative effects are likely to occur to California red-legged frog and none are expected or anticipated.

DISCUSSION OF COAST RANGE NEWT, LESSER SLENDER SALAMANDER, AND WESTERN POND TURTLE

Coast Range newt is considered an SSC by CDFW. It is a stocky, medium-sized salamander with rough, grainy skin in the terrestrial phase and no costal grooves. It is terrestrial and diurnal, often seen crawling over land in the daytime, becoming aquatic when breeding. Adults migrate from terrestrial locations to ponds, reservoirs, and sluggish pools in streams to breed, typically beginning anywhere from late December to February, depending on rainfall amounts. Populations that breed in stream pools migrate later, typically in March and April, after the stream flooding has subsided. Migration may take several weeks and cover large distances. Newts have a strong homing instinct and typically return to the same breeding site each time they breed. This species is found in wet forests, oak forests, chaparral, and rolling grassland habitat (CaliforniaHerps.com 2017).

The lesser slender salamander is considered an SSC by CDFW and has been petitioned for federal listing as an endangered species (petition under review, USFWS 2015). The species prefers mesic canyons with shaded slopes and deep leaf litter in broadleaf upland forests with dense shrubs, such as poison oak, and surrounded by relatively dry habitats. Individuals are active underground from April or May and increase surface activities after the first winter rains, when temperature and moisture conditions are favorable. They are normally active at night and return underground during the day, although may remain on the surface during the day to feed during periods of extended rainfall. Eggs are lain in the late fall and winter and hatchlings emerge during the winter and early spring. The distribution of lesser slender salamander is restricted to the southern Santa Lucia Range of north-central San Luis Obispo County. In the project vicinity, it is known to occur immediately north of Black Mountain and south and east into the drainages of Paso Robles and Santa Rita Creeks (Center for Biological Diversity 2012).

Western pond turtle is considered an SSC by CDFW. It is a medium-sized (3.5 to 8.5 inches) olive, brown, or blackish turtle with a relatively low carapace (shell) occasionally without pattern but usually with a network of spots, lines, or dashes of brown or black often radiating from the growth centers of the carapace shields (Stebbins 2003). Western pond turtles have been present in most Pacific slope drainages between the Oregon and Mexican borders (Jennings and Hayes 1994). Pond turtles live where water persists year-round in ponds along foothill streams or in broad washes near the coast. The ponds favored by turtles typically support emergent and floating vegetation such as cattails and algal mats. They also bask on half-submerged logs, rocks, or flat shorelines close to the edge of water. Western pond turtle is mostly aquatic, leaving its aquatic site to reproduce, estivate, and over-winter. It may overwinter on land or in water but remain active in water during the winter season. In warmer areas along the central and southern California coast, pond turtles may be active all year (Zeiner et al. 1990). Breeding for western pond turtles occurs typically

in late April to July. Upland nesting sites are required near the aquatic site, and are typically located in open, clay or silt slopes to ensure proper incubation temperature (Jennings and Hayes 1994). Nesting typically occurs in sunny areas within approximately 15 to 330 feet of water (occasionally up to 1.25 miles). Eggs hatch in late fall or overwinter and hatch in early spring of the following year, and some females double clutch during the year.

Survey Results

Coast Range newt were recorded in Summit Creek, about 2.5 miles northeast of the BSA (CNDDB Occurrence No. 73) and near Santa Rosa Creek Road, about 2.5 miles southwest of the BSA (CNDDB Occurrence No. 48), and the species has also been reported from other streams in the project vicinity.

The lesser slender salamander has been reported from near Dover Canyon Road, about 0.9 miles north of Highway 46 and 2.5 miles south of the BSA (CNDDB Occurrence No. 3), near York Mountain Road about 2.5 miles southwest of the BSA (CNDDB Occurrence No. 2), and in near Santa Rita Road south of Highway 46 about 4.5 miles southeast of the BSA (CNDDB Occurrence No. 1).

Local occurrences of western pond turtle include in Jack Creek about 2.5 miles downstream of the project site (CNDDB Occurrence No. 880), near Santa Rosa Creek Road about 2.5 miles southwest of the BSA (CNDDB Occurrence No. 1163), and in Santa Rita Creek south of Highway 46 about 4.5 miles southeast of the BSA (CNDDB Occurrence No. 1293).

None of these species were observed during reconnaissance surveys of the BSA; however, they are considered to have the potential to occur due to the presence of potentially suitable habitat within the BSA and the proximity to documented occurrences.

Project Impacts

Similar to the impacts described previously for California red-legged frog, project construction could result in the injury or mortality of Coast Range newt, lesser slender salamander, and western pond turtle during diversion/dewatering and ground-disturbing construction activities. The potential need to capture and relocate these species could subject individuals to stresses that could result in adverse effects. Injury or mortality could occur from accidental crushing by worker foot-traffic or construction equipment. Erosion and sedimentation could also occur, which could directly or indirectly affect water quality. The potential for these impacts is anticipated to be moderate to high, especially for Coast Range newt and lesser slender salamander, given suitable habitat conditions and recent documented occurrences of this species project vicinity.

Avoidance and Minimization Efforts

The following measure is recommended to avoid and minimize potential project-related impacts to Coast Range newt, lesser slender salamander, and western pond turtle.

47. Prior to construction, a qualified biologist shall survey the Biological Survey Area and, if present, capture and relocate any Coast Range newts, lesser slender salamander, and western pond turtles to adjacent suitable habitat upstream of the Biological Survey Area. Observations of these or other special-status species shall be documented on California Natural Diversity Database forms and submitted to the California Department of Fish and Wildlife upon project completion. If any of the aforementioned species or other aquatic species of special concern are observed during construction, they will likewise be relocated to suitable upstream habitat by a qualified biologist.

Compensatory Mitigation

No additional compensatory mitigation is proposed.

Cumulative Effects

Cumulative effects include the effects of future state, tribal, local, or private actions that are reasonably certain to occur in the vicinity of the project area considered in this assessment. To date, the known Caltrans-related transportation projects to be considered for cumulative impacts would be the Jack Creek Road Bridge Replacement Project over Paso Robles Creek, the Graves Creek Bridge at Santa Lucia Road Bridge Replacement Project, and the Via Avenue Bridge Replacement Project over Atascadero Creek. However, none of the projects are expected to result in, or contribute to, cumulative impacts to Coast Range newt, lesser slender salamander, or western pond turtle, as any impacts will be mitigated through implementation of the restoration plan, installation of BMPs, and other measures. Therefore, no cumulative effects are likely to occur and none are expected or anticipated.

DISCUSSION OF LEAST BELL'S VIREO

Least Bell's vireo is a federal and state endangered species. Federal critical habitat has been designated for the species, but the BSA is not within the boundaries of the designated critical habitat. Historically, least Bell's vireo was a common to locally abundant species in lowland riparian habitat, ranging from coastal southern California through the Sacramento and San Joaquin Valleys. By the time the species was federally listed in 1986, least Bell's vireo had been extirpated from most of its historic range. Populations were confined to eight counties south of Santa Barbara, with the majority of birds occurring in San Diego County. The population decline was the likely result of nest parasitism by brown-headed cowbirds (*Molothrus ater*) and habitat conversion to agriculture (USFWS 1998).

Least Bell's vireo require riparian areas to breed and typically inhabit structurally diverse woodlands along watercourses. They occur in a number of riparian habitat types, including cottonwood-willow woodlands/forests, oak woodlands, and mule fat scrub. Several investigators have attempted to identify the habitat requirements of the least Bell's vireo by

comparing characteristics of occupied and unoccupied sites and have focused on two features that appear to be essential: 1) the presence of dense cover within three to six feet off the ground, where nests are typically placed; and 2) a dense, stratified canopy, which is needed for foraging.

Least Bell's vireo usually arrive in California during mid- to late-March. They build their nests in a variety of plants that provide concealment in the form of dense foliage. The nests are open-cup nests placed in the horizontal fork of a tree or shrub branch (USFWS 1998).

Survey Results

No protocol-level surveys for this species were conducted. There are no observations of least Bell's vireo within five miles of the project site (CNDDB 2019). Single individuals have been reported from Morro Bay in September 2009 and Montana de Oro State Park, south of Morro May, in September 2011 and August 2016, approximately 20 miles south of the project area (eBird 2019). Riparian habitat within the BSA may provide suitable foraging habitat for least Bell's vireo. Individuals or nesting pairs of this species are considered unlikely to occur in the project area but cannot be ruled out due to the presence of suitable riparian habitat.

Project Impacts

The removal of vegetation could directly impact active bird nests and any eggs or young residing in nests. Indirect impacts could also result from noise and disturbance associated with construction, which could alter perching, foraging, and/or nesting behaviors. While temporary loss of vegetation supporting potential nesting habitat would occur, this would be mitigated by habitat restoration. The implementation of the avoidance and minimization measures such as pre-activity surveys, appropriate timing of vegetation removal, and exclusion zones (if nesting birds are found) will reduce the potential for adverse effects to least Bell's vireo.

Avoidance and Minimization Efforts

The following measures apply to least Bell's vireo and all birds protected by the MBTA and CFG Code. CDFW typically requires pre-construction nesting bird surveys and avoidance of impacts to active bird nests.

48. Prior to construction, when feasible, tree removal will be scheduled to occur from September 2 through January 31, outside of the typical nesting bird season, to avoid potential impacts to nesting birds.

49. If construction activities are proposed during the typical nesting season (February 1 to September 1), a nesting bird survey will be conducted by qualified biologists no more than two weeks prior to the start of construction to determine presence/absence of nesting least Bell's vireo within the BSA and immediate vicinity.

The California Department of Transportation will be notified if federally listed nesting bird species are observed during the surveys and will facilitate coordination with the U.S. Fish and Wildlife Service, if necessary, to determine an appropriate avoidance strategy. Likewise, coordination with the California Department of Fish and Wildlife will be facilitated by the County of San Luis Obispo, if necessary, to devise a suitable avoidance plan for state listed nesting bird species.

Compensatory Mitigation

No compensatory mitigation is necessary or proposed.

Cumulative Effects

Cumulative effects include the effects of future state, tribal, local, or private actions that are reasonably certain to occur in the vicinity of the project area considered in this assessment. To date, the known Caltrans-related transportation projects to be considered for cumulative impacts would be the Jack Creek Road Bridge Replacement Project over Paso Robles Creek, the Graves Creek Bridge at Santa Lucia Road Bridge Replacement Project, and the Via Avenue Bridge Replacement Project over Atascadero Creek. All projects have the potential to impact streams that flow into the Salinas River. However, none of the projects are expected to result in, or contribute to, cumulative impacts to least Bell's vireo as the species is not expected to occur and any impacts to nesting birds will be mitigated through implementation of the restoration plan, installation of BMPs, and other measures. Therefore, no cumulative effects are likely to occur to least Bell's vireo.

DISCUSSION OF SOUTHWESTERN WILLOW FLYCATCHER

Southwestern willow flycatcher is a federal and state endangered species. It is a summer breeder within its range in the United States and is gone to wintering areas in Central America by the end of September. Nest territories are set up for breeding; there is some site fidelity to nest territories. Southwestern willow flycatchers breed in areas from near sea level to 8,500 feet (2,600 meters). It establishes nesting territories, builds nests, and forages where mosaics of relatively dense and expansive growths of trees and shrubs are established, generally near or adjacent to surface water or underlain by saturated soil. Habitat characteristics such as dominant plant species, size and shape of habitat patch, tree canopy structure, vegetation height, and vegetation density vary widely among breeding sites. Nests are typically placed in trees where the plant growth is most dense, where trees and shrubs have vegetation near ground level, and where there is a low-density canopy (USFWS 2014). Habitat not suitable for nesting may be used for migration. Federally designated critical habitat for this species does not occur within San Luis Obispo County.

Survey Results

No protocol-level surveys for southwestern willow flycatcher were conducted. Riparian habitat within the BSA may provide suitable foraging habitat for southwestern willow flycatcher. There are no observations of southwestern willow flycatcher within 5 miles of the project site (CNDDB 2020). There are currently no known occurrences of southwestern flycatcher in San Luis Obispo County. The nearest occurrence is from 1992 within the Santa Ynez River (eBird 2020). Individuals or nesting pairs of these species are considered unlikely but cannot be ruled out due to the presence of suitable riparian habitat.

Project Impacts

The removal of vegetation could directly impact active bird nests and any eggs or young residing in nests. Indirect impacts could also result from noise and disturbance associated with construction, which could alter perching, foraging, and/or nesting behaviors. While temporary loss of vegetation supporting potential nesting habitat would occur, this would be mitigated by habitat restoration. The implementation of the avoidance and minimization measures described for least Bell's vireo, such as appropriate timing of vegetation removal, pre-activity surveys, and exclusion zones, will reduce the potential for adverse effects to southwestern willow flycatcher.

Avoidance and Minimization Efforts

The measures described above under the least Bell's vireo discussion also applies to southwestern willow flycatcher and other migratory birds, including the requirement for pre-construction nesting bird surveys and avoidance of impacts to active bird nests.

Compensatory Mitigation

No compensatory mitigation is necessary or proposed.

Cumulative Effects

Cumulative effects include the effects of future state, tribal, local, or private actions that are reasonably certain to occur in the vicinity of the project area considered in this assessment. To date, the known Caltrans-related transportation projects to be considered for cumulative impacts would be the Jack Creek Road Bridge Replacement Project over Paso Robles Creek, the Graves Creek Bridge at Santa Lucia Road Bridge Replacement Project, and the Via Avenue Bridge Replacement Project over Atascadero Creek. All projects have the potential to impact streams that flow into the Salinas River. However, none of the projects are expected to result in, or contribute to, cumulative impacts to southwestern willow flycatcher as this species in not expected to occur and impacts will be mitigated through implementation of the restoration plan, installation of BMPs, and other measures. Therefore, no cumulative effects are likely to occur to southwestern willow flycatcher.

DISCUSSION OF OTHER MIGRATORY BIRDS

Several bird species have the potential for nesting within the project study area and are protected during their nesting period under the provisions of the federal MBTA and CFG Code Sections 3503 and 3503.5. Birds may nest on bridge structures and within riparian habitat, oak woodlands, and ruderal and developed habitats.

Survey Results

Common passerine bird species were observed during site visits and surveys; however, no specific nesting migratory bird surveys were conducted as part of this survey. It is inferred that nesting migratory birds could exist within the creek corridor or on the bridge itself. Additional surveys would be required prior to construction.

Project Impacts

The removal of vegetation could directly impact active bird nests and any eggs or young residing in nests. Indirect impacts could also result from noise and disturbance associated with construction, which could alter perching, foraging, and/or nesting behaviors. While temporary loss of vegetation supporting potential nesting habitat would occur, this would be mitigated by habitat restoration. The implementation of the avoidance and minimization measures described for least Bell's vireo, such as appropriate timing of vegetation removal, pre-activity surveys, and exclusion zones, will reduce the potential for adverse effects to southwestern willow flycatcher.

Avoidance and Minimization Efforts

The measures described above under the least Bell's vireo discussion also applies to other migratory birds, including the requirement for pre-construction nesting bird surveys and avoidance of impacts to active bird nests. following measure is recommended to avoid and minimize potential project-related impacts to nesting birds.

50. If raptor nests are observed within the Biological Study Area during the pre-construction nesting bird surveys, the nest(s) shall be designated an Environmental Sensitive Area and protected by an avoidance buffer of up to 500 feet until the breeding season ends or until a qualified biologist determines that all young have fledged and are no longer reliant upon the nest or parental care for survival. Similarly, if active passerine nests are observed within the Biological Study Area during the pre-construction nesting bird surveys, the nest(s) shall be designated an Environmentally Sensitive Area and protected by an avoidance buffer of up to 250 feet until the breeding season ends or until a qualified biologist determines that all young have fledged and are no longer reliant upon the nest or parental care for survival. Resource agencies may consider proposed variances from these buffers if there is a compelling biological or ecological reason to do so, such as protection of a

nest via concealment due to site topography. Buffer areas may also be reduced provided there is an onsite biological monitor present during all construction activities who confirms the nesting birds and young are not being disturbed

Compensatory Mitigation

No compensatory mitigation is necessary or proposed.

Cumulative Effects

Cumulative effects include the effects of future state, tribal, local, or private actions that are reasonably certain to occur in the vicinity of the project area considered in this assessment. To date, the known Caltrans-related transportation projects to be considered for cumulative impacts would be the Jack Creek Road Bridge Replacement Project over Paso Robles Creek, the Graves Creek Bridge at Santa Lucia Road Bridge Replacement Project, and the Via Avenue Bridge Replacement Project over Atascadero Creek. All projects have the potential to impact streams that flow into the Salinas River. However, none of the projects are expected to result in, or contribute to, cumulative impacts to southwestern willow flycatcher as this species in not expected to occur and impacts will be mitigated through implementation of the restoration plan, installation of BMPs, and other measures. Therefore, no cumulative effects are likely to occur to southwestern willow flycatcher.

DISCUSSION OF TOWNSEND'S BIG EARED BAT AND OTHER ROOSTING BATS

Bat species have been addressed as a group because they have similar habitat requirements, potential project-related impacts, and avoidance and minimization measures.

The Townsend's big-eared bat is considered an SSC by CDFW. It forages over a wide variety of grassland, wetland, shrub, and wooded habitats, although it is most common in mesic forests. This species roosts in small colonies of 12 to 200 individuals, typically in caves and rock crevices. Bridges, buildings, and tree cavities are also occasionally used for roosting. Nursery roosts are most often located in caves, tunnels, mines, and buildings (Zeiner et. al 1990).

Roosting bat species may forage over a wide variety of habitats, including but not limited to, grassland, wetland, shrub, and wooded habitats. Species may roost in caves, rock crevices, bridges, buildings, and tree cavities.

Survey Results

No bats or evidence of bat activity (e.g., guano, urine staining, etc.) was observed during visual reconnaissance surveys of the BSA; however, the existing bridge and the riparian vegetation have the potential to support suitable roosting habitat or structure for bat species.

Project Impacts

No bats or evidence of bat activity were observed beneath the Dover Canyon Road Bridge or within the BSA. However, if bats utilize the bridge or surrounding trees for seasonal roosting, then direct impacts to bats could result during the proposed replacement or rehabilitation of the bridge. These direct effects could result in the injury or mortality of bats or harassment that could alter roosting behaviors. Indirect impacts could also result from noise and disturbance associated with construction, which could also alter roosting behaviors. The implementation of pre-activity surveys and potentially exclusionary netting will reduce the potential for adverse effects to roosting bat species. No impacts to roosting bats are anticipated with implementation of the avoidance and minimization measures included below.

Avoidance and Minimization Efforts

The following measures are recommended to avoid and minimize potential impacts to roosting bat species.

51. Prior to construction, a visual survey will be conducted by a qualified biologist, at dawn and at dusk, to identify potential roosting bat activity. This survey shall be conducted between two to four weeks prior to bridge and/or tree removal activities that are proposed to occur. If roosting bat activity is identified during the pre-construction survey process, the County of San Luis Obispo will coordinate with the California Department of Fish and Wildlife regarding the biological significance of the bat population and appropriate measures that could be used to exclude bats from roosting under the bridge. Measures may include, but are not limited to, the installation of exclusionary devices by a qualified individual.

Compensatory Mitigation

Compensatory mitigation for roosting bats is not necessary and is not proposed.

Cumulative Effects

Cumulative effects include the effects of future state, tribal, local, or private actions that are reasonably certain to occur in the vicinity of the project area considered in this assessment. To date, the known Caltrans-related transportation projects to be considered for cumulative impacts would be the Jack Creek Road Bridge Replacement Project over Paso Robles Creek, the Graves Creek Bridge at Santa Lucia Road Bridge Replacement Project, and the Via Avenue Bridge Replacement Project over Atascadero Creek. All projects have the potential to impact streams that flow into the Salinas River. However, none of the projects are expected to result in, or contribute to, cumulative impacts to roosting bats, as any impacts will be mitigated through implementation of the restoration plan, installation of BMPs, and other measures. Therefore, no cumulative effects are likely to occur to roosting bats.

Chapter 5 - Conclusions and Regulatory Determinations

Federal Endangered Species Act Consultation Summary

Official species list from USFWS and NMFS were received in July 2020 (refer to Appendix C). Four federally listed animal species have the potential to occur within the project footprint: California red-legged frog, South-Central California Coast steelhead, least Bell's vireo, and southwestern willow flycatcher (see Table 10 below).

Section 7 consultation with USFWS will be necessary for potential impacts to California red-legged frog. Caltrans anticipates the project will qualify for FESA incidental take coverage under the *Programmatic Biological Opinion for Projects Funded or Approved under the Federal Highway Administration's Federal Aid Program* (USFWS 2011), which includes the applicable avoidance and minimization measures listed in Chapter 4 for California red-legged frog. The FESA Section 7 effects determination is that the project **may affect, and is likely to adversely affect**, California red-legged frog.

Consultation with NMFS will be necessary for potential impacts to South-Central California Coast steelhead and steelhead critical habitat. The FESA Section 7 effects determination is that the proposed action **may affect, and is likely to adversely affect**, South-Central California Coast steelhead. The FESA Section 7 effects determination is that the proposed action **may affect, and is likely to adversely affect**, South-Central California Coast steelhead critical habitat (refer to Table 10).

Impacts to least Bell's vireo and southwestern willow flycatcher would be avoided through implementation of avoidance and minimization measures. The FESA Section 7 effects determination is that the proposed action **may affect, but is not likely to adversely affect**, least Bell's vireo or southwestern willow flycatcher.

Table 10: Federal Endangered Species Act Effects Determination

Common Name	Scientific Name	Legal Status	Rationale
Plants			
California jewelflower	*Caulanthus californicus*	Federally Endangered	No effect
Chorro Creek bog thistle	*Cirsium fontinale* var. *obispoense*	Federally Endangered	No effect
marsh sandwort	*Arenaria paludicola*	Federally Endangered	No effect
spreading navarretia	*Navarretia fossalis*	Federally Threatened	No effect

Common Name	Scientific Name	Legal Status	Rationale
Invertebrates			
vernal pool fairy shrimp	*Branchinecta lynchi*	Federally Threatened	No effect
Kern primrose sphinx moth	*Euproserpinus euterpe*	Federally Threatened	No effect
Amphibians			
California red-legged frog	*Rana draytonii*	Federally Threatened	May affect, likely to adversely affect
California tiger salamander	*Ambystoma californiense*	Federally Threatened	No effect
Reptiles			
blunt-nosed leopard lizard	*Gambelia sila*	Federally Endangered	No effect
Birds			
California clapper rail	*Rallus longirostris obsoletus*	Federally Endangered	No effect
California condor	*Gymnogyps californianus*	Federally Endangered	No effect
least Bell's vireo	*Vireo bellii pusillus*	Federally Endangered	May affect, not likely to adversely affect
southwestern willow flycatcher	*Empidonax traillii extimus*	Federally Endangered	May affect, not likely to adversely affect
Mammals			
giant kangaroo rat	*Dipodomys ingens*	Federally Endangered	No effect
San Joaquin kit fox	*Vulpes macrotis mutica*	Federally Endangered	No effect
Anadromous Fish			
South-Central California Coast steelhead DPS	*Oncorhynchus mykiss irideus*	Federally Threatened	May affect, likely to adversely affect
Critical Habitat			
South-Central California Coast steelhead DPS	*Oncorhynchus mykiss irideus*	Critical Habitat	May affect, likely to adversely affect

Nesting Birds: MBTA and CFG Code Sections 3503 and 3503.5

Several bird species have the potential for nesting within the project study area and are protected during their nesting period under the provisions of the MBTA and CFG Code Sections 3503 and 3503.5. This NES proposes avoidance and minimization measures to maintain compliance with the MBTA and CFG Code Sections 3503 and 3503.5.

Essential Fish Habitat Consultation Summary

The Magnuson-Stevens Fishery Conservation and Management Act requires federal agencies to consult with NMFS about activities that might harm EFH. An official species list from NMFS was received on July 2, 2020 (NMFS 2020). No EFH areas were identified within the project area; therefore, EFH consultation and preparation of an Essential Fish Habitat Plan is not necessary.

Wetlands and Other Waters Coordination Summary

Executive Order 11990 was issued on May 24, 1977, directing federal agencies to avoid, to the extent possible, the long- and short-term adverse impacts associated with the destruction or modification of wetlands and to avoid direct or indirect support of new construction in wetlands wherever there is a practicable alternative. The County will coordinate with USACE and RWQCB to obtain permits pursuant to Sections 401 and 404 of the CWA for impacts to waters of the United States, and CDFW to obtain a Streambed Alteration Agreement per CFG Code 1600.

Invasive Species

To comply with Executive Order 13112 avoidance and minimization measures have been included in this NES to control the spread of invasive plants and wildlife to the maximum extent practicable, described in Chapter 4.

California Endangered Species Act Consultation Summary

CDFW has not been consulted at this time regarding compliance with the CESA. It is expected that a Section 1600 Streambed Alteration Agreement would be needed for the project; however, no project-related impacts to any state listed species are anticipated. Therefore, no additional permits (e.g., Incidental Take Permit) are needed.

Chapter 6 - References

Baldwin, B.G., D.H. Goldman, D.J. Keil, R. Patterson, T.J. Rosatti, and D.H. Wilken. 2012. *The Jepson Manual: Vascular Plants of California*. Second Edition. University of California Press. Berkeley, California.

California Department of Fish and Wildlife (CDFW). 2018. *Protocols for Surveying and Evaluating Impacts to Special Status Native Pant Populations and Sensitive Natural Communities*. March 20, 2018. Available at: https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=18959&inline=1. Accessed October 2020.

———. 2010. California Essential Habitat Connectivity Mapper. February 2010. Available at: https://www.wildlife.ca.gov/conservation/planning/connectivity/CEHC. Accessed October 2020.

———. 2020. Natural Communities List. October 2020. Available at: https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=153398&inline. Accessed October 2020.

———. 2020. Special Animals List. July 2020. Available at: http://www.dfg.ca.gov/wildlife/nongame/list.html. Accessed October 2020.

CaliforniaHerps.com. 2020. A Guide to the Amphibians and Reptiles of California. Available at: http://www.californiaherps.com/salamanders/pages/t.t.torosa.html. Accessed October 2020.

California Invasive Plant Council (Cal-IPC). 2020 California Invasive Plant Inventory Database. Available at: http://www.Cal-IPC.org/ip/inventory/weedlist.php. Accessed October 2020.

California Native Plant Society, Rare Plant Program. 2020. Inventory of Rare and Endangered Plants of California (online edition, v8-03 0.39). Website: http://www.rareplants.cnps.org. Accessed October 2020.

California Natural Diversity Data Base (CNDDB). 2020. RareFind 5 data output for 9-Quad Query and 5-mile radius map of Dover Canyon Road Bridge Biological Study Area. California Department of Fish and Wildlife, Biogeographic Data Branch, Sacramento, California. Accessed October 2020.

Center for Biological Diversity. 2012. Petition to List 53 Amphibians and Reptiles in the United States as Threatened or Endangered Species Under the Endangered Species Act. July 11, 2012.

Cowardin, L.M., V. Carter, F.C. Golet, and E.T. LaRoe. 1979. *Classification of Wetlands and Deepwater Habitats of the United States*. Prepared for the U.S. Fish and Wildlife Service. December 1979.

eBird. 2020. Query of least Bell's vireo and southwestern willow flycatcher. Website: https://ebird.org/map. Accessed October 2020.

Holland, R.F. 1986. *Preliminary Description of Terrestrial Natural Communities of California*. California Department of Fish and Game.

Jennings, M.R., and M.P. Hayes. 1994. *Amphibian and Reptile Species of Special Concern in California*. California Department of Fish and Game, Inland Fisheries Division, Rancho Cordova, California. 255 pp.

National Oceanic and Atmospheric Administration National Marine Fisheries Service (NMFS). 2005. Endangered and Threatened Species; Designation of Critical Habitat for Seven Evolutionarily Significant Units of Pacific Salmon and Steelhead in California – Final Rule. *Federal Register* 70(170):52488–52627.

———. 2011. *Southern California Steelhead Recovery Plan*. Southwest Region, Protected Resources Division, Long Beach, California. January 2012.

———. 2013. *South-Central California Steelhead Recovery Plan*. West Coast Region, Protected Resources Division, Long Beach, California. December 2013. Available at: http://www.westcoast.fisheries.noaa.gov/publications/recovery_planning/salmon_steelhead/domains/south_central_southern_california/2013_scccs_recoveryplan_final.pdf. Accessed October 2020.

———. 2020. Official Species List Request for the Dover Canyon Road at Jack Creek Bridge Replacement Project. Available at: http://www.westcoast.fisheries.noaa.gov/maps_data/california_species_list_tools.html. July 2, 2020.

Natural Resource Conservation Service (NRCS), U.S. Department of Agriculture. 2020. Web Soil Survey Results. Available at: http://websoilsurvey.sc.egov.usda.gov/App/HomePage.htm. Accessed October 2020.

Pacific Fishery Management Council (PFMC). 2017. “Habitat and Communities: What is essential fish habitat (EFH)?” Habitat and Communities: Habitat, website. Available at: https://www.pcouncil.org/habitat-and-communities/habitat/. Accessed December 2017.

Raleigh, R.F., T. Hickman, R.C. Solomon, and P.C. Nelson. 1984. *Habitat Suitability Information: Rainbow trout*. U.S. Fish and Wildlife Service, p. 64.

Sawyer, J.O., T. Keeler-Wolf, and J.M. Evens. 2009. *A Manual of California Vegetation, Second Edition*. California Native Plant Society, Sacramento. 1,300 pp.

SLO Watershed Project. 2018. Lower Salinas-Paso Robles Creek Area. Available at: http://slowatershedproject.org/watersheds/lower-salinas-paso-robles-creek-area/. Accessed October 2020.

State Water Resources Control Board (SWRCB). 2012. *Final 2012 Integrated Report (CWA Section 303(d) List/305(b) Report)*. Available at: http://www.waterboards.ca.gov/water_issues/programs/tmdl/integrated2012.shtml. Accessed October 2020.

Stebbins, R.C. 2003. *A Field Guide to Western Reptiles and Amphibians*. Third edition, revised. Houghton Mifflin Company, Boston, Massachusetts. 533 pp.

Stillwater Sciences. 2014. San Luis Obispo County Regional Instream Flow Assessment. Final Report. January 2014. Available at: http://www.coastalrcd.org/images/cms/files/Stillwater%202014_SLO%20instream%20flows_Final%20Report_v4.pdf. Accessed October 2020.

U.S. Army Corps of Engineers (USACE). 2015. *Final 2015 Regional Compensatory Mitigation and Monitoring Guidelines for South Pacific Division USACE.* January 12, 2015.

U.S. Fish and Wildlife Service (USFWS). 1998. *Draft recovery plan for the Least Bell’s Vireo*. United States Fish and Wildlife Service, Portland, OR.

———. 2000. *Guidelines for Conducting and Reporting Botanical Inventories for Federally Listed, Proposed and Candidate Plants*. January 2000. Available at: https://www.fws.gov/sacramento/es/survey-protocols-guidelines/documents/listed_plant_survey_guidelines.pdf. Accessed October 2020.

———. 2010. Endangered and Threatened Wildlife and Plants; Revised Designation of Critical Habitat for the California Red-Legged Frog – Final Rule. *Federal Register* 75(51):12816–12959.

———. 2011. *Programmatic Biological Opinion for Projects Funded or Approved under the Federal Highway Administration's Federal Aid Program (8-8-10-F-58)*. USFWS, Ventura Fish and Wildlife Office, Ventura, California. May 4, 2011.

———. 2014. Southwestern Willow Flycatcher (*Empidonax traillii extimus*) 5-Year Review: Summary and Evaluation. U.S. Fish and Wildlife Service Arizona Ecological Services Phoenix, Arizona. August 15, 2014.

———. 2015. Endangered and threatened Wildlife and Plants; 90-Day Findings on 25 Petitions. Federal Register 80 (181): 56423-56432.

———. 2020. Information for Planning and Conservation (IPaC). Available at: http://ecos.fws.gov/ipac/. Accessed July 2, 2020.

Western Regional Climate Center (WRCC). 2018. Period of Record Monthly Climate Summary for Paso Robles, California (046730). Available at: https://wrcc.dri.edu/cgi-bin/cliMAIN.pl?ca6730. Accessed January 31, 2018.

Zeiner, D.C., W.F. Laudenslayer, Jr., K.E. Mayer, and M. White (eds.). 1990. *California's Wildlife*. Volumes I (amphibians and reptiles), II (birds), and III (mammals). California Statewide Wildlife Habitat Relationships System. The Resources Agency, California Department of Fish and Game. November 1990.

This page intentionally left blank.

Appendix A - Project Plans

This page intentionally left blank.

INDEX OF SHEETS

COUNTY OF SAN LUIS OBISPO, CALIFORNIA
PUBLIC WORKS DEPARTMENT
DESIGN DIVISION

Dist	COUNTY	ROAD NO.	JOB NO.	SHEET No.	TOTAL SHEETS
05	SLO	5154	XXX	1	26

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — ZACHARY JAMES SIVIGLIA — No. 73128 — Exp. 12/31/20 — CIVIL — STATE OF CALIFORNIA

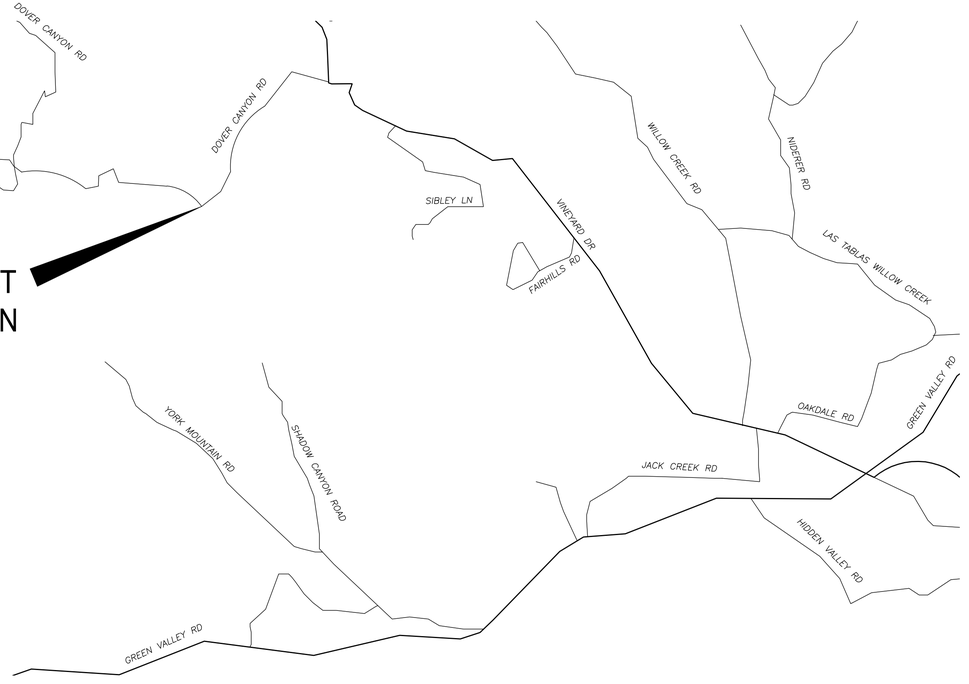
MARK THOMAS
2121 ALTON PARKWAY, SUITE 210
IRVINE, CA 92606

PLANS FOR THE CONSTRUCTION OF
DOVER CANYON ROAD AT JACK CREEK BRIDGE REPLACEMENT PROJECT
BRIDGE No. 49C-0472 REPLACING BRIDGE No. 49C-0037
COUNTY CONTRACT No. 300514
FEDERAL AID PROJECT No. BRLO-5949(152)

To Be Supplemented By State Standard and Specifications Plans Dated 2018.

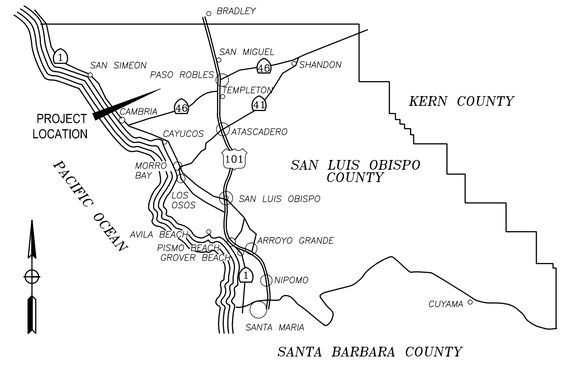
APPROVED: _____ ,20 _____

DIRECTOR OF PUBLIC WORKS, R.C.E. 64745



LOCATION MAP

NO SCALE



VICINITY MAP

NO SCALE

LICENSE REQUIREMENTS:

THE SUCCESSFUL BIDDER SHALL POSSESS A CLASS A GENERAL ENGINEERING CONTRACTOR'S LICENSE AT THE TIME THIS CONTRACT IS AWARDED. IN THE ALTERNATIVE, THE SUCCESSFUL BIDDER SHALL POSSESS A SPECIALITY CONTRACTOR'S LICENSE AT THE TIME THIS CONTRACT IS AWARDED THAT PERMITS THE SUCCESSFUL BIDDER TO PERFORM WITH HIS OR HER OWN ORGANIZATION CONTRACT WORK AMOUNTING TO NOT LESS THAN 30% OF THE ORIGINAL TOTAL CONTRACT PRICE AND TO SUBCONTRACT THE REMAINING WORK IN ACCORDANCE WITH SECTION 8–1.01, "SUBCONTRACTING," OF THE STANDARD SPECIFICATIONS.

CALL BEFORE YOU DIG
1–800–227–2600

CITY UTILITIES — PACIFIC BELL — CALL BEFORE YOU DIG — USA — 800-227-2600 — P.G.&E. — CABLE TV

90% (NOT FOR CONSTRUCTION)

T-1

PREPARED FOR THE
SAN LUIS OBISPO COUNTY
PUBLIC WORKS DEPARTMENT
976 OSOS STREET, ROOM 206, SAN LUIS OBISPO, CALIFORNIA 93408

DOVER CANYON ROAD AT JACK CREEK BRIDGE REPLACEMENT PROJECT

TITLE SHEET

Designer	Date	Drawn By	Date	Project Manager	Date
R.USEDOM	09/2020	AC/JS	09/2020	Z.SIVIGLIA	09/2020

J:\SAN LUIS OBISPO–SA–16157–DOVER CANYON–JACK CREEK BRIDGE\CADD\SHEETS\DCB_T-1.DWG, 9/1/2020 12:04 PM, MTCo.ctb, JOE SARMIENTO

Dist	COUNTY	ROAD NO.	JOB NO.	SHEET No.	TOTAL SHEETS
05	SLO	5154	XXX	2	26

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER ZACHARY JAMES SIVIGLIA No. 73128 Exp. 12/31/18 CIVIL STATE OF CALIFORNIA

MARK THOMAS
2121 ALTON PARKWAY, SUITE 210
IRVINE, CA 92606

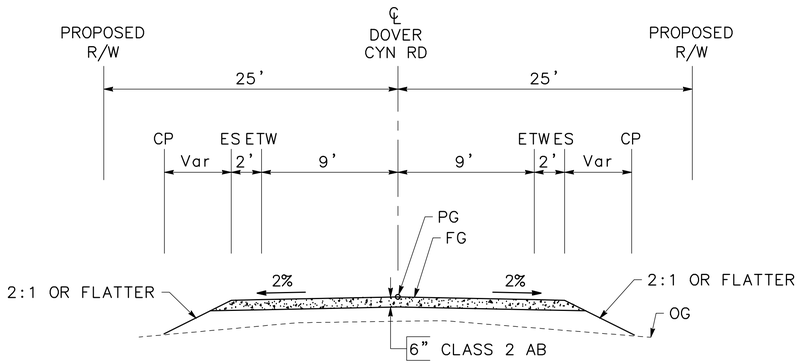
DESIGN CRITERIA:

DESIGN SPEED: 25MPH

PRESENT ADT (2015): 60 VPD

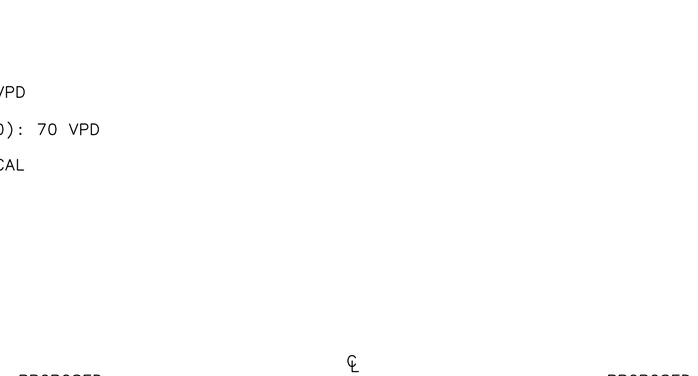
DESIGN ADT (2025 TO 2030): 70 VPD

ROAD CLASSIFICATION: LOCAL



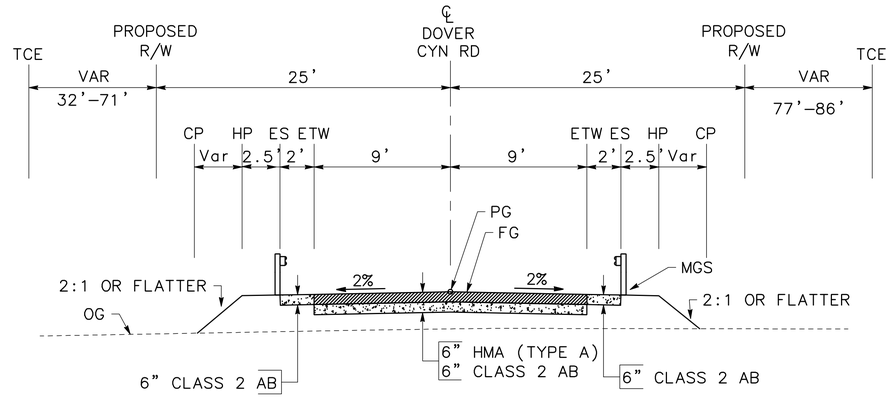
17+67.77 TO 18+71.00
21+48.00 TO 22+50.00

DOVER CANYON ROAD



17+17.77 TO 17+67.77
22+50.00 TO 22+75.00

DOVER CANYON ROAD



18+71.00 TO 19+70.00 BB
20+49.00 EB TO 21+48.00

DOVER CANYON ROAD

X-1

NO SCALE

PREPARED FOR THE
SAN LUIS OBISPO COUNTY
PUBLIC WORKS DEPARTMENT
976 OSOS STREET, ROOM 206, SAN LUIS OBISPO, CALIFORNIA 93408

DOVER CANYON ROAD AT JACK CREEK BRIDGE REPLACEMENT PROJECT

TYPICAL CROSS SECTIONS

Designer	Date	Drawn By	Date	Project Manager	Date
R.USEDOM	09/2020	AC/JS	09/2020	Z.SIVIGLIA	09/2020

J:\SAN LUIS OBISPO-SA-16157-DOVER CANYON-JACK CREEK BRIDGE\CADD\SHEETS\DCB_X-1.DWG, 9/3/2020 6:57 PM, MTCo.ctb, JOE SARMIENTO

Dist	COUNTY	ROAD NO.	JOB NO.	SHEET No.	TOTAL SHEETS
05	SLO	5154	XXX	3	26

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — ZACHARY JAMES SIVIGLIA — No. 73128 — Exp. 12/31/18 — CIVIL — STATE OF CALIFORNIA

MARK THOMAS
2121 ALTON PARKWAY, SUITE 210
IRVINE, CA 92606

NOTES:

1. CONTRACTOR SHALL COMPLY WITH BUSINESS AND PROFESSIONS CODE SECTION 8771(b) REGARDING REFERENCING, PRESERVING AND RECONSTRUCTING MONUMENTS, WHETHER OR NOT MONUMENTS ARE SHOWN IN THESE PLANS.
2. CONTRACTOR SHALL PROVIDE THE ENGINEER A MINIMUM OF TWO (2) WEEKS NOTICE PRIOR TO COMMENCING ANY WORK THAT COULD DAMAGE OR DESTROY ANY SURVEY MONUMENTS.

BASIS OF BEARING AND COORDINATES:

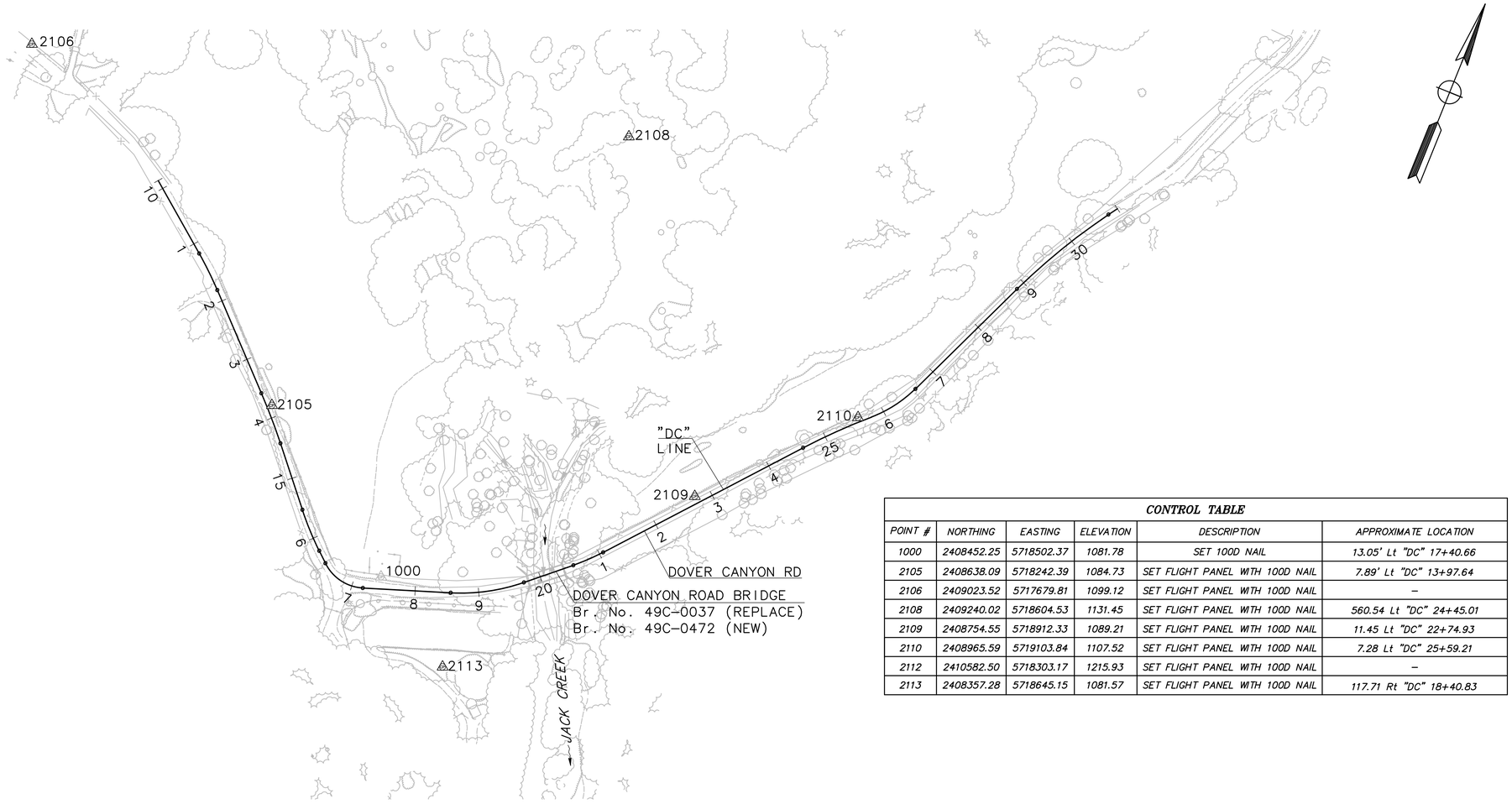
1. THE BASIS OF BEARINGS FOR THIS SURVEY IS THE CALIFORNIA COORDINATE SYSTEM 1983 (CCS83), ZONE 5, EPOCH 2010, BASED UPON STATIC OPUS SOLUTION WITH 2+ HOUR OBSERVATIONS OF CONTROL POINT #1000 AND #2112.
2. POINT #1000 OPUS SOLUTION USED NGS PID'S: DG7411, DG8341, DM7509, AND FV1022.
3. POINT #2112 OPUS SOLUTION USED NGS PID'S: DG8341, DG8359, DH3622, AND FV1022.

BASIS OF ELEVATION:

1. THIS PROJECT IS BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88)

LEGEND:

△ PROJECT CONTROL



CONTROL TABLE

POINT #	NORTHING	EASTING	ELEVATION	DESCRIPTION	APPROXIMATE LOCATION
1000	2408452.25	5718502.37	1081.78	SET 100D NAIL	13.05' Lt "DC" 17+40.66
2105	2408638.09	5718242.39	1084.73	SET FLIGHT PANEL WITH 100D NAIL	7.89' Lt "DC" 13+97.64
2106	2409023.52	5717679.81	1099.12	SET FLIGHT PANEL WITH 100D NAIL	–
2108	2409240.02	5718604.53	1131.45	SET FLIGHT PANEL WITH 100D NAIL	560.54 Lt "DC" 24+45.01
2109	2408754.55	5718912.33	1089.21	SET FLIGHT PANEL WITH 100D NAIL	11.45 Lt "DC" 22+74.93
2110	2408965.59	5719103.84	1107.52	SET FLIGHT PANEL WITH 100D NAIL	7.28 Lt "DC" 25+59.21
2112	2410582.50	5718303.17	1215.93	SET FLIGHT PANEL WITH 100D NAIL	–
2113	2408357.28	5718645.15	1081.57	SET FLIGHT PANEL WITH 100D NAIL	117.71 Rt "DC" 18+40.83

PC-1

0ft 100ft 200ft SCALE: 1" = 100'

PREPARED FOR THE
SAN LUIS OBISPO COUNTY
PUBLIC WORKS DEPARTMENT
976 OSOS STREET, ROOM 206, SAN LUIS OBISPO, CALIFORNIA 93408

DOVER CANYON ROAD AT JACK CREEK BRIDGE REPLACEMENT PROJECT

PROJECT CONTROL

Designer	Date	Drawn By	Date	Project Manager	Date
R.USEDOM	09/2020	AC/JS	09/2020	Z.SIVIGLIA	09/2020

J:\SAN LUIS OBISPO-SA-16157-DOVER CANYON-JACK CREEK BRIDGE\CADD\SHEETS\DCB_PC-1.DWG, 9/1/2020 11:42 AM, MTCo.ctb, JOE SARMIENTO

LEGEND:

- — — —C— CUT LINE
- — — —F— FILL LINE
- FENCE (BARBED WIRE)
- MIDWEST GUARDRAIL SYSTEM
- AITS SYSTEM
- HMA (TYPE A)

ABBREVIATIONS:

AITS	ALTERNATIVE IN-LINE TERMINAL SYSTEM
LP	LAMP POST
TELECOM	TELECOMMUNICATION
REM	REMOVE

CURVE DATA				
No.	R	Δ	T	L
1	1000.00'	4°50'08"	42.22'	84.40'
2	500.00'	8°01'14"	35.05'	69.99'
3	70.00'	60°29'08"	40.81'	73.90'

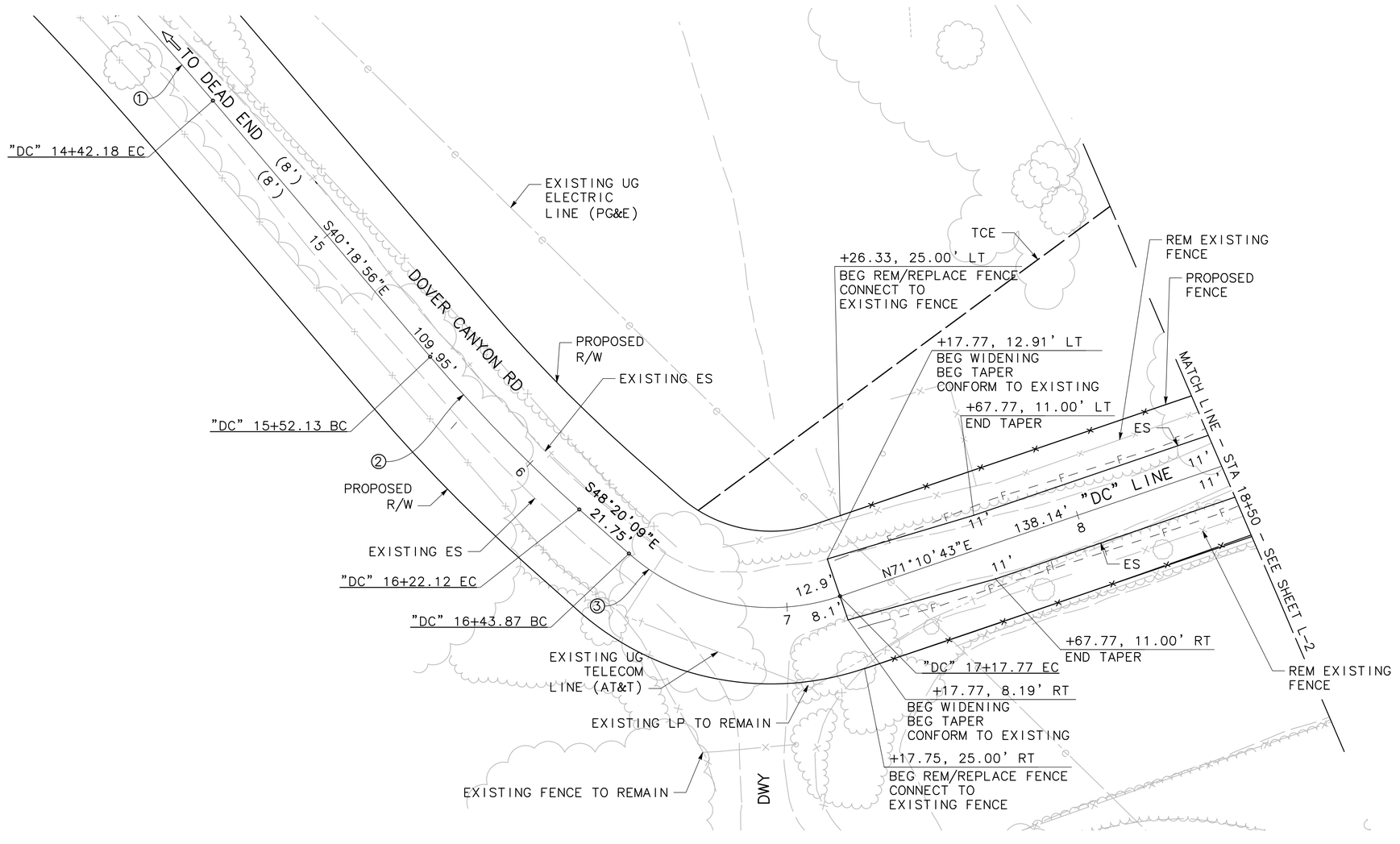
Dist	COUNTY	ROAD NO.	JOB NO.	SHEET No.	TOTAL SHEETS
05	SLO	5154	XXX	4	26

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER ZACHARY JAMES SIVIGLIA No. 73128 Exp. 12/31/18 CIVIL STATE OF CALIFORNIA

MARK THOMAS
2121 ALTON PARKWAY, SUITE 210
IRVINE, CA 92606



L-1

0ft 20ft 40ft SCALE: 1" = 20'

PREPARED FOR THE
SAN LUIS OBISPO COUNTY
PUBLIC WORKS DEPARTMENT
976 OSOS STREET, ROOM 206, SAN LUIS OBISPO, CALIFORNIA 93408

DOVER CANYON ROAD AT JACK CREEK BRIDGE REPLACEMENT PROJECT

LAYOUT

Designer	Date	Drawn By	Date	Project Manager	Date
R.USEDOM	09/2020	AC/JS	09/2020	Z.SIVIGLIA	09/2020

J:\SAN LUIS OBISPO-SA-16157-DOVER CANYON-JACK CREEK BRIDGE\CADD\SHEETS\DCB_L-1 TO L-2.DWG, 9/3/2020 7:13 PM, MTCo.ctb, JOE SARMIENTO

Dist	COUNTY	ROAD NO.	JOB NO.	SHEET No.	TOTAL SHEETS
05	SLO	5154	XXX	5	26

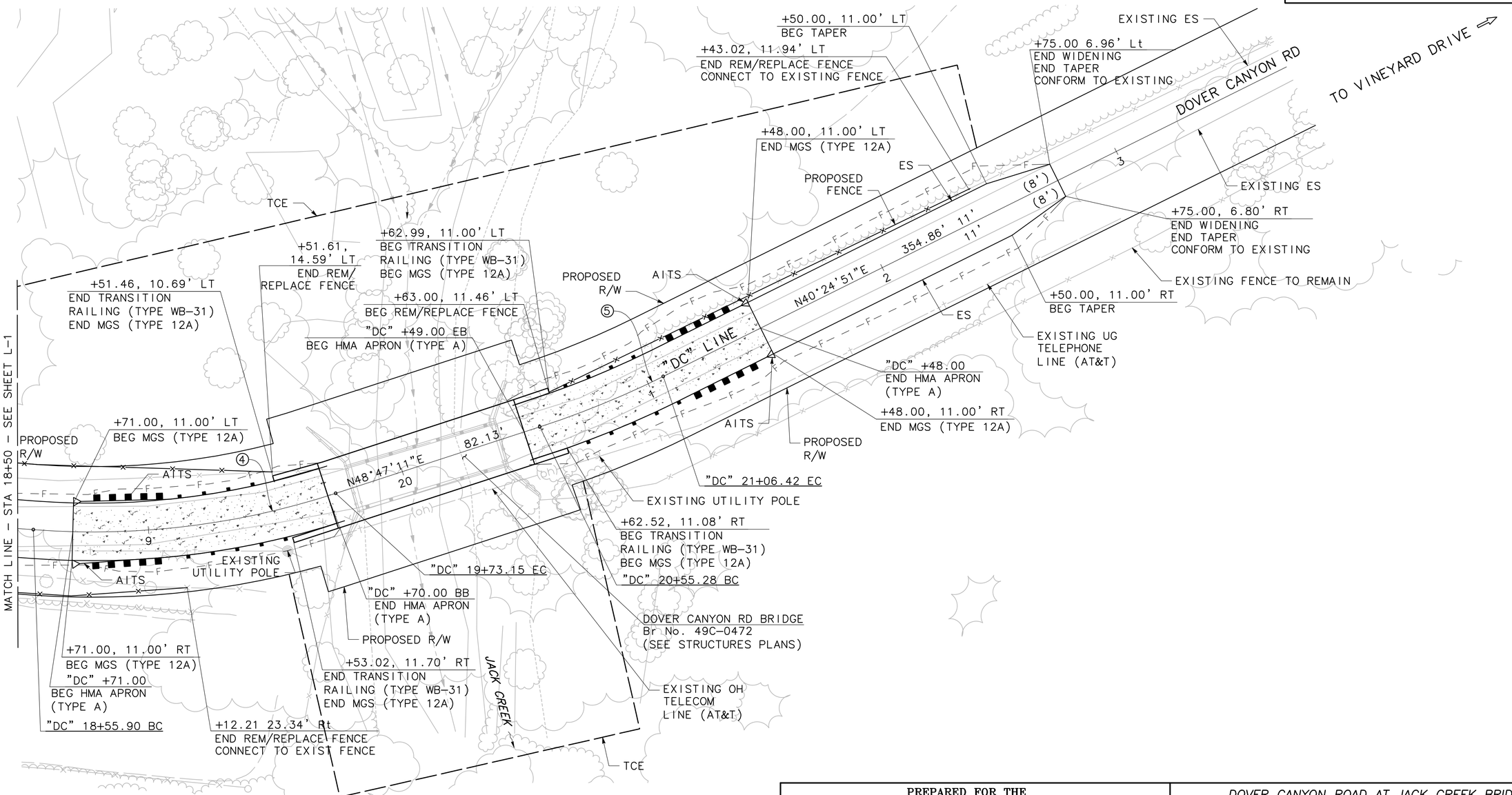
REGISTERED CIVIL ENGINEER DATE

REGISTERED PROFESSIONAL ENGINEER ZACHARY JAMES SIVIGLIA No. 73128 Exp. 12/31/18 CIVIL STATE OF CALIFORNIA

PLANS APPROVAL DATE

MARK THOMAS
2121 ALTON PARKWAY, SUITE 210
IRVINE, CA 92606

CURVE DATA				
No.	R	Δ	T	L
4	300.00'	22°23'33"	59.38'	117.25'
5	350.00'	8°22'20"	25.62'	51.14'



L-2

PREPARED FOR THE
SAN LUIS OBISPO COUNTY
PUBLIC WORKS DEPARTMENT
976 OSOS STREET, ROOM 206, SAN LUIS OBISPO, CALIFORNIA 93408

DOVER CANYON ROAD AT JACK CREEK BRIDGE REPLACEMENT PROJECT

LAYOUT

Designer	Date	Drawn By	Date	Project Manager	Date
R.USEDOM	09/2020	AC/JS	09/2020	Z.SIVIGLIA	09/2020

J:\SAN LUIS OBISPO-SA-16157-DOVER CANYON-JACK CREEK BRIDGE\CADD\SHEETS\DCB_L-1 TO L-2.DWG, 9/3/2020 7:14 PM, MTCo.ctb, JOE SARMIENTO

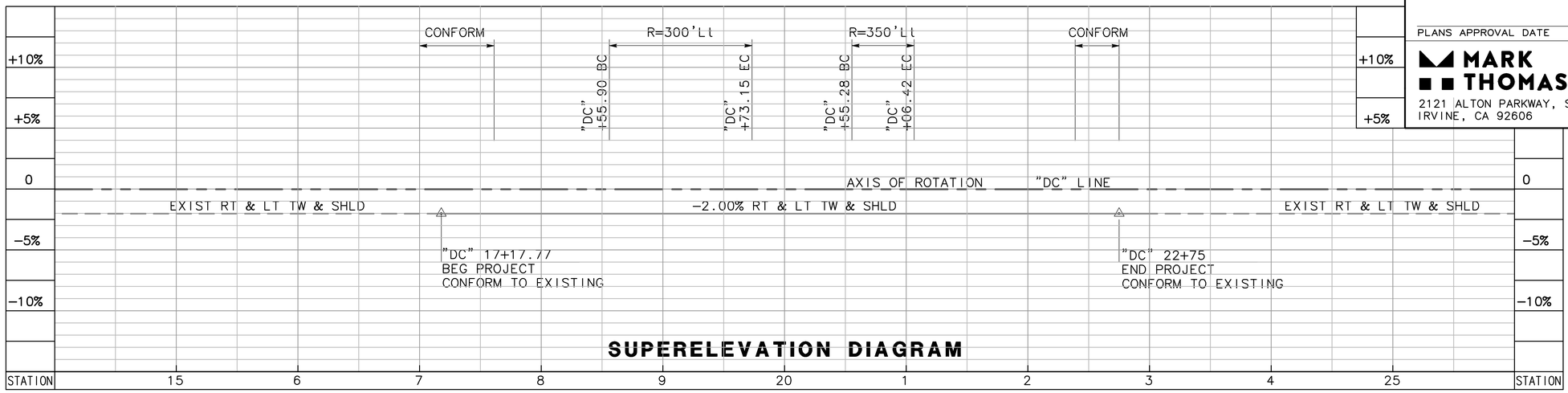
Dist	COUNTY	ROAD NO.	JOB NO.	SHEET No.	TOTAL SHEETS
05	SLO	5154	XXX	6	26

REGISTERED CIVIL ENGINEER DATE

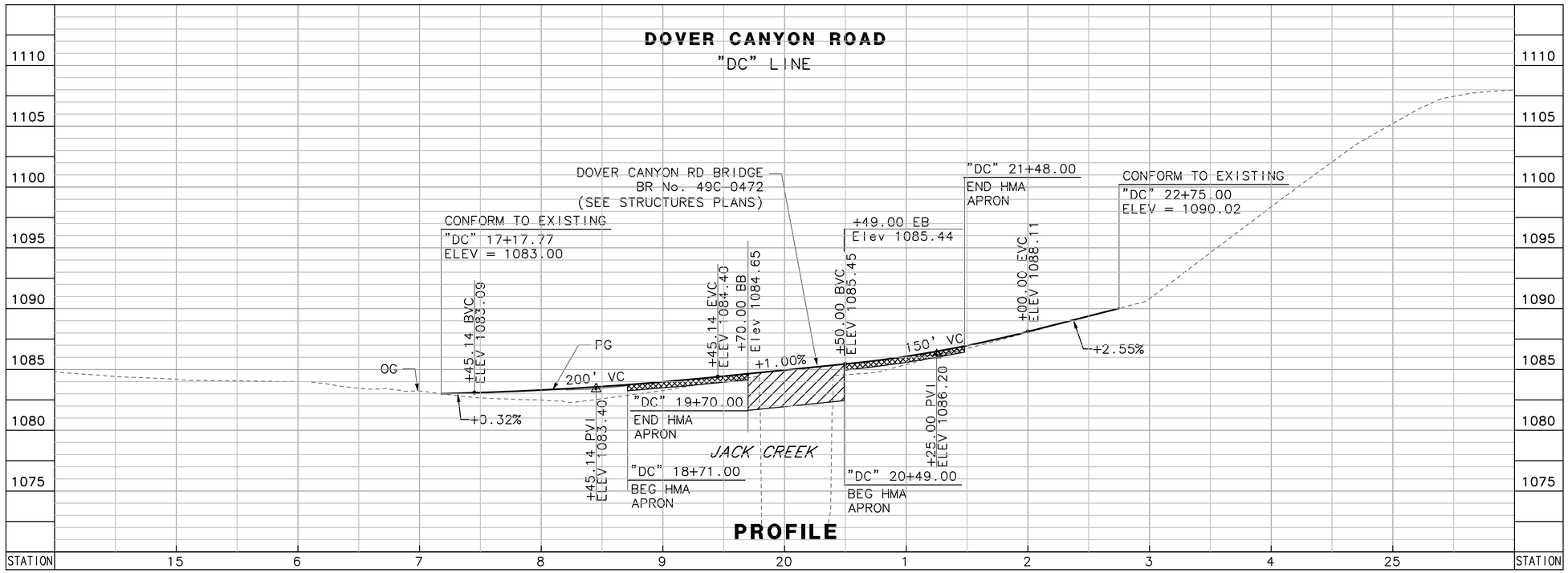
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — ZACHARY JAMES SIVIGLIA — No. 73128 — Exp. 12/31/18 — CIVIL — STATE OF CALIFORNIA

MARK THOMAS
2121 ALTON PARKWAY, SUITE 210
IRVINE, CA 92606



SUPERELEVATION DIAGRAM



PROFILE

PS-1

Horiz SCALE: 1" = 50'
Vert SCALE: 1" = 5'

PREPARED FOR THE
SAN LUIS OBISPO COUNTY
PUBLIC WORKS DEPARTMENT
976 OSOS STREET, ROOM 206, SAN LUIS OBISPO, CALIFORNIA 93408

DOVER CANYON ROAD AT JACK CREEK BRIDGE REPLACEMENT PROJECT

PROFILE AND SUPERELEVATION DIAGRAM

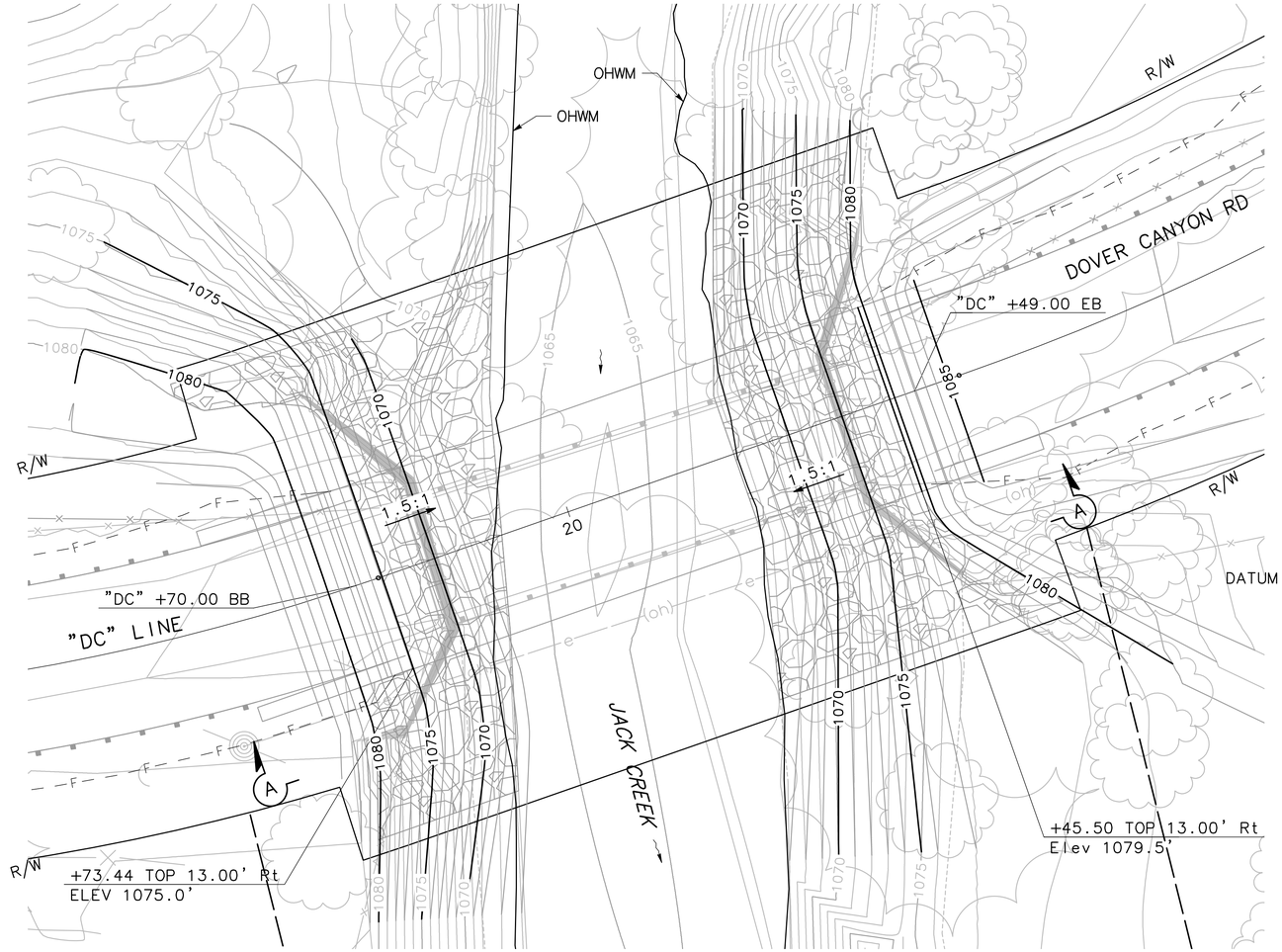
Designer	Date	Drawn By	Date	Project Manager	Date
R.USEDOM	09/2020	AC/JS	09/2020	Z.SIVIGLIA	09/2020

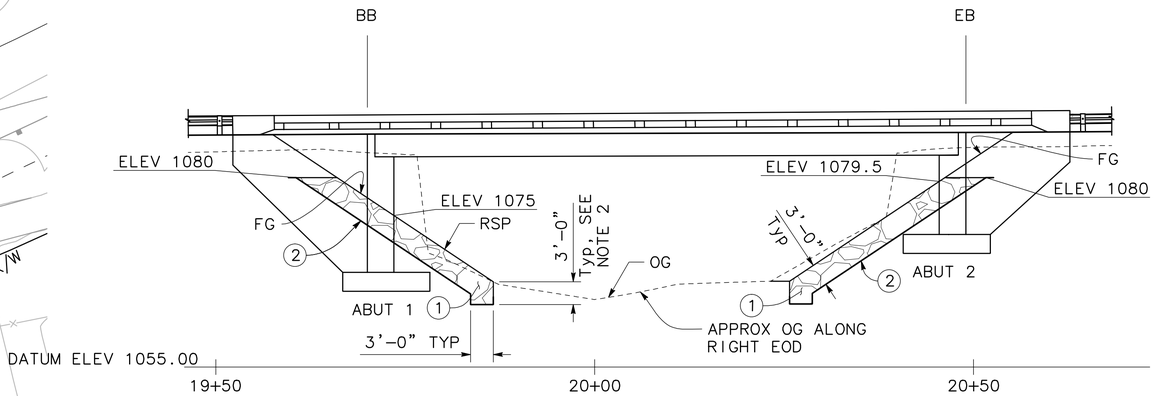
J:\SAN LUIS OBISPO-SA-16157-DOVER CANYON-JACK CREEK BRIDGE\CADD\SHEETS\DCB_PS-1.DWG, 9/1/2020 11:43 AM, MTCo.ctb, JOE SARMIENTO

LEGEND:

— — —C— CUT LINE

— — —F— FILL LINE





SECTION A-A

NO SCALE

LEGEND:

(1) ROCK SLOPE PROTECTION (1/4T, CLASS V, METHOD B)

(2) ROCK SLOPE PROTECTION, FABRIC TYPE 8

0ft 10ft 20ft SCALE: 1" = 10'

Dist	COUNTY	ROAD NO.	JOB NO.	SHEET No.	TOTAL SHEETS
05	SLO	5154	XXX	7	26

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — ZACHARY JAMES SIVIGLIA — No. 73128 — Exp. 12/31/18 — CIVIL — STATE OF CALIFORNIA

MARK THOMAS

2121 ALTON PARKWAY, SUITE 210
IRVINE, CA 92606

PREPARED FOR THE
SAN LUIS OBISPO COUNTY
PUBLIC WORKS DEPARTMENT
976 OSOS STREET, ROOM 206, SAN LUIS OBISPO, CALIFORNIA 93408

DOVER CANYON ROAD AT JACK CREEK BRIDGE REPLACEMENT PROJECT

ROCK SLOPE PROTECTION DETAIL AND CONTOUR GRADING

Designer	Date	Drawn By	Date	Project Manager	Date
R.USEDOM	09/2020	AC/JS	09/2020	Z.SIVIGLIA	09/2020

G-1

J:\SAN LUIS OBISPO-SA-16157-DOVER CANYON-JACK CREEK BRIDGE\CADD\SHEETS\DOB_G-1.DWG, 9/1/2020 11:44 AM, MTCo.ctb, JOE SARMIENTO

Dist	COUNTY	ROAD NO.	JOB NO.	SHEET No.	TOTAL SHEETS
05	SLO	5154	XXX	8	26

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER ZACHARY JAMES SIVIGLIA No. 73128 Exp. 12/31/18 CIVIL STATE OF CALIFORNIA

MARK THOMAS
2121 ALTON PARKWAY, SUITE 210
IRVINE, CA 92606

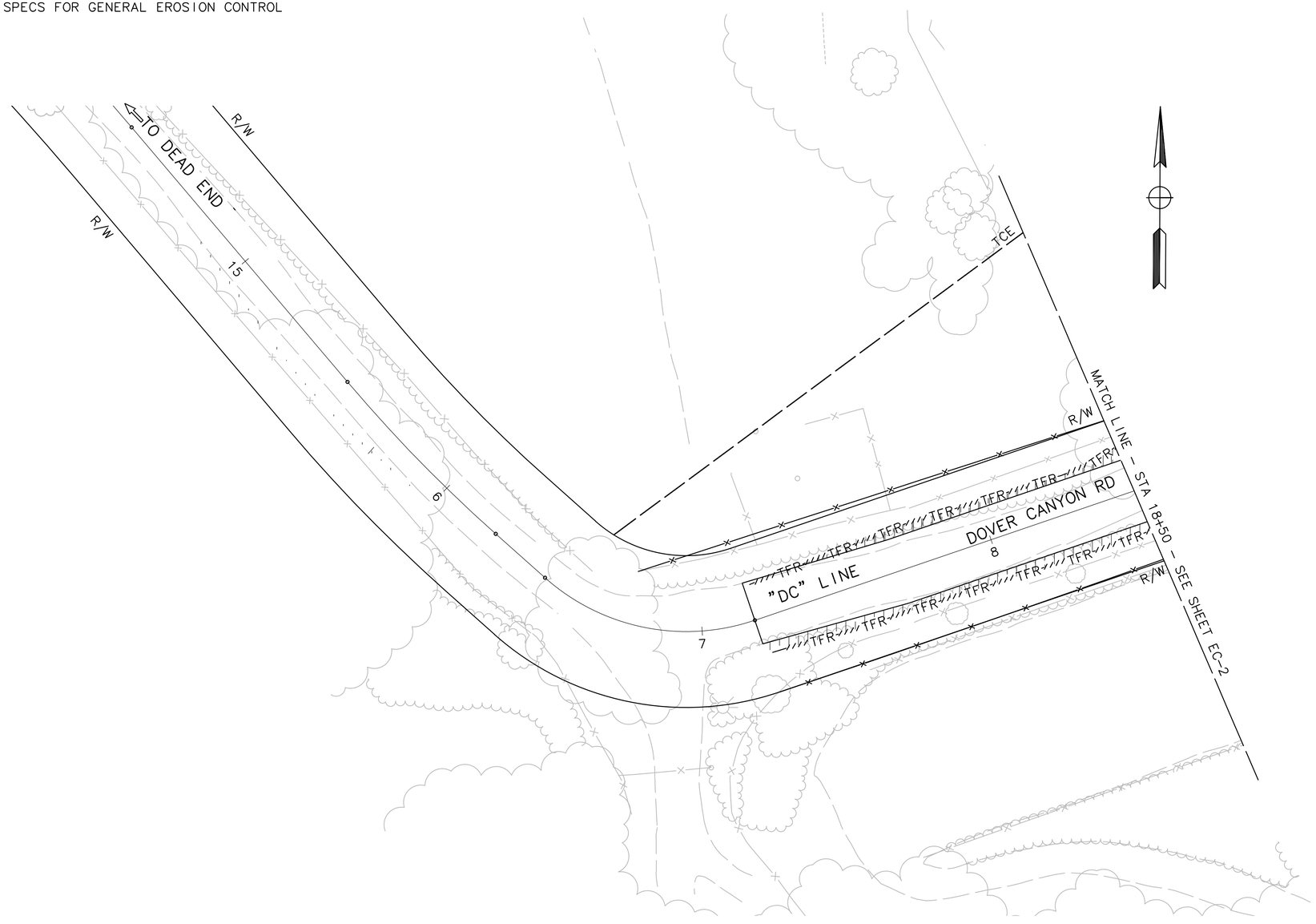
NOTES:

1. PROPER DUST CONTROL SHALL BE MAINTAINED AT ALL TIMES DURING CONSTRUCTION.
2. ALL DISTURBED SOIL AREAS OTHER THAN GRAVELED SURFACES SHALL BE HYDROSEEDED.
3. FIBER ROLLS TO BE INSTALLED AT THE TOE OF FILL SLOPES ON ROAD SECTION.
4. SEE PROJECT SPECS FOR GENERAL EROSION CONTROL NOTES.

LEGEND:

TFR TFR TEMPORARY FIBER ROLL

HYDROSEED



0ft 20ft 40ft SCALE: 1" = 20'

EC-1

PREPARED FOR THE
SAN LUIS OBISPO COUNTY
PUBLIC WORKS DEPARTMENT
976 OSOS STREET, ROOM 206, SAN LUIS OBISPO, CALIFORNIA 93408

DOVER CANYON ROAD AT JACK CREEK BRIDGE REPLACEMENT PROJECT

EROSION CONTROL AND PLANTING PLAN

Designer	Date	Drawn By	Date	Project Manager	Date
R.USEDOM	09/2020	AC/JS	09/2020	Z.SIVIGLIA	09/2020

J:\SAN LUIS OBISPO-SA-16157-DOVER CANYON-JACK CREEK BRIDGE\CADD\SHEETS\DCB_EC-1 TO EC-2.DWG, 9/1/2020 11:45 AM, MTOo.ctb, JOE SARMIENTO

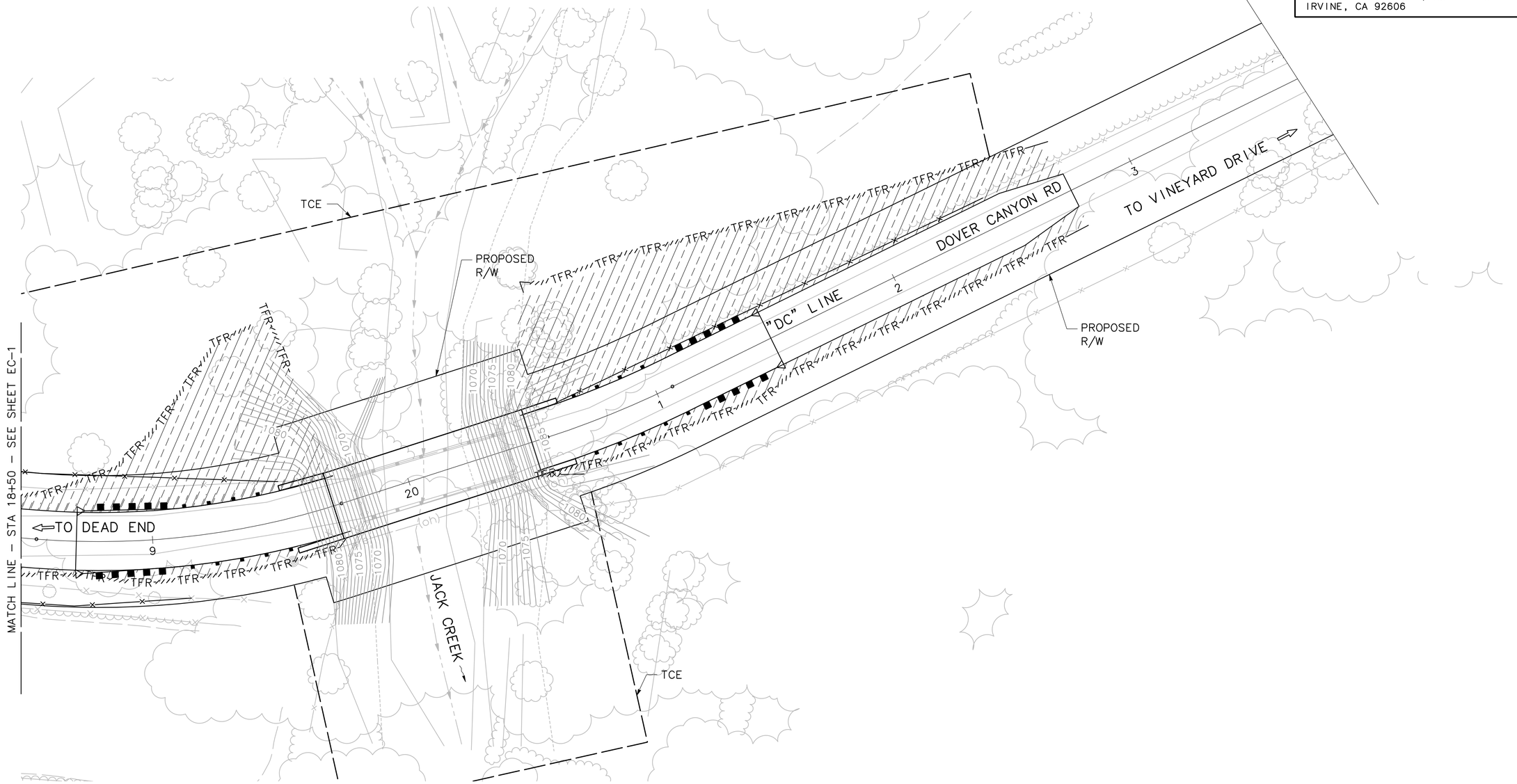
Dist	COUNTY	ROAD NO.	JOB NO.	SHEET No.	TOTAL SHEETS
05	SLO	5154	XXX	9	26

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
ZACHARY JAMES SIVIGLIA
No. 73128
Exp. 12/31/18
CIVIL
STATE OF CALIFORNIA

MARK THOMAS
2121 ALTON PARKWAY, SUITE 210
IRVINE, CA 92606



0ft 20ft 40ft SCALE: 1" = 20'

EC-2

PREPARED FOR THE
SAN LUIS OBISPO COUNTY
PUBLIC WORKS DEPARTMENT
976 OSOS STREET, ROOM 206, SAN LUIS OBISPO, CALIFORNIA 93408

DOVER CANYON ROAD AT JACK CREEK BRIDGE REPLACEMENT PROJECT

EROSION CONTROL AND PLANTING PLAN

Designer	Date	Drawn By	Date	Project Manager	Date
R.USEDOM	09/2020	AC/JS	09/2020	Z.SIVIGLIA	09/2020

J:\SAN LUIS OBISPO-SA-16157-DOVER CANYON-JACK CREEK BRIDGE\CADD\SHEETS\DCB_EC-1 TO EC-2.DWG, 9/1/2020 11:51 AM, MTCo.ctb, JOE SARMIENTO

Dist	COUNTY	ROAD NO.	JOB NO.	SHEET No.	TOTAL SHEETS
05	SLO	5154	XXX	10	26

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER ZACHARY JAMES SIVIGLIA No. 73128 Exp. 12/31/18 CIVIL STATE OF CALIFORNIA

MARK THOMAS
2121 ALTON PARKWAY, SUITE 210
IRVINE, CA 92606

NOTES:

1. LOCATION OF CONSTRUCTION AREA SIGNS ARE APPROXIMATE, EXACT LOCATIONS TO BE DETERMINED BY THE CONTRACTOR.
2. FOR ADDITIONAL CONSTRUCTION AREA SIGNS, SEE STAGE CONSTRUCTION PLANS.

LEGEND:

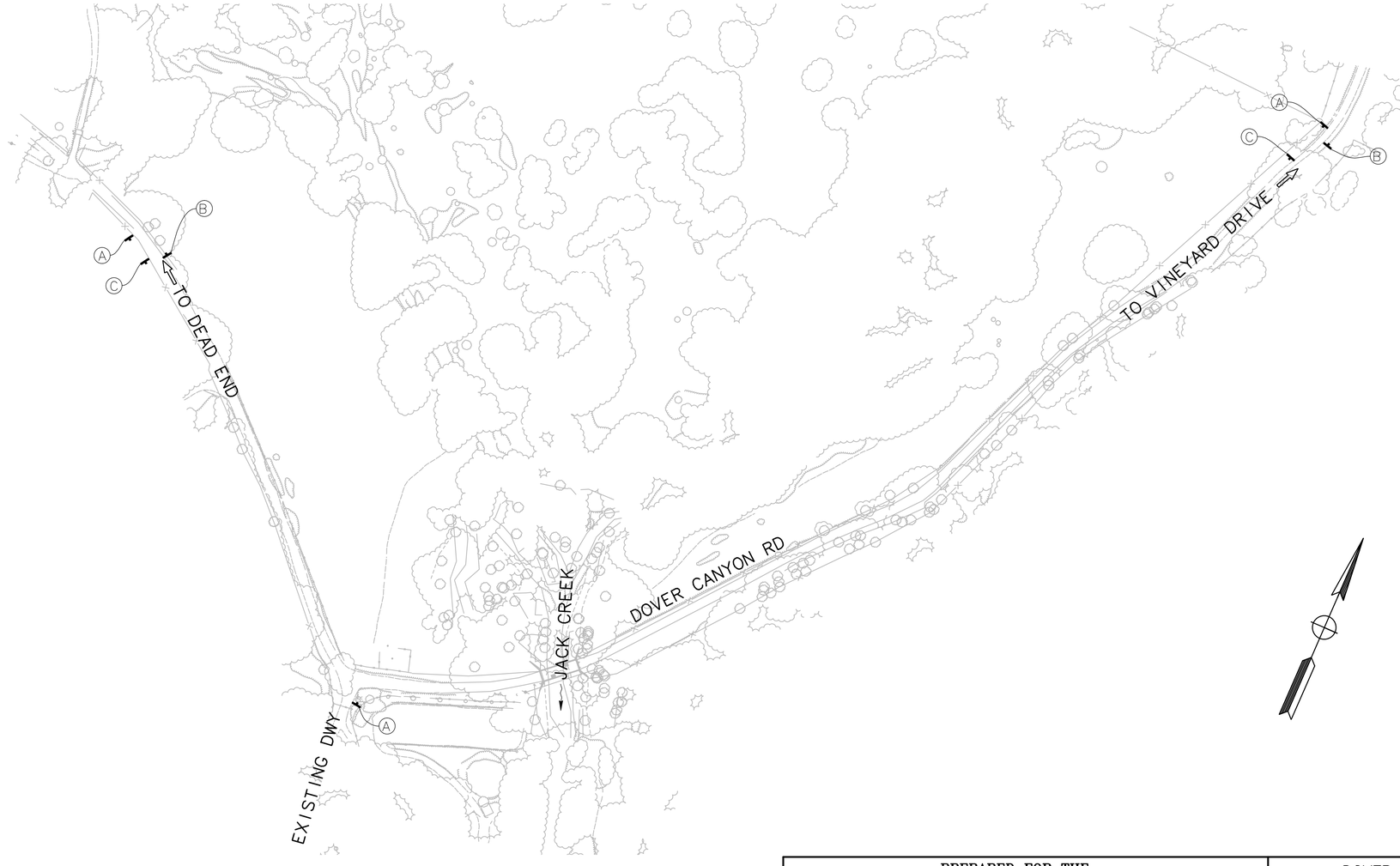
Ⓐ CONSTRUCTION AREA IDENTIFICATION

SIGN (1 POST)

STATIONARY MOUNTED CONSTRUCTION AREA SIGNS

SIGN No.	SIGN CODE	PANEL SIZE (INCHES) L	x	D	SIGN MESSAGE	NUMBER OF POSTS AND SIZE	QUANTITY OF SIGNS
Ⓐ	W20-1	48	x	48	ROAD WORK AHEAD	1 – 6" x 6"	3
Ⓑ	G20-2	36	x	18	END ROAD WORK	1 – 4" x 4"	2
Ⓒ	C40 (CA)	144	x	60	TRAFFIC FINES DOUBLED IN CONSTRUCTION ZONES	2 – 6" x 8"	2
Ⓓ	SPECIAL				DOVER CANYON ROAD CLOSED 1 MI AHEAD. USE ALTERNATE ROUTE	PORTABLE CHANGEABLE MESSAGE SIGN	1

Ⓓ PLACE AT DOVER CANYON RD AND VINEYARD DR INTERSECTION (PCMS)



0ft 100ft 200ft SCALE: 1" = 100'

PREPARED FOR THE
SAN LUIS OBISPO COUNTY
PUBLIC WORKS DEPARTMENT
976 OSOS STREET, ROOM 206, SAN LUIS OBISPO, CALIFORNIA 93408

DOVER CANYON ROAD AT JACK CREEK BRIDGE REPLACEMENT PROJECT

CONSTRUCTION AREA SIGNS

Designer	Date	Drawn By	Date	Project Manager	Date
R.USEDOM	09/2020	AC/JS	09/2020	Z.SIVIGLIA	09/2020

CS-1

J:\SAN LUIS OBISPO-SA-16157-DOVER CANYON-JACK CREEK BRIDGE\CADD\SHEETS\DCB_CS-1.DWG, 9/3/2020 5:23 PM, MTCo.ctb, JOE SARMIENTO

CURVE DATA				
No.	R	Δ	T	L
1	150.00'	40°03'58"	54.69'	104.89'
2	200.00'	17°31'10"	30.82'	61.15'
3	600.00'	4°26'46"	23.29'	46.56'
4	400.00'	12°49'05"	44.93'	89.49'

NOTES:

1. CLASS 2 AGGREGATE BASE TO BE REMOVED UPON COMPLETION OF CONSTRUCTION.
2. SEE SHEET EC-2 FOR TEMPORARY EROSION CONTROL MEASURES FOR THE DETOUR ROAD.

LEGEND:

- CLASS 2 AGGREGATE BASE
- TEMPORARY RAILING (TYPE K)
- CONSTRUCTION AREA SIGN (SINGLE POST)
- TYPE III BARRICADE

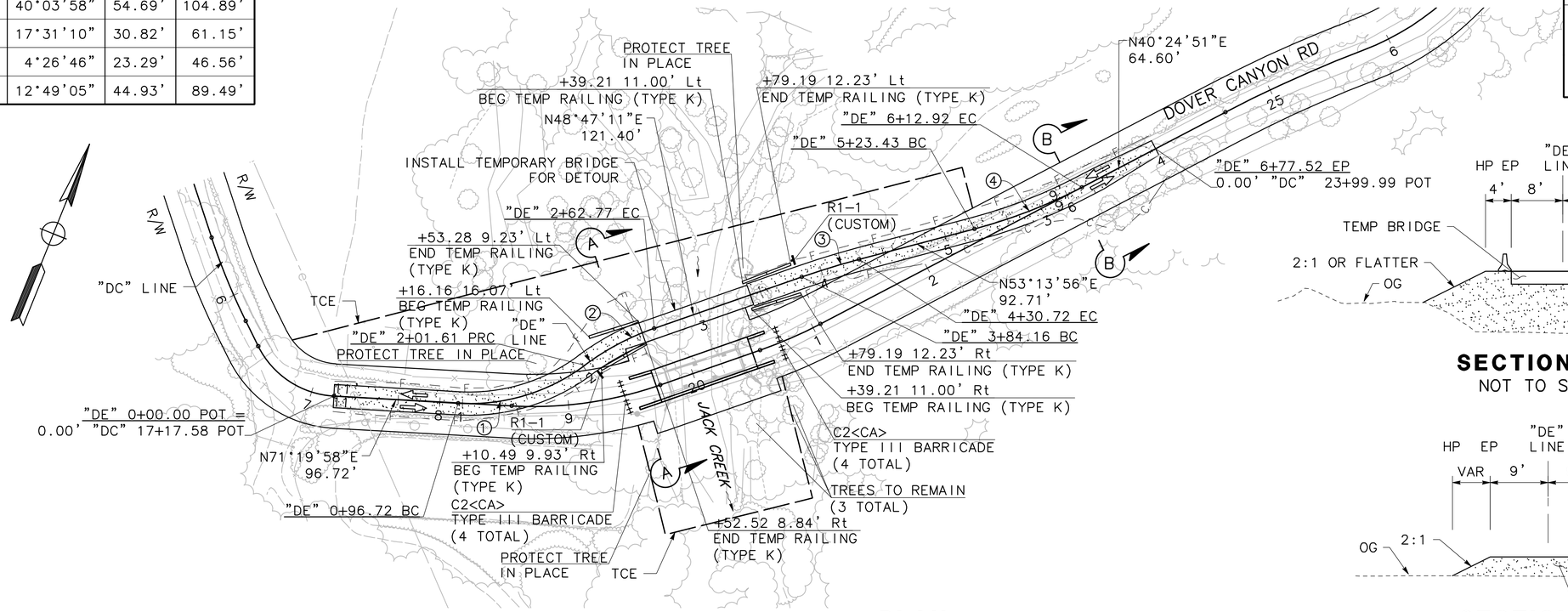
Dist	COUNTY	ROAD NO.	JOB NO.	SHEET No.	TOTAL SHEETS
05	SLO	5154	XXX	11	26

REGISTERED CIVIL ENGINEER DATE

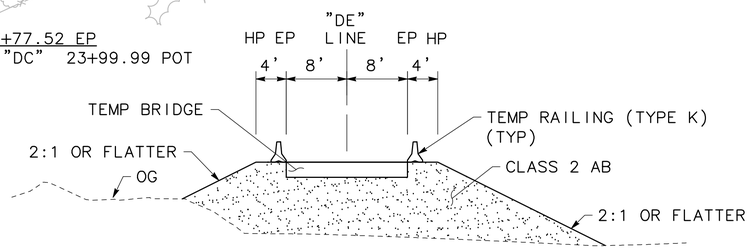
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — ZACHARY JAMES SIVIGLIA — No. 73128 — Exp. 12/31/18 — CIVIL — STATE OF CALIFORNIA

MARK THOMAS
2121 ALTON PARKWAY, SUITE 210
IRVINE, CA 92606

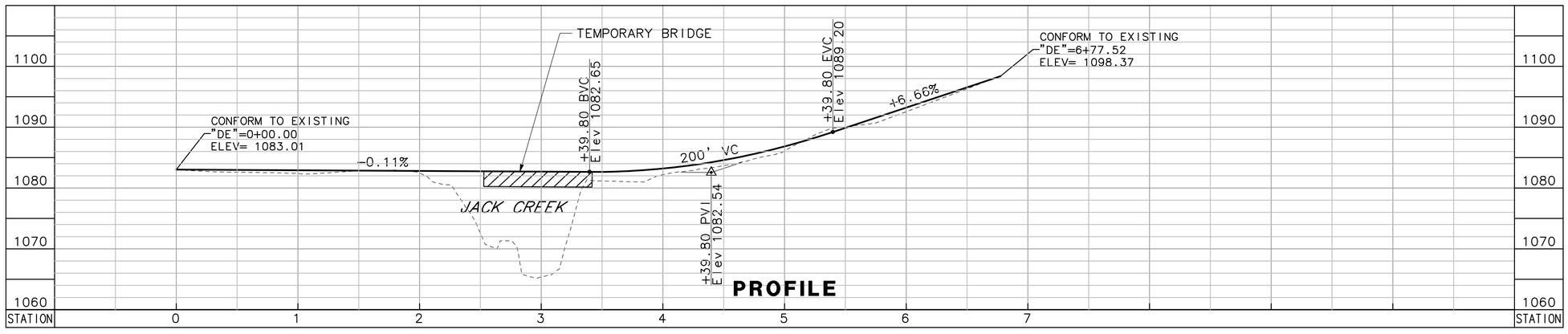


PLAN
SCALE: 1" = 50'



SECTION A-A
NOT TO SCALE

SECTION B-B
NOT TO SCALE



PROFILE

DE-1

Horiz SCALE: 1" = 50'
Vert SCALE: 1" = 10'
0ft 50ft 100ft

PREPARED FOR THE
SAN LUIS OBISPO COUNTY
PUBLIC WORKS DEPARTMENT
976 OSOS STREET, ROOM 206, SAN LUIS OBISPO, CALIFORNIA 93408

DOVER CANYON ROAD AT JACK CREEK BRIDGE REPLACEMENT PROJECT

DETOUR PLAN AND PROFILE

Designer	Date	Drawn By	Date	Project Manager	Date
R.USEDOM	09/2020	AC/JS	09/2020	Z.SIVIGLIA	09/2020

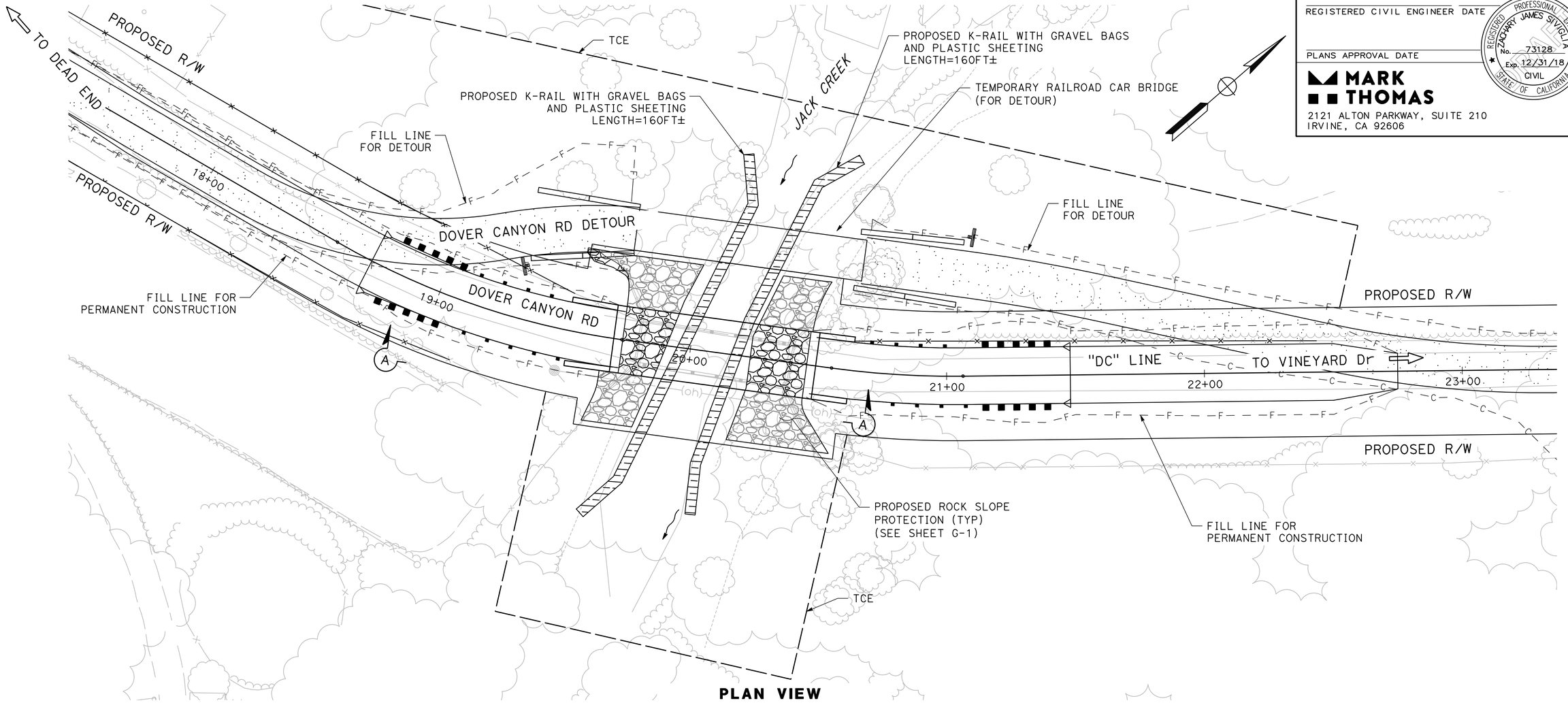
Dist	COUNTY	ROAD NO.	JOB NO.	SHEET No.	TOTAL SHEETS
05	SLO	5154	XXX	12	26

REGISTERED CIVIL ENGINEER DATE

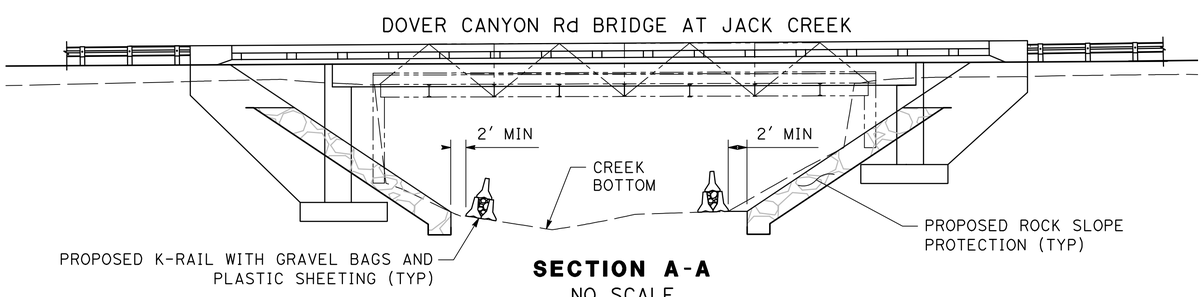
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — ZACHARY JAMES SIVIGLIA — No. 73128 — Exp. 12/31/18 — CIVIL — STATE OF CALIFORNIA

MARK THOMAS
2121 ALTON PARKWAY, SUITE 210
IRVINE, CA 92606



PLAN VIEW



SECTION A-A
NO SCALE

0ft 20ft 40ft

SCALE: 1" = 20'

DW-1

PREPARED FOR THE
SAN LUIS OBISPO COUNTY
PUBLIC WORKS DEPARTMENT
976 OSOS STREET, ROOM 206, SAN LUIS OBISPO, CALIFORNIA 93408

DOVER CANYON ROAD AT JACK CREEK BRIDGE REPLACEMENT PROJECT

DIVERSION AND DEWATERING PLAN

Designer	Date	Drawn By	Date	Project Manager	Date
R.USEDOM	09/2020	AC/JS	09/2020	Z.SIVIGLIA	09/2020

J:\SAN LUIS OBISPO-SA-16157-DOVER CANYON-JACK CREEK BRIDGE\CADD\SHEETS\DCB_DW-1.DWG, 9/3/2020 5:32 PM, MTCo.ctb, JOE SARMIENTO

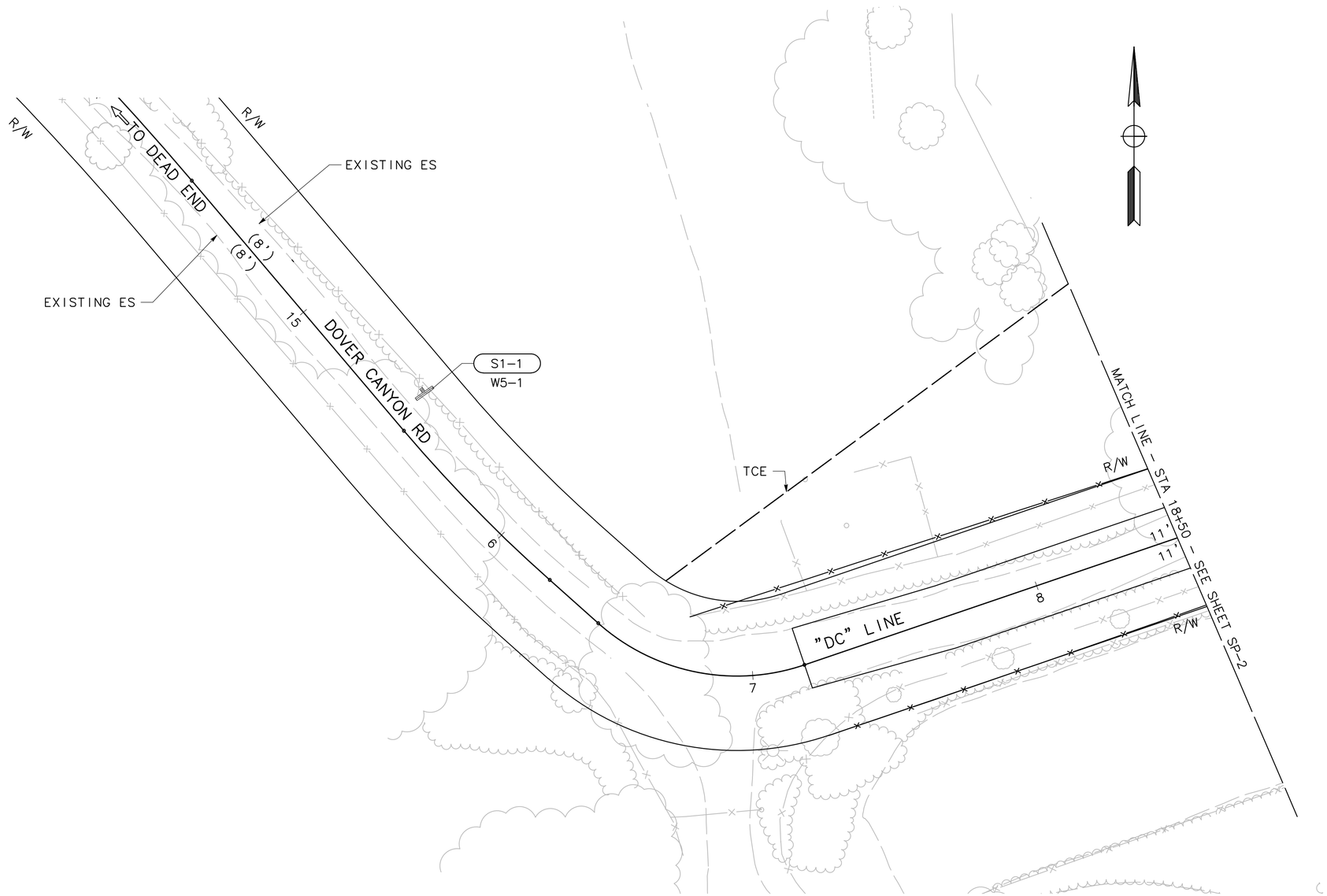
NOTES:

1. FEDERAL SIGN CODES ARE SHOWN UNLESS DESIGNATED BY <CA> WHICH INDICATES A CALIFORNIA SIGN CODE.

LEGEND:

ROADSIDE SIGN (ONE POST)

SX–X ROADSIDE SIGN NUMBER



0ft 20ft 40ft SCALE: 1" = 20'

Dist	COUNTY	ROAD NO.	JOB NO.	SHEET No.	TOTAL SHEETS
05	SLO	5154	XXX	13	26

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER ZACHARY JAMES SIVIGLIA No. 73128 Exp. 12/31/18 CIVIL STATE OF CALIFORNIA

MARK THOMAS

2121 ALTON PARKWAY, SUITE 210
IRVINE, CA 92606

PREPARED FOR THE
SAN LUIS OBISPO COUNTY
PUBLIC WORKS DEPARTMENT
976 OSOS STREET, ROOM 206, SAN LUIS OBISPO, CALIFORNIA 93408

DOVER CANYON ROAD AT JACK CREEK BRIDGE REPLACEMENT PROJECT

SIGN PLAN

Designer	Date	Drawn By	Date	Project Manager	Date
R.USEDOM	09/2020	AC/JS	09/2020	Z.SIVIGLIA	09/2020

SP-1

J:\SAN LUIS OBISPO–SA–16157–DOVER CANYON–JACK CREEK BRIDGE\CADD\SHEETS\DCB_SP-1 TO SP-2.DWG, 9/1/2020 11:47 AM, MTCo.ctb, JOE SARMIENTO

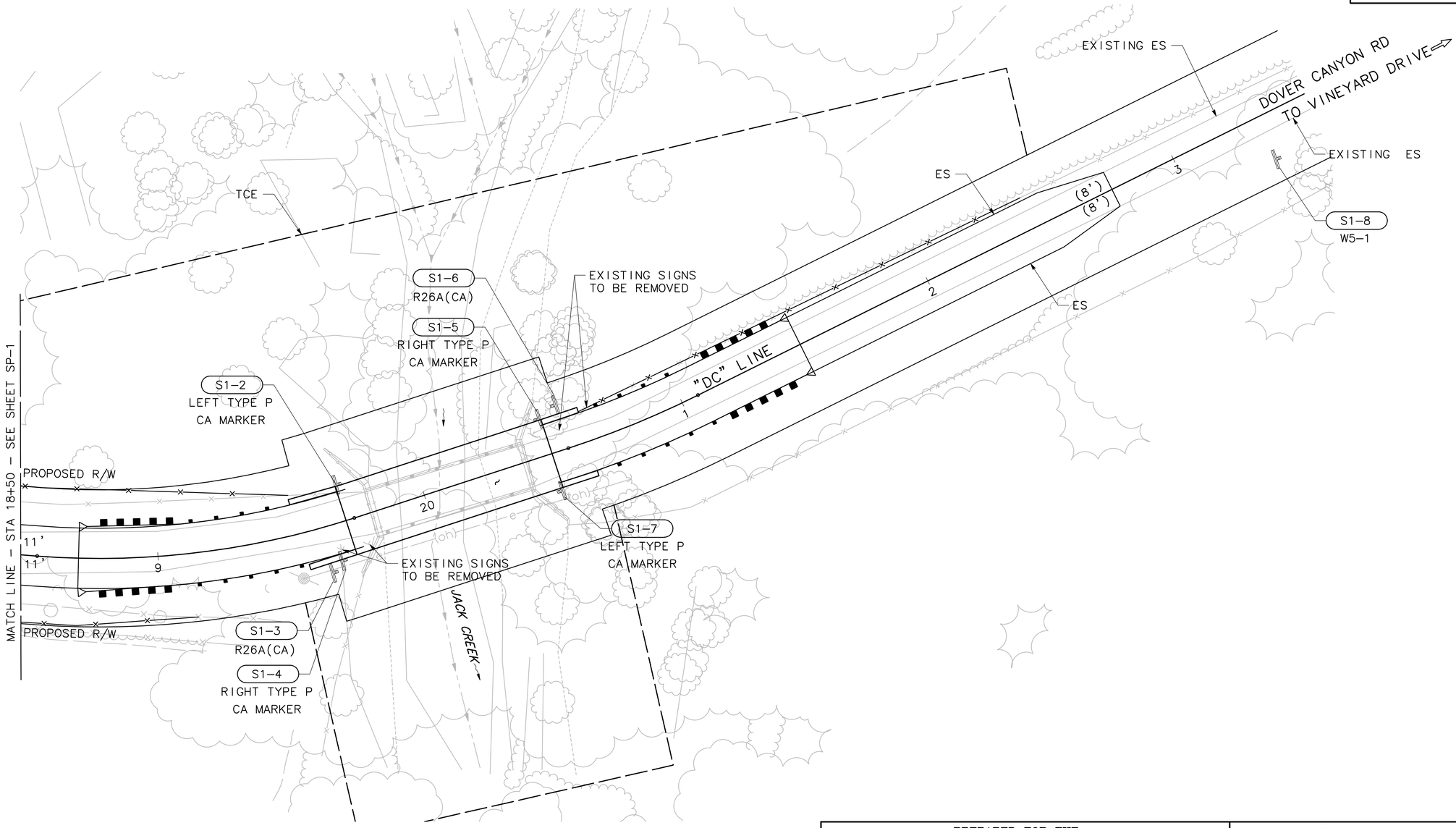
Dist	COUNTY	ROAD NO.	JOB NO.	SHEET No.	TOTAL SHEETS
05	SLO	5154	XXX	14	26

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
ZACHARY JAMES SIVIGLIA
No. 73128
Exp. 12/31/18
CIVIL
STATE OF CALIFORNIA

MARK THOMAS
2121 ALTON PARKWAY, SUITE 210
IRVINE, CA 92606



0ft 20ft 40ft SCALE: 1" = 20'

SP-2

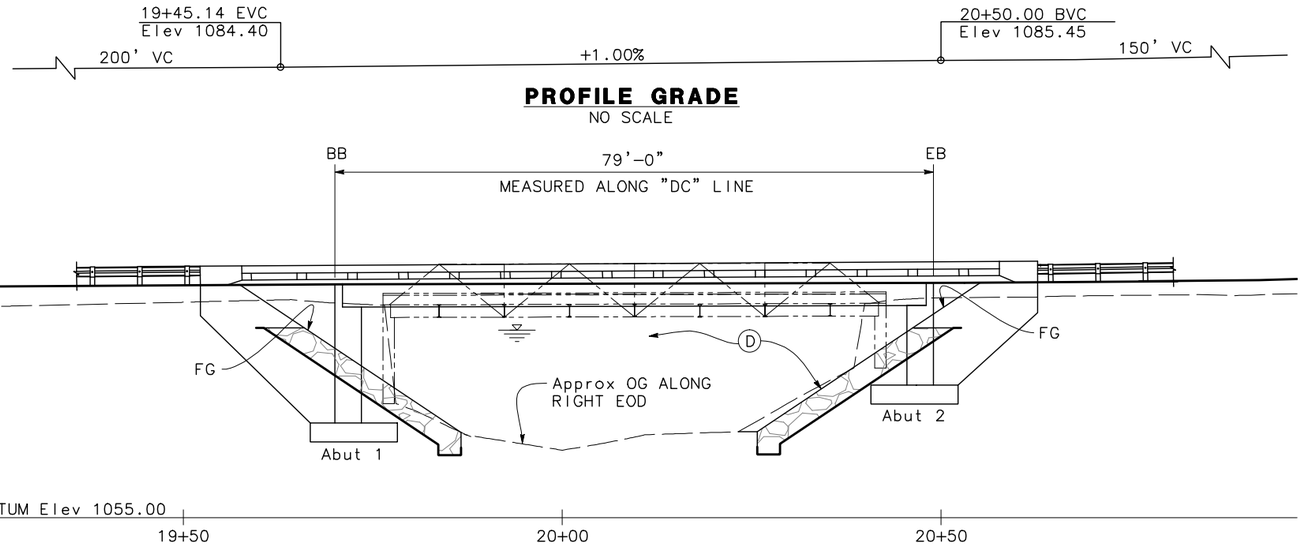
PREPARED FOR THE
SAN LUIS OBISPO COUNTY
PUBLIC WORKS DEPARTMENT
976 OSOS STREET, ROOM 206, SAN LUIS OBISPO, CALIFORNIA 93408

DOVER CANYON ROAD AT JACK CREEK BRIDGE
REPLACEMENT PROJECT

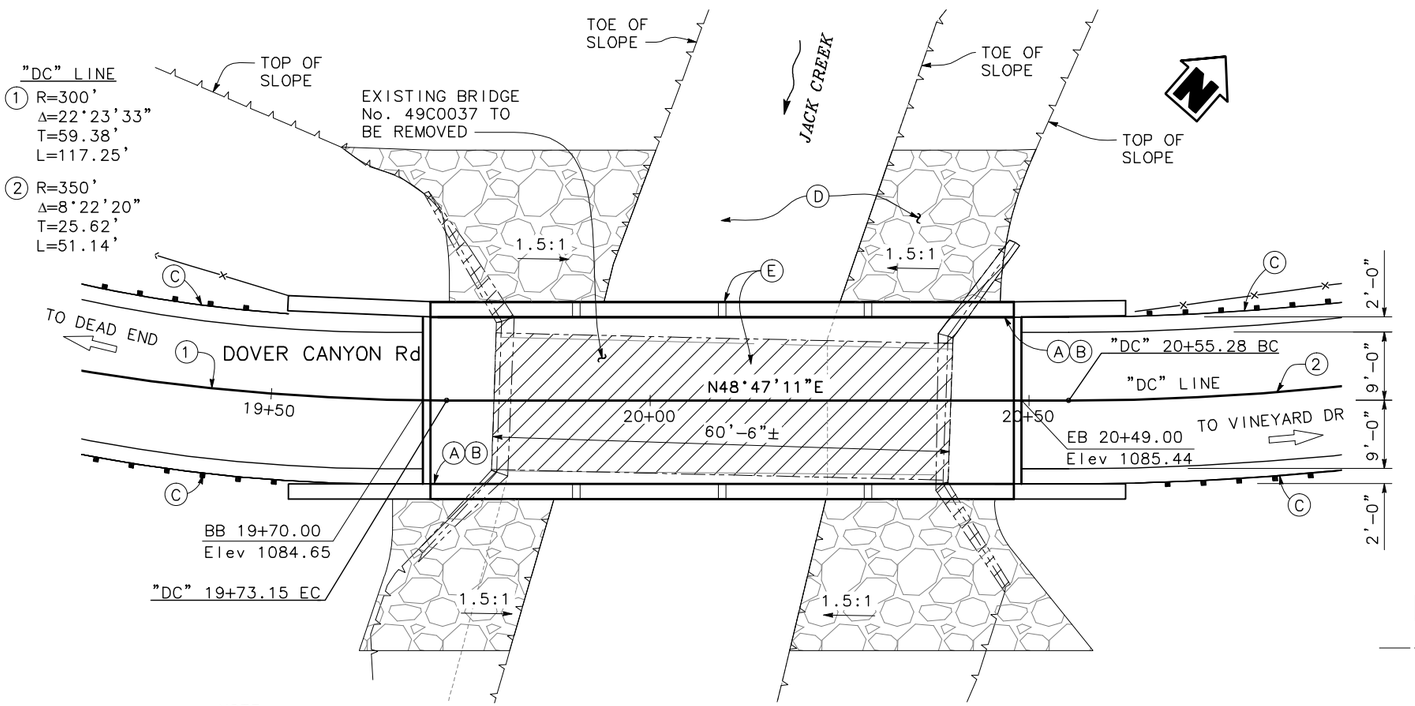
SIGN PLAN

Designer	Date	Drawn By	Date	Project Manager	Date
R.USEDOM	09/2020	AC/JS	09/2020	Z.SIVIGLIA	09/2020

J:\SAN LUIS OBISPO-SA-16157-DOVER CANYON-JACK CREEK BRIDGE\CADD\SHEETS\DCB_SP-1 TO SP-2.DWG, 9/1/2020 11:53 AM, MTCo.ctb, JOE SARMIENTO



ELEVATION
1" = 10'



PLAN
1" = 10'

BRIDGE QUANTITIES

STRUCTURE EXCAVATION (BRIDGE)	359	CY
STRUCTURE BACKFILL (BRIDGE)	206	CY
STRUCTURAL CONCRETE, BRIDGE FOOTING	60	CY
STRUCTURAL CONCRETE, BRIDGE	114	CY
STRUCTURAL CONCRETE, BRIDGE (POLYMER FIBER)	37	CY
FURNISH PRECAST PRESTRESSED DECK UNIT (SLAB TYPE, 70'-80')	8	EA
ERECT PRECAST PRESTRESSED DECK UNIT (SLAB TYPE, 70'-80')	8	EA
JOINT SEAL (MR 1")	46	LF
BAR REINFORCING STEEL (BRIDGE)	26,331	LB
BRIDGE REMOVAL	1	LS
ROCK SLOPE PROTECTION (1/4 T, METHOD B)	390	CY
ROCK SLOPE PROTECTION FABRIC (CLASS 8)	4,168	SF
MISCELLANEOUS METAL (BRIDGE)	177	LB
CONCRETE BARRIER (TYPE 85)	221	LF

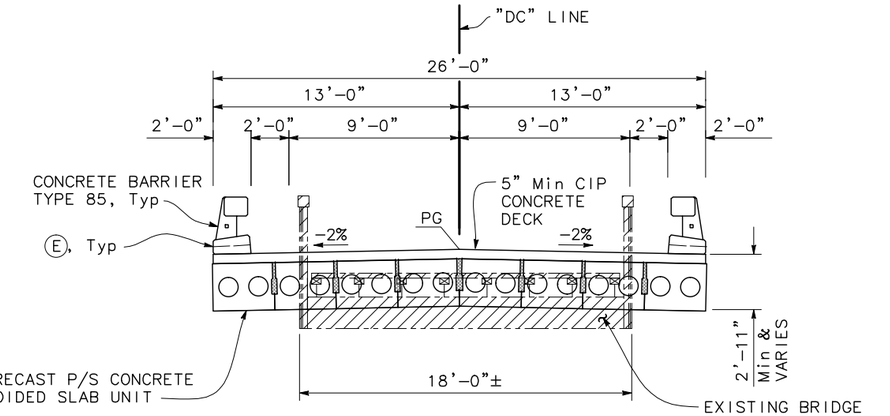
Dist	COUNTY	ROAD NO.	JOB NO.	SHEET No.	TOTAL SHEETS
05	SLO	XXX	XXX	15	XXX

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
VICTOR ANSON SHERBY
No. 80646
Exp. 3/31/21
CIVIL
STATE OF CALIFORNIA

MARK THOMAS
701 UNIVERSITY AVENUE, SUITE 200
SACRAMENTO, CALIFORNIA 95825



TYPICAL SECTION
1/4" = 1'-0"

NOTES:

- Ⓐ Paint "JACK CREEK BRIDGE"
- Ⓑ Paint "BR. NO. 49C0472"
- Ⓒ MGS, see "ROAD PLANS"
- Ⓓ Rock Slope Protection, see "ROCK SLOPE PROTECTION DETAILS" sheet
- Ⓔ Scuppers, see "TYPICAL SECTION" sheet
1. For GENERAL NOTES, see "DECK CONTOURS" sheet.
2. For "FOOTING DATA TABLE" and "SCOUR DATA TABLE", see "FOUNDATION PLAN" sheet.

LEGEND:

Indicates Bridge Removal

Indicates Exist Structure

INDEX TO PLANS

CALL BEFORE YOU DIG
1-800-227-2600

NOTE:
THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.

S-1

DESIGN	BY V. SHERBY	CHECKED T. PHAM	LOAD AND RESISTANCE FACTOR DESIGN	LIVE LOADING: HL93 w/ "LOW BOY" AND PERMIT DESIGN VEHICLE	
DETAILS	BY J. DOTY	CHECKED T. PHAM	LAYOUT	BY R. USEDOM	CHECKED V. SHERBY
QUANTITIES	BY A. CLUBB	CHECKED C. GUARDADO	SPECIFICATIONS	BY V. SHERBY	PLANS AND SPECS COMPARED J. PASSALACQUA

BRIDGE NO. 49C0472
POST MILES N/A

PREPARED FOR THE
SAN LUIS OBISPO COUNTY
PUBLIC WORKS DEPARTMENT
976 OSOS STREET, ROOM 206, SAN LUIS OBISPO, CALIFORNIA 93408

DOVER CANYON ROAD AT JACK CREEK BRIDGE REPLACEMENT PROJECT

GENERAL PLAN

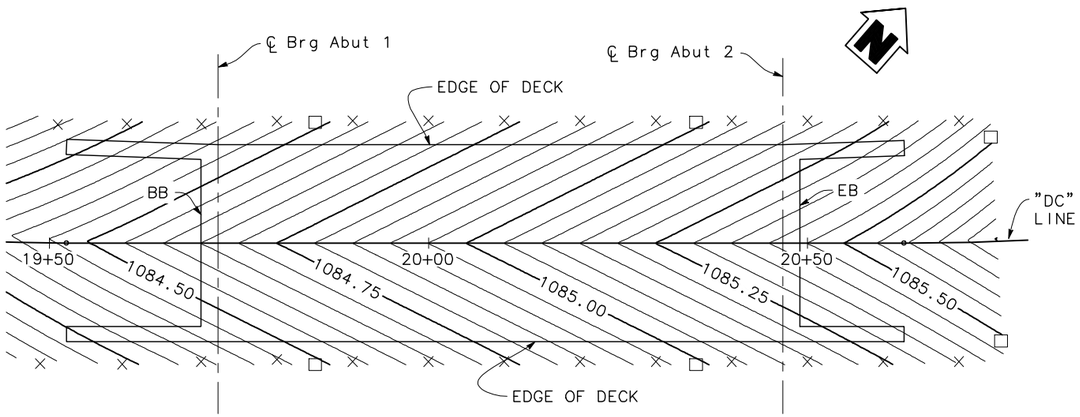
Dist	COUNTY	ROAD NO.	JOB NO.	SHEET No.	TOTAL SHEETS
05	SLO	XXX	XXX	16	XXX

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — VICTOR ANSON SHERBY — No. 80646 — Exp. 3/31/19 — CIVIL — STATE OF CALIFORNIA

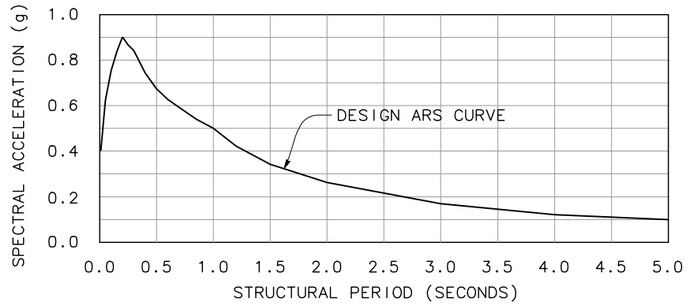
MARK THOMAS
701 UNIVERSITY AVENUE, SUITE 200
SACRAMENTO, CALIFORNIA 95825



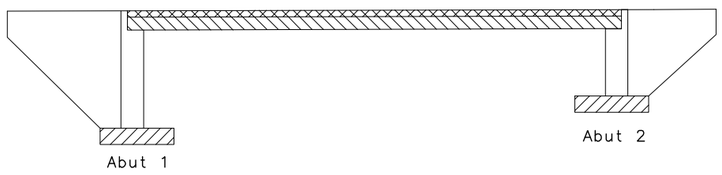
DECK CONTOURS
1" = 10'

NOTES:

1. Contour interval is 0.05 feet.
2. × – Indicates 10 foot intervals.
3. □ – Indicates 0.25 foot contour.
4. Contours do not include camber.



ARS CURVE
5% DAMPING



CONCRETE STRENGTH AND TYPE LIMITS
NO SCALE

- Structural Concrete, Bridge
- Structural Concrete, Bridge (Polymer Fiber) (f'c = 6.5 ksi)
- Precast Prestressed Slab Units, see "PRECAST SLAB LAYOUT" sheet for concrete strength
- Structural Concrete, Bridge Footing

CALL BEFORE YOU DIG
1-800-227-2600

GENERAL NOTES
LOAD AND RESISTANCE FACTOR DESIGN

DESIGN:
AASHTO LRFD Bridge Design Specifications, 6th edition and the California Amendments, preface dated January 2014.

SEISMIC DESIGN:
Caltrans Seismic Design Criteria (SDC), Version 1.7 dated April 2013.

DEAD LOAD:
Includes 35 psf for future wearing surface.

LIVE LOADING:
HL93 and permit design load.

SEISMIC LOADING:
Soil Profile: Vs30 = 360 m/s (1181 ft/s)
Moment Magnitude: 6.5
Peak Ground Acceleration 0.40g
See ARS Curve

CONCRETE:
fy = 60 ksi
f'c = 3.6 ksi unless otherwise noted
n = 8
See prestressing notes on "PRECAST SLAB LAYOUT" sheet.

FOOTING PRESSURE:
See SPREAD FOOTING DATA TABLE on "FOUNDATION PLAN" sheet.

STANDARD PLANS DATED MAY, 2018

	A3A	ABBREVIATIONS (SHEET 1 OF 3)
	A3B	ABBREVIATIONS (SHEET 2 OF 3)
	A3C	ABBREVIATIONS (SHEET 3 OF 3)
	A10A	LINES AND SYMBOLS (SHEET 1 OF 5)
	A10B	LINES AND SYMBOLS (SHEET 2 OF 5)
	A10C	LINES AND SYMBOLS (SHEET 3 OF 5)
	A10D	LINES AND SYMBOLS (SHEET 4 OF 5)
	A10E	LINES AND SYMBOLS (SHEET 5 OF 5)
	A10F	LEGEND – SOIL (SHEET 1 OF 2)
	A10G	LEGEND – SOIL (SHEET 2 OF 2)
	A10H	LEGEND – ROCK
	A62C	LIMITS OF PAYMENT FOR EXCAVATION AND BACKFILL – BRIDGE
RSP	B0-1	BRIDGE DETAILS
	B0-3	BRIDGE DETAILS
	B0-13	BRIDGE DETAILS
RSP	B7-8	JOINT SEALS (MAXIMUM MOVEMENT RATING = 2")
	B11-60	CONCRETE BARRIER TYPE 80 (SHEET 1 OF 2)
	B11-61	CONCRETE BARRIER TYPE 80 (SHEET 2 OF 2)

Standard Plan Sheet No.
Detail No.

S-2

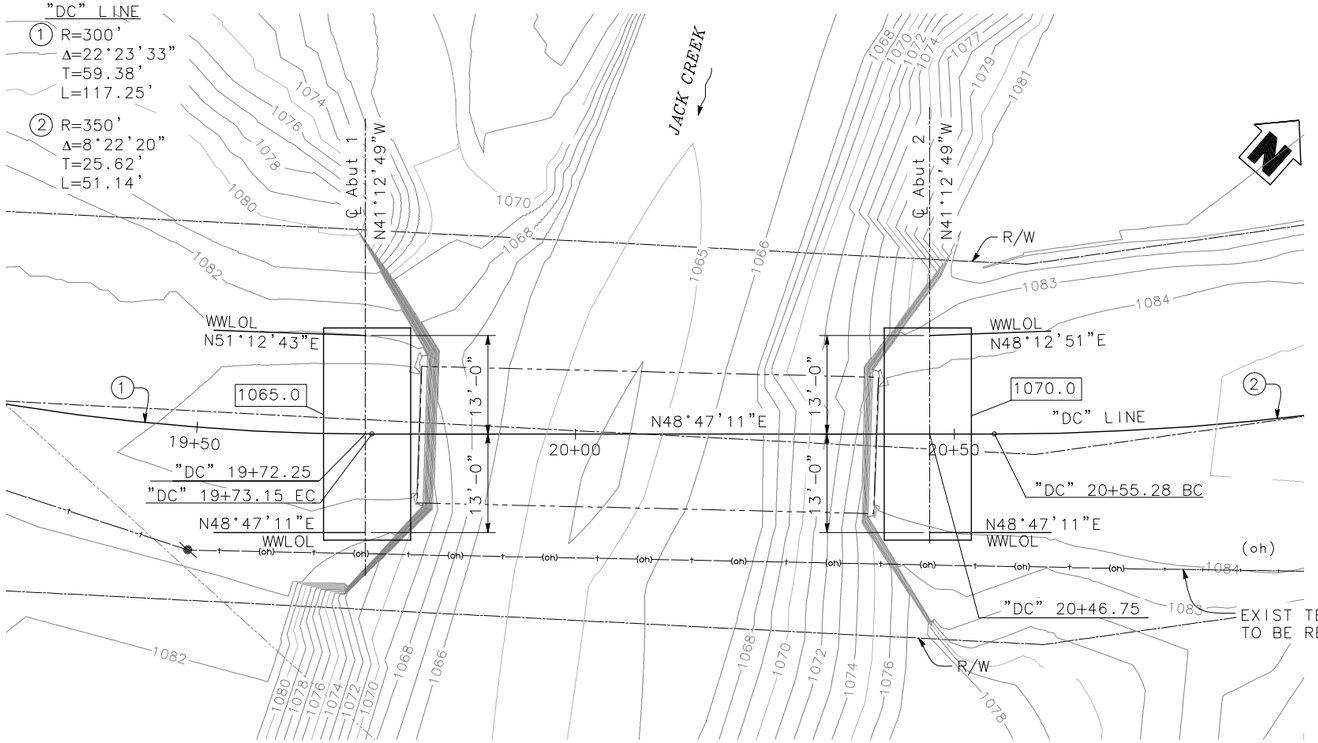
DESIGN	BY V. SHERBY	CHECKED T. PHAM	BRIDGE NO. 49C0472
DETAILS	BY J. DOTY	CHECKED T. PHAM	POST MILES N/A
QUANTITIES	BY A. CLUBB	CHECKED C. GUARDADO	

PREPARED FOR THE
SAN LUIS OBISPO COUNTY
PUBLIC WORKS DEPARTMENT
976 OSOS STREET, ROOM 206, SAN LUIS OBISPO, CALIFORNIA 93408

DOVER CANYON ROAD AT JACK CREEK BRIDGE REPLACEMENT PROJECT

DECK CONTOURS

J:\SAN LUIS OBISPO-SA-16137-DOVER CANYON-JACK CREEK BRIDGE\CADD\STRUCTURES\02_DCB_DC.DWG, 7/16/2020 10:40 AM, ----, VRIDIANA DOMINGUEZ



PLAN
1" = 10'

NOTE:
Utilities shown here are for reference only.
Refer to "ROAD PLANS" for specifics.

LEGEND:

Indicates Bottom of Footing Elevation (feet)

Indicates Existing Structure

HYDROLOGIC SUMMARY

Drainage Area 23.2 Square Mile

	Design Flood	Base Flood	Flood of Record
Frequency (Years)	50	100	>50
Discharge (Cubic Foot per Sec)	7293	8882	7587
Water Surface (Elevation at Bridge)	1078.3	1079.2	1078.9

Flood plain data are based upon information available when the plans were prepared and are shown to meet federal requirements. The accuracy of said information is not warranted by the County and interested or affected parties should make their own investigation.

DATUM

National Geodetic Vertical Datum of 1988 (NGVD 88)
North American Datum of 1983 (NAD 83)

SPREAD FOOTING DATA TABLE

Support Location	Service[2] Permissible Net Contact Stress (Settlement) (ksf)	Strength/Construction[3] Factored Gross Nominal Bearing Resistance $\varphi_b = 0.45$ (ksf)	Extreme Event[3] Factored Gross Nominal Bearing Resistance $\varphi_b = 1.00$ (ksf)
Abut 1	24.0	10.0	N/A
Abut 2	24.0	10.0	N/A

1. Controlling load combination is the one resulting in the highest ratio of $q_{g,u}/q_R$ for foundations on soil, or $q_{g,max}/q_R$ for foundation on rock.
2. Controlling load combination for service limit state is the one resulting in the highest ratio of $q_{n,u}/q_{pn}$ for foundation on soil, or $q_{g,max}/q_R$ for foundations on rock.
3. Controlling load combination for strength, construction, and extreme event is the one resulting in the highest ratio of $q_{g,u}/q_R$ for foundations on soil, or $q_{g,max}/q_R$ for foundations on rock.

SCOUR DATA TABLE *

Location	Long Term (Degradation and Contraction) Scour Elevation (ft)	Short Term (Local) Scour Depth (ft)
Abut 1	1068.0*	16.0*
Abut 2	1073.0*	16.0*

* Scour resistant rock is located at elevation 1068 at Abutment 1 and at elevation 1073 at Abutment 2. The footings will be located 3' into the scour resistant rock. See the Project Foundation Report for more information.

BENCHMARK

NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88) NATIONAL GEODETIC SURVEY PERMANENT IDENTIFIER (NGSPID) FV-1022. A STANDARD DISK, STAMPED "R 707 1943" IN CONCRETE POST, ELEVATION = 1495.86'

CALL BEFORE YOU DIG
1-800-227-2600

NOTE:
THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.

Dist	COUNTY	ROAD NO.	JOB NO.	SHEET No.	TOTAL SHEETS
05	SLO	XXX	XXX	17	XXX

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — VICTOR ANSON SHERBY — No. 80646 — Exp. 3/31/19 — CIVIL — STATE OF CALIFORNIA

MARK THOMAS
701 UNIVERSITY AVENUE, SUITE 200
SACRAMENTO, CALIFORNIA 95825

GEOTECHNICAL PROFESSIONAL APPROVAL DATE

SCALE: X	VERT.DATUM X	HORZ.DATUM X	DESIGN	BY V. SHERBY	CHECKED T. PHAM
PHOTOGRAMMETRY AS OF: X	ALIGNMENT TIES X		DETAILS	BY J. DOTY	CHECKED T. PHAM
SURVEYED BY X	DRAFTED BY X		QUANTITIES	BY A. CLUBB	CHECKED C. GUARDADO
FIELD CHECKED BY X	CHECKED BY X				

BRIDGE NO. 49C0472
POST MILES N/A

PREPARED FOR THE
SAN LUIS OBISPO COUNTY
PUBLIC WORKS DEPARTMENT
976 OSOS STREET, ROOM 206, SAN LUIS OBISPO, CALIFORNIA 93408

DOVER CANYON ROAD AT JACK CREEK BRIDGE REPLACEMENT PROJECT

FOUNDATION PLAN

S-3

J:\SAN LUIS OBISPO-SA-16157-DOVER CANYON-JACK CREEK BRIDGE\CADD\STRUCTURES\03_DCB_FP.DWG, 8/27/2020 10:12 AM, ---, NATHAN FELDE

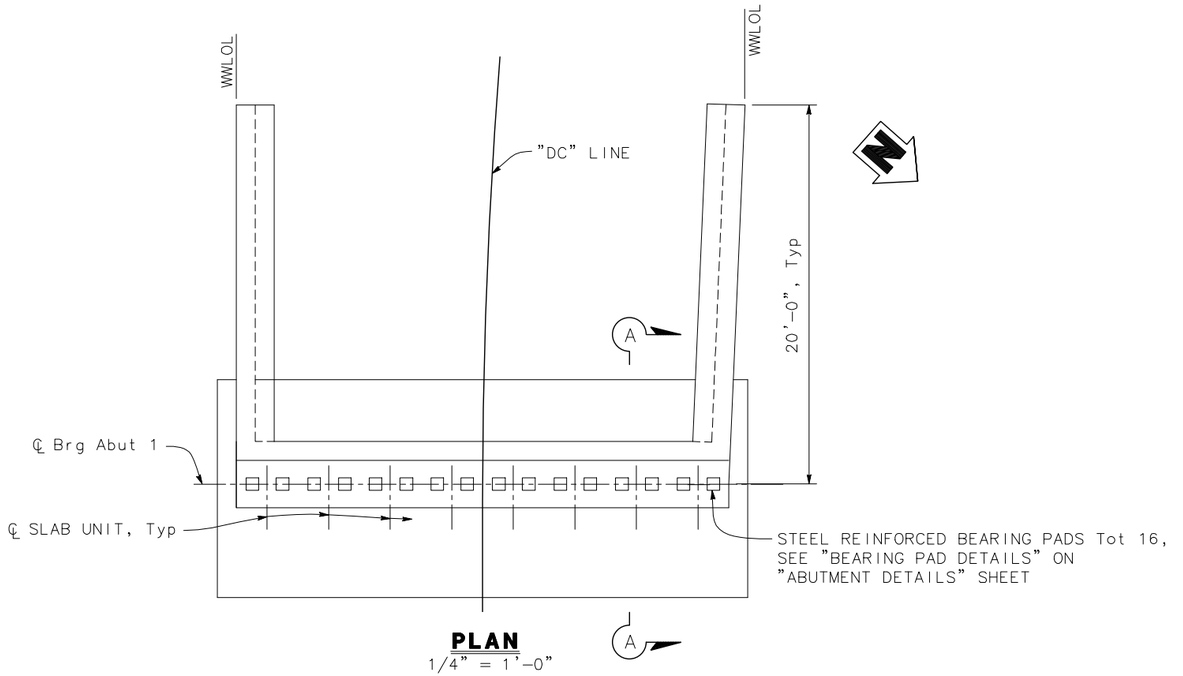
Dist	COUNTY	ROAD NO.	JOB NO.	SHEET No.	TOTAL SHEETS
05	SLO	XXX	XXX	18	XXX

REGISTERED CIVIL ENGINEER DATE

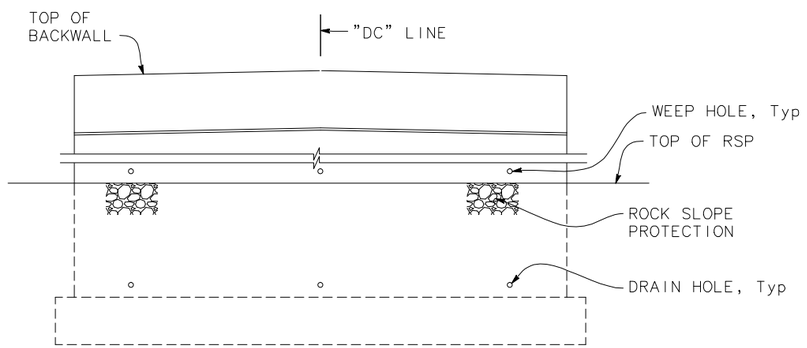
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
VICTOR ANSON SHERBY
No. 80646
Exp. 3/31/19
CIVIL
STATE OF CALIFORNIA
PRELIMINARY

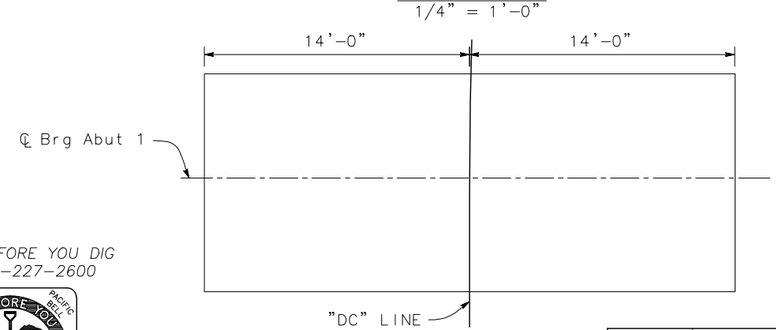
MARK THOMAS
701 UNIVERSITY AVENUE, SUITE 200
SACRAMENTO, CALIFORNIA 95825



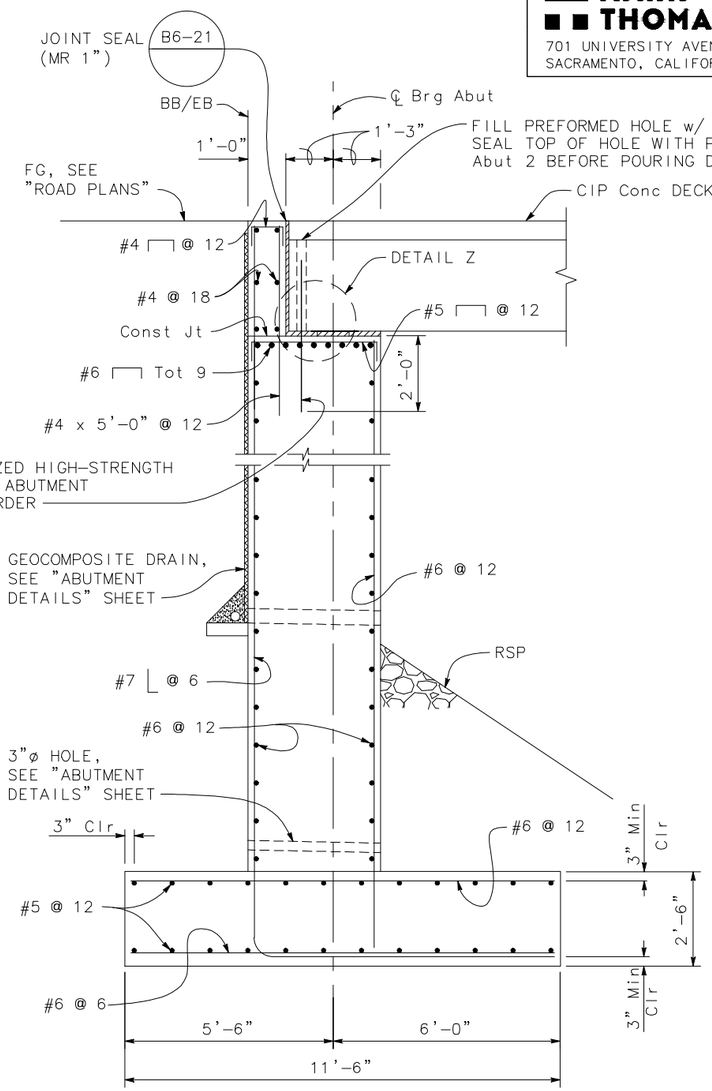
PLAN
1/4" = 1'-0"



ELEVATION
1/4" = 1'-0"



FOOTING PLAN
1/4" = 1'-0"



SECTION A-A
1/2" = 1'-0"

NOTES:
1. For "DETAIL Z", see "ABUTMENT DETAILS" sheet.
2. Section A-A shown for Abut 1, Abut 2 similar.

CALL BEFORE YOU DIG
1-800-227-2600

DESIGN	BY V. SHERBY	CHECKED T. PHAM	BRIDGE NO. 49C0472
DETAILS	BY J. DOTY	CHECKED T. PHAM	POST MILES N/A
QUANTITIES	BY A. CLUBB	CHECKED C. GUARDADO	

PREPARED FOR THE
SAN LUIS OBISPO COUNTY
PUBLIC WORKS DEPARTMENT
976 OSOS STREET, ROOM 206, SAN LUIS OBISPO, CALIFORNIA 93408

DOVER CANYON ROAD AT JACK CREEK BRIDGE
REPLACEMENT PROJECT

ABUTMENT 1 LAYOUT

S-4

J:\SAN LUIS OBISPO-SA-16157-DOVER CANYON-JACK CREEK BRIDGE\CADD\STRUCTURES\04_05_DCB_AL.DWG, 8/27/2020 10:11 AM, ----, NATHAN FELDE

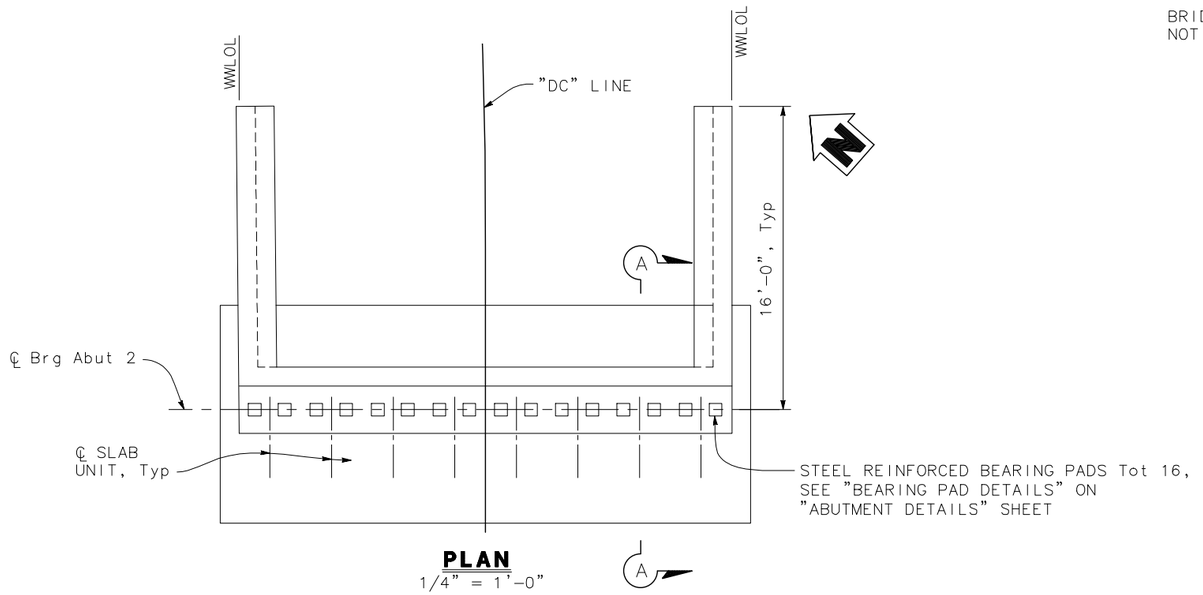
Dist	COUNTY	ROAD NO.	JOB NO.	SHEET No.	TOTAL SHEETS
05	SLO	XXX	XXX	19	XXX

REGISTERED CIVIL ENGINEER DATE

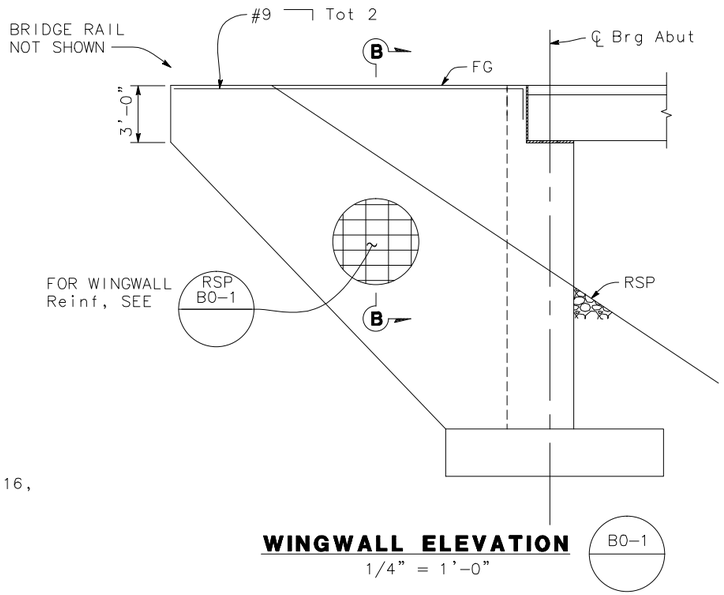
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
VICTOR ANSON SHERBY
No. 80646
Exp. 3/31/19
CIVIL
STATE OF CALIFORNIA
DRAFT

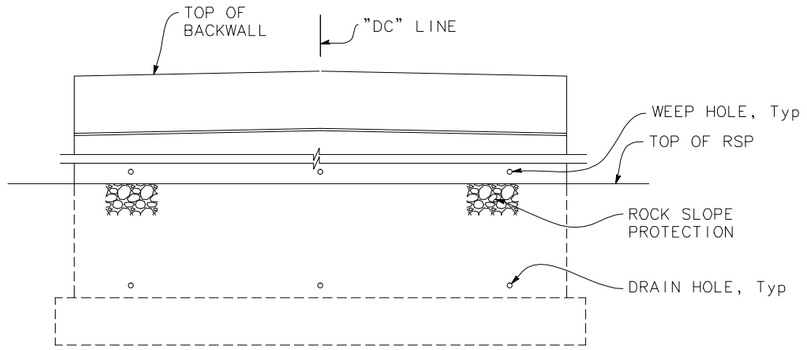
MARK THOMAS
701 UNIVERSITY AVENUE, SUITE 200
SACRAMENTO, CALIFORNIA 95825



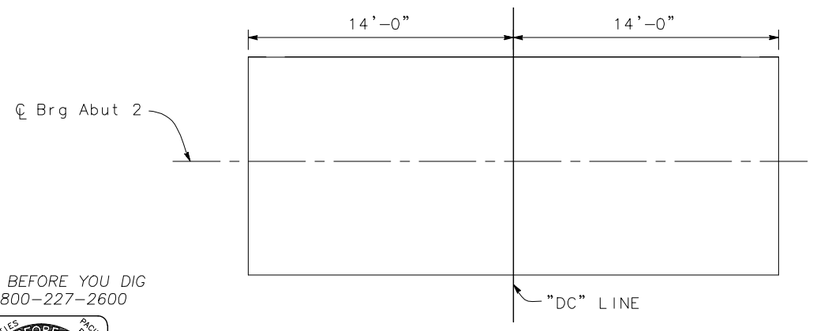
PLAN
1/4" = 1'-0"



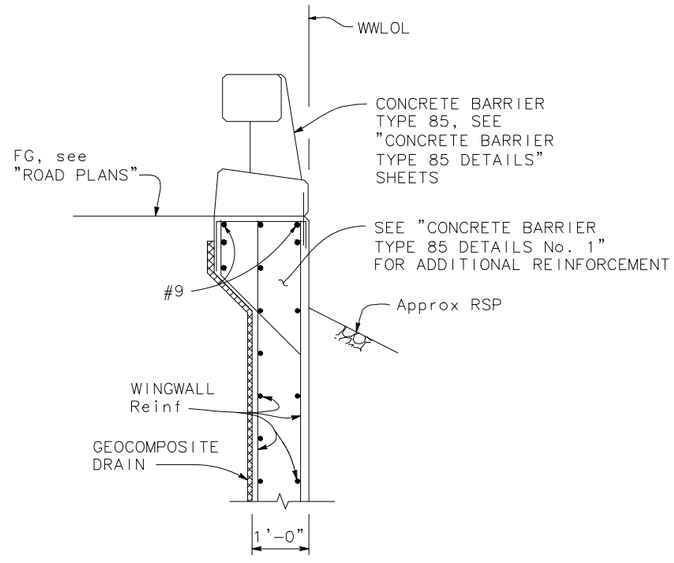
WINGWALL ELEVATION
1/4" = 1'-0"



ELEVATION
1/4" = 1'-0"



FOOTING PLAN
1/4" = 1'-0"



SECTION B-B
3/4" = 1'-0"

NOTE:
For Section A-A, see "ABUTMENT 1 LAYOUT" sheet

S-5

CALL BEFORE YOU DIG
1-800-227-2600

DESIGN	BY V. SHERBY	CHECKED T. PHAM	BRIDGE NO. 49C0472	PREPARED FOR THE SAN LUIS OBISPO COUNTY PUBLIC WORKS DEPARTMENT 976 OSOS STREET, ROOM 206, SAN LUIS OBISPO, CALIFORNIA 93408	DOVER CANYON ROAD AT JACK CREEK BRIDGE REPLACEMENT PROJECT
DETAILS	BY J. DOTY	CHECKED T. PHAM	POST MILES N/A		ABUTMENT 2 LAYOUT
QUANTITIES	BY A. CLUBB	CHECKED C. GUARDADO			

J:\SAN LUIS OBISPO-SA-16157-DOVER CANYON-JACK CREEK BRIDGE\CADD\STRUCTURES\04_05_DCB_AL.DWG, 8/26/2020 9:08 AM, ----, NATHAN FELDE

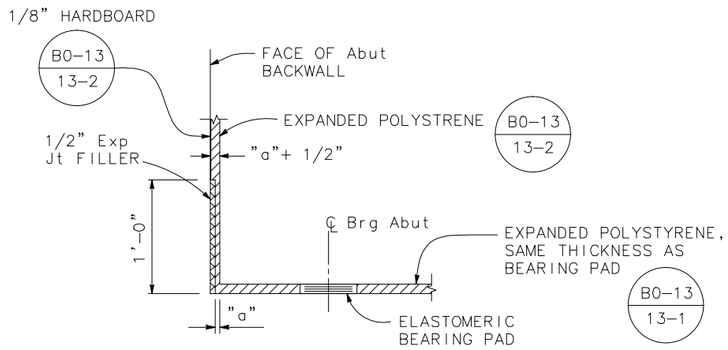
Dist	COUNTY	ROAD NO.	JOB NO.	SHEET No.	TOTAL SHEETS
05	SLO	XXX	XXX	20	XXX

REGISTERED CIVIL ENGINEER DATE

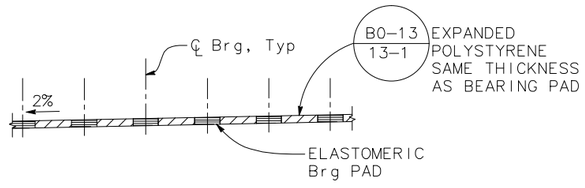
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — VICTOR ANSON SHERBY — No. 80646 — Exp. 3/31/19 — CIVIL — STATE OF CALIFORNIA

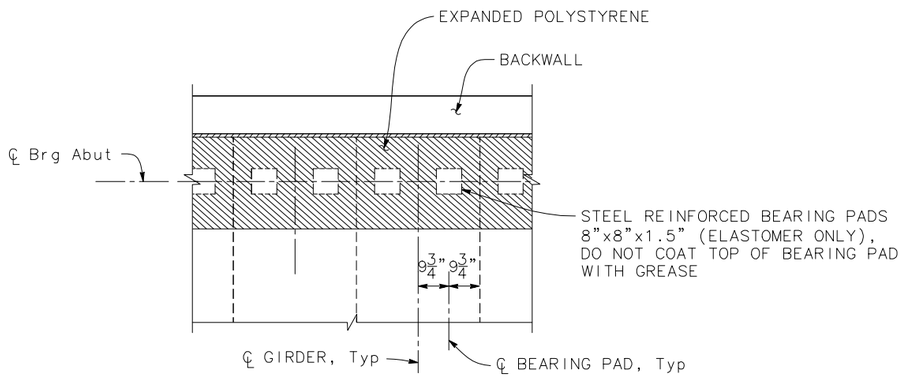
MARK THOMAS
701 UNIVERSITY AVENUE, SUITE 200
SACRAMENTO, CALIFORNIA 95825



DETAIL Z
NO SCALE

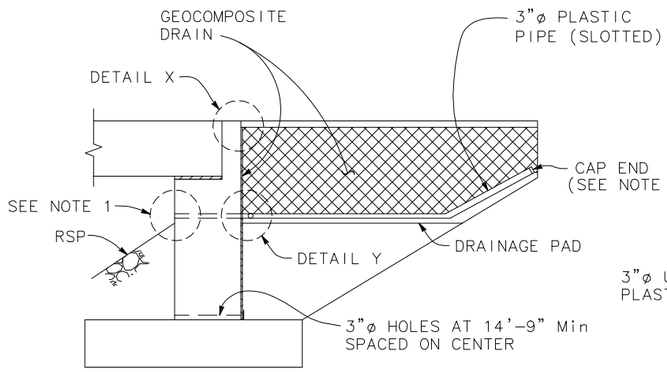


ELEVATION
NO SCALE

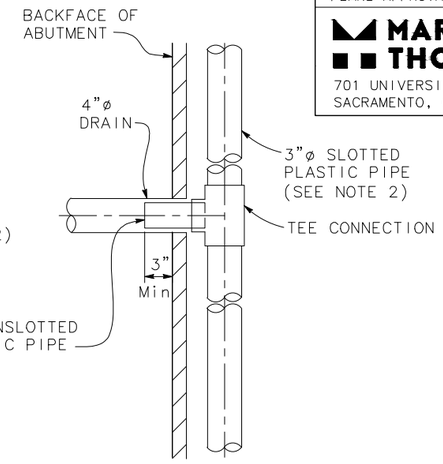


PLAN

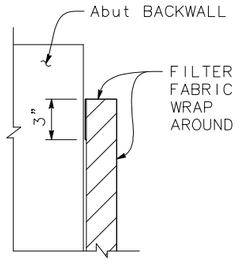
BEARING PAD DETAILS
1/2" = 1'-0"



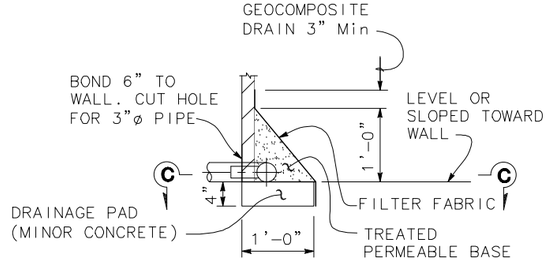
ABUTMENT SECTION



SECTION C-C



DETAIL X



DETAIL Y

WEEP HOLE AND ABUTMENT DRAINAGE
NO SCALE

NOTES:
1. 4" Drains at intermediate sag points and at 25' maximum center to center. Exposed wall drains shall be located 3" above finished grade.
2. Geocomposite drain, cement treated permeable base, and 3"ø slotted plastic pipe continuous behind abutment. Cap ends of pipe. Provide "Tee" connection at each 4"ø drain.

CALL BEFORE YOU DIG
1-800-227-2600

CITY UTILITIES — CALL BEFORE YOU DIG — USA — PACIFIC BELL — 800-227-2600 — P.G.&E. — CABLE TV

S-6

DESIGN	BY V. SHERBY	CHECKED T. PHAM	BRIDGE NO. 49C0472
DETAILS	BY J. DOTY	CHECKED T. PHAM	POST MILES N/A
QUANTITIES	BY A. CLUBB	CHECKED C. GUARDADO	

PREPARED FOR THE
SAN LUIS OBISPO COUNTY
PUBLIC WORKS DEPARTMENT
976 OSOS STREET, ROOM 206, SAN LUIS OBISPO, CALIFORNIA 93408

DOVER CANYON ROAD AT JACK CREEK BRIDGE REPLACEMENT PROJECT

ABUTMENT DETAILS

J:\SAN LUIS OBISPO-SA-16157-DOVER CANYON-JACK CREEK BRIDGE\CADD\STRUCTURES\06_07_DCB_AD.DWG, 8/27/2020 10:12 AM, ----, NATHAN FELDE

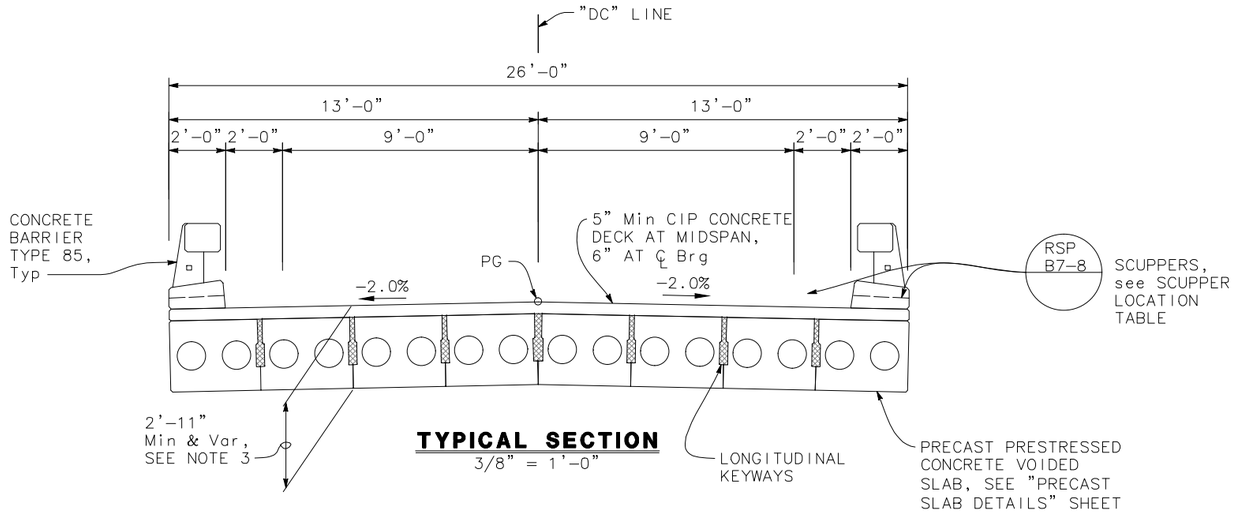
Dist	COUNTY	ROAD NO.	JOB NO.	SHEET No.	TOTAL SHEETS
05	SLO	XXX	XXX	21	XXX

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

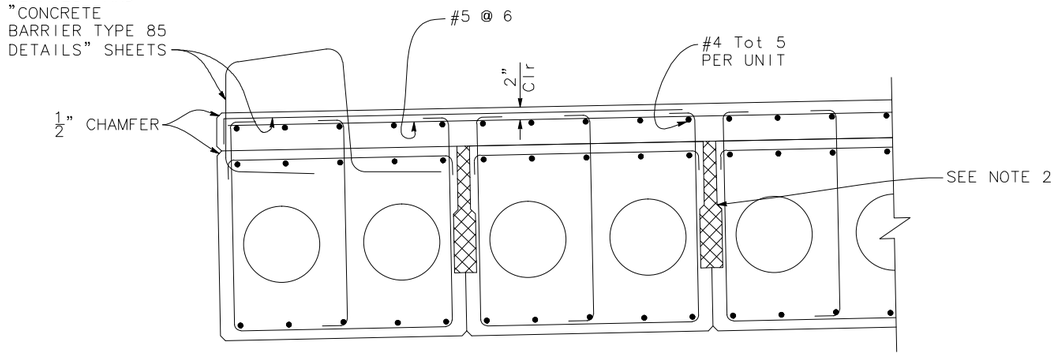
REGISTERED PROFESSIONAL ENGINEER
VICTOR ANSON SHERBY
No. 80646
Exp. 3/31/19
CIVIL
STATE OF CALIFORNIA

MARK THOMAS
701 UNIVERSITY AVENUE, SUITE 200
SACRAMENTO, CALIFORNIA 95825



TYPICAL SECTION
3/8" = 1'-0"

SCUPPER LOCATION TABLE	
SCUPPER No.	STATION
SCUPPER 1	19+90.25
SCUPPER 2	20+09.50
SCUPPER 3	20+28.75



PART TYPICAL SECTION
1" = 1'-0"

NOTES:

1. Concrete barriers must not be placed until 7 days after concrete deck is placed.
2. Longitudinal keyways must be filled with non-shrink grout prior to deck pour.
3. Concrete deck must be 6" at centerline of bearing to accommodate the slab unit camber at erection.
4. For details not shown, see details on "PRECAST SLAB DETAILS" sheet.

CALL BEFORE YOU DIG
1-800-227-2600

S-7

DESIGN	BY V. SHERBY	CHECKED T. PHAM	BRIDGE NO. 49C0472	PREPARED FOR THE SAN LUIS OBISPO COUNTY PUBLIC WORKS DEPARTMENT 976 OSOS STREET, ROOM 206, SAN LUIS OBISPO, CALIFORNIA 93408	DOVER CANYON ROAD AT JACK CREEK BRIDGE REPLACEMENT PROJECT
DETAILS	BY J. DOTY	CHECKED T. PHAM	POST MILES N/A		TYPICAL SECTION
QUANTITIES	BY A. CLUBB	CHECKED C. GUARDADO			

J:\SAN LUIS OBISPO-SA-16157-DOVER CANYON-JACK CREEK BRIDGE\CADD\STRUCTURES\08_DCB_TS.DWG, 8/27/2020 10:03 AM, ----, NATHAN FELDE

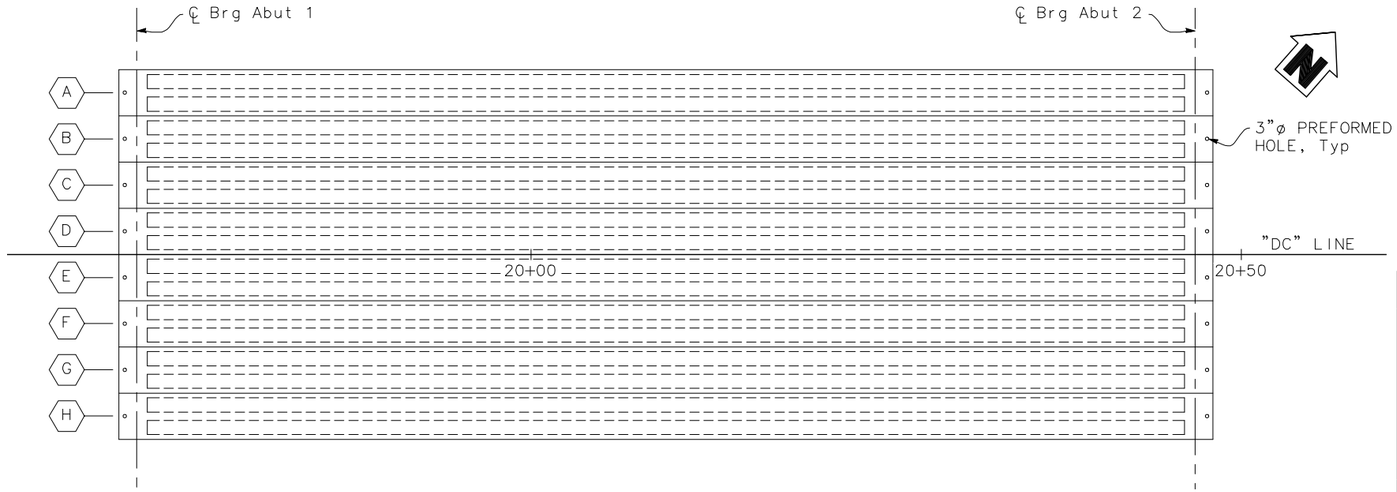
Dist	COUNTY	ROAD NO.	JOB NO.	SHEET No.	TOTAL SHEETS
05	SLO	XXX	XXX	22	XXX

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — VICTOR ANSON SHERBY — No. 80646 — Exp. 3/31/19 — CIVIL — STATE OF CALIFORNIA

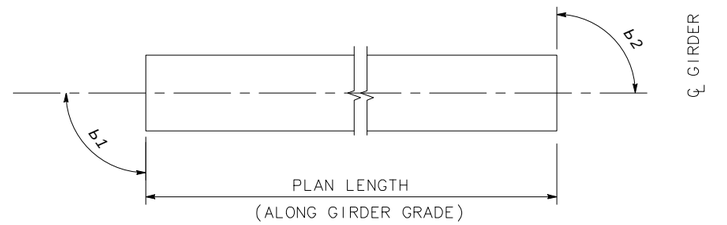
MARK THOMAS
701 UNIVERSITY AVENUE, SUITE 200
SACRAMENTO, CALIFORNIA 95825



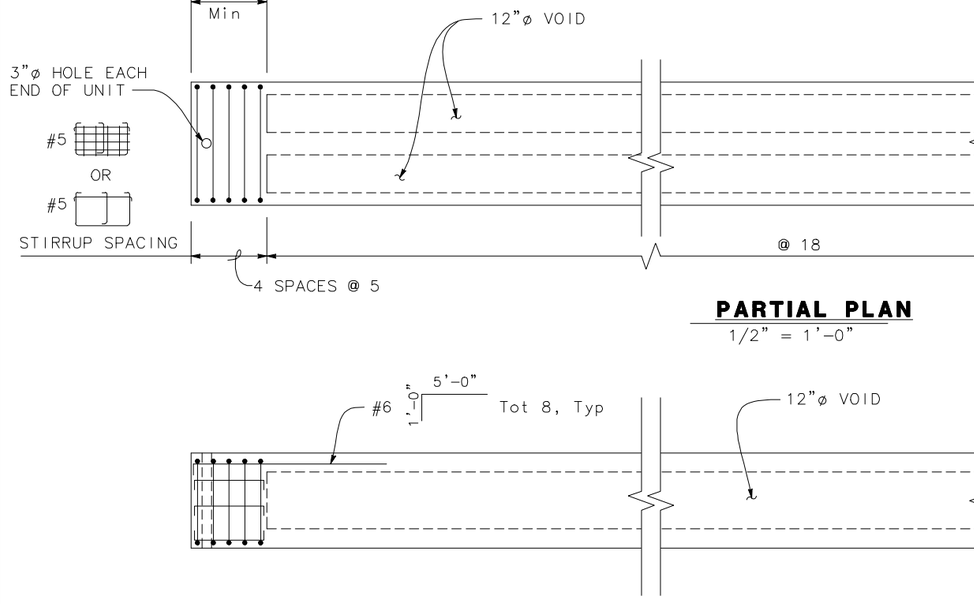
PLAN
3/16" = 1'-0"

GIRDER SCHEDULE

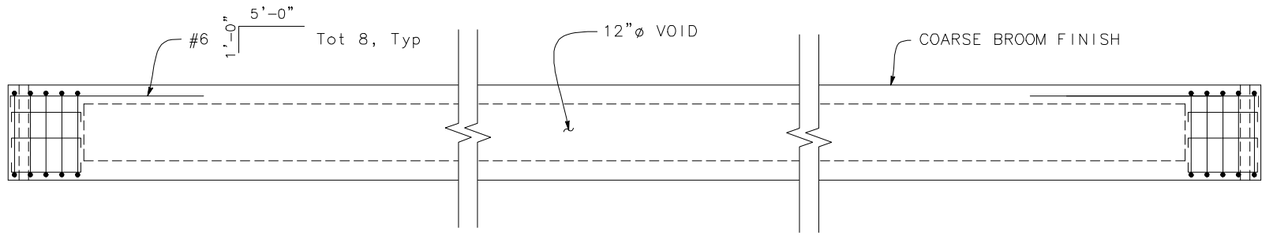
SPAN	GIRDER	PLAN LENGTH (ALONG GIRDER GRADE)	b_1	b_2	MIN. CONC. COMP. STRENGTH f'c (ksi)	MIN. CONC. COMP. STRENGTH f'ci (ksi)	NUMBER OF STRAIGHT STRANDS	NUMBER OF TEMP. STRANDS	JACKING FORCE (P) PER UNIT	MIDSPAN DEAD LOAD DEFLECTION DECK	MIDSPAN DEAD LOAD DEFLECTION BARRIER
1	A–H	77'-0"	90°	90°	6.5	5.0	26	0	1143 kips	0.40"	0.22"



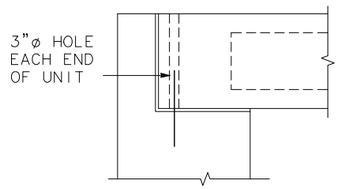
GIRDER SCHEDULE LEGEND



PARTIAL PLAN
1/2" = 1'-0"



LONGITUDINAL SECTION
1/2" = 1'-0"



SUPPORT DETAILS
1/2" = 1'-0"

GENERAL NOTES:

1. The Jacking Force (P) is the force required at the point of control along the span. The jacking force does not include any fabrication specific losses
2. The maximum tensile stress in the prestressing steel upon release shall not exceed 75% of the specified minimum ultimate tensile strength of the prestressing steel
3. The maximum temporary tensile stress (jacking stress) in the prestressing steel shall not exceed 80% of the specified minimum ultimate tensile strength of the prestressing steel
4. Concrete Strength:
   f'ci is at time of initial stressing
   f'c is at 28 days
5. Prestressing strands shall be 0.6" Dia 270 ksi Low relaxation.

S-8

CALL BEFORE YOU DIG
1-800-227-2600

DESIGN	BY V. SHERBY	CHECKED T. PHAM	BRIDGE NO. 49C0472
DETAILS	BY J. DOTY	CHECKED T. PHAM	POST MILES N/A
QUANTITIES	BY A. CLUBB	CHECKED C. GUARDADO	

PREPARED FOR THE
SAN LUIS OBISPO COUNTY
PUBLIC WORKS DEPARTMENT
976 OSOS STREET, ROOM 206, SAN LUIS OBISPO, CALIFORNIA 93408

DOVER CANYON ROAD AT JACK CREEK BRIDGE REPLACEMENT PROJECT

PRESCAST SLAB LAYOUT

J:\SAN LUIS OBISPO-SA-16157-DOVER CANYON-JACK CREEK BRIDGE\CADD\STRUCTURES\09_DCB_PSL.DWG, 8/27/2020 10:14 AM, ----, NATHAN FELDE

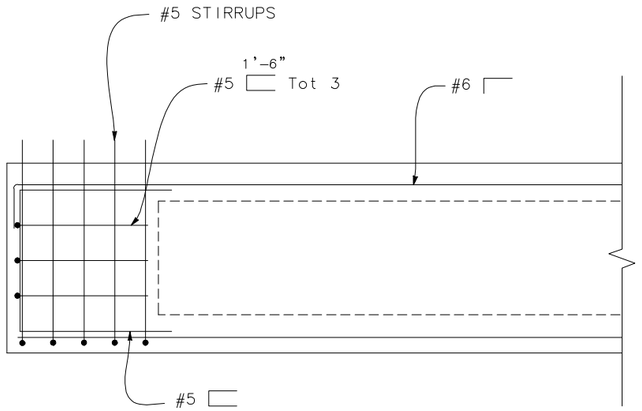
Dist	COUNTY	ROAD NO.	JOB NO.	SHEET No.	TOTAL SHEETS
05	SLO	XXX	XXX	23	XXX

REGISTERED CIVIL ENGINEER DATE

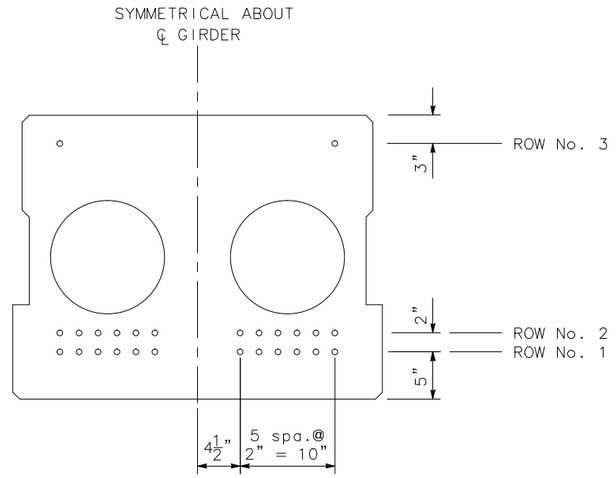
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — VICTOR ANSON SHERBY — No. 80646 — Exp. 3/31/19 — CIVIL — STATE OF CALIFORNIA

MARK THOMAS
701 UNIVERSITY AVENUE, SUITE 200
SACRAMENTO, CALIFORNIA 95825



END ELEVATION
1" = 1'-0"

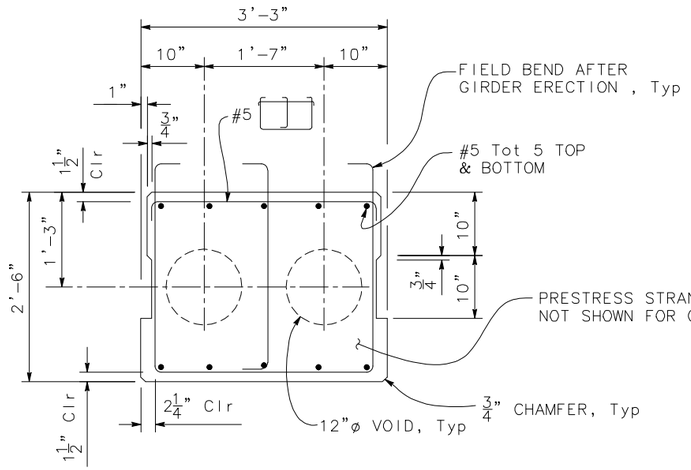


STRAND PATTERN
1 1/2" = 1'-0"

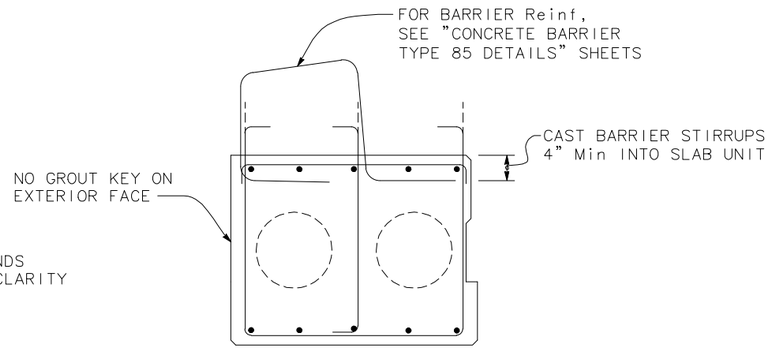
STRANDS LAYOUT		
ROW No.	TOTAL No OF STRANDS	TOTAL No OF DEBONDED STRANDS
1	12	0
2	12	0
3	2	0

LEGEND:

○ Denotes continuously bonded strand location

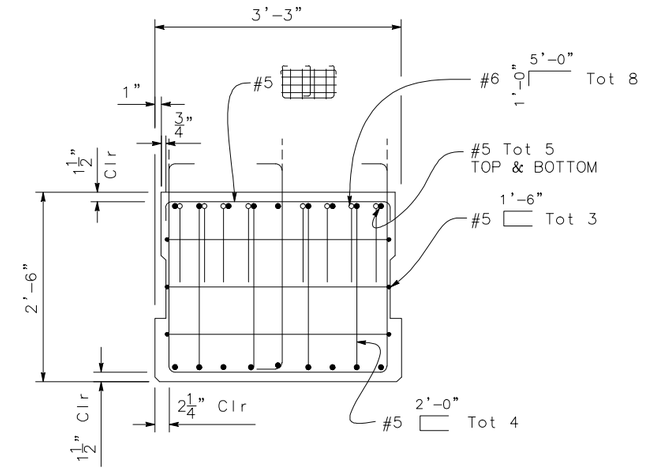


TYPICAL INTERIOR UNIT
1" = 1'-0"



TYPICAL EXTERIOR UNIT
1" = 1'-0"

NOTE;
FOR DETAILS NOT SHOWN, SEE "TYPICAL INTERIOR UNIT"



END DIAPHRAGM
1" = 1'-0"

NOTE;
INTERIOR UNIT SHOWN, EXTERIOR SIMILAR EXCEPT NO GROUT KEY ON EXTERIOR FACE

CALL BEFORE YOU DIG
1-800-227-2600

CALL BEFORE YOU DIG — CITY UTILITIES — PACIFIC BELL — USA — 800-227-2600 — P.G.&E. — CABLE T.V.

S-9

DESIGN	BY V. SHERBY	CHECKED T. PHAM	BRIDGE NO. 49C0472
DETAILS	BY J. DOTY	CHECKED T. PHAM	POST MILES N/A
QUANTITIES	BY A. CLUBB	CHECKED C. GUARDADO	

PREPARED FOR THE
SAN LUIS OBISPO COUNTY
PUBLIC WORKS DEPARTMENT
976 OSOS STREET, ROOM 206, SAN LUIS OBISPO, CALIFORNIA 93408

DOVER CANYON ROAD AT JACK CREEK BRIDGE REPLACEMENT PROJECT

PRESCAST SLAB DETAILS

J:\SAN LUIS OBISPO-SA-16157-DOVER CANYON-JACK CREEK BRIDGE\CADD\STRUCTURES\10_DCB_PSD.DWG, 8/27/2020 8:17 AM, ----, NATHAN

Dist	COUNTY	ROAD NO.	JOB NO.	SHEET No.	TOTAL SHEETS
05	SLO	XXX	XXX	24	XXX

REGISTERED CIVIL ENGINEER DATE

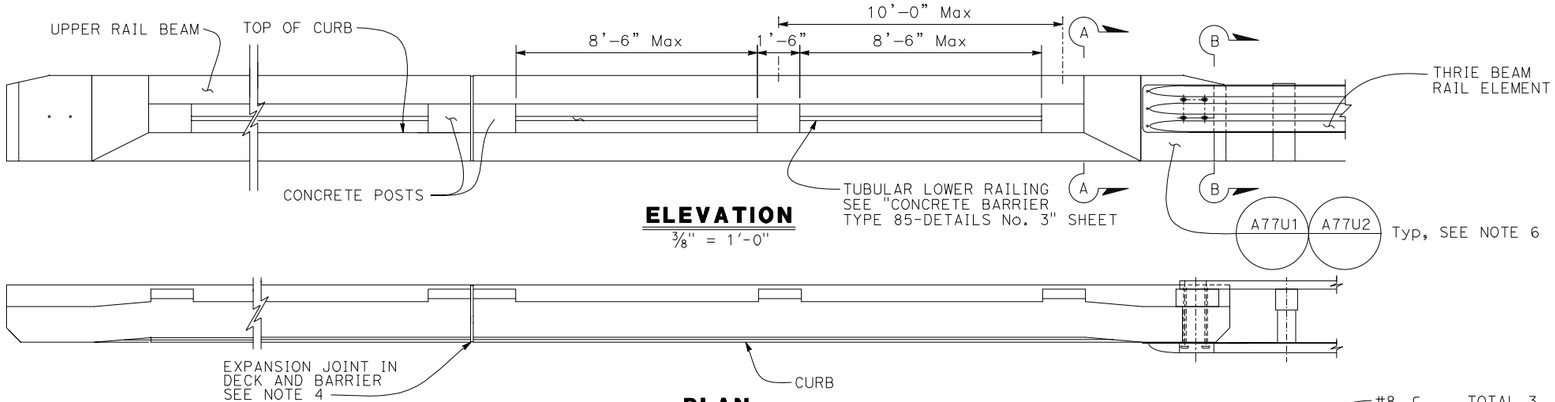
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — VICTOR ANSON SHERBY — No. 80646 — Exp. 3/31/19 — CIVIL — STATE OF CALIFORNIA

MARK THOMAS
701 UNIVERSITY AVENUE, SUITE 200
SACRAMENTO, CALIFORNIA 95825

STANDARD PLAN SHEET No.

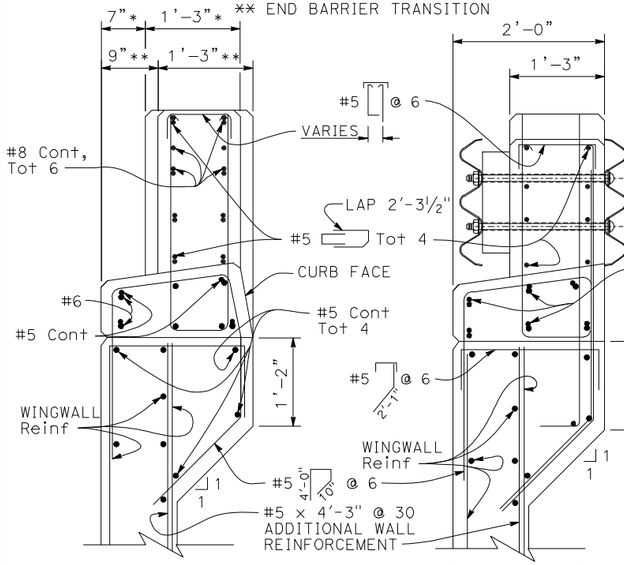
DETAIL No.



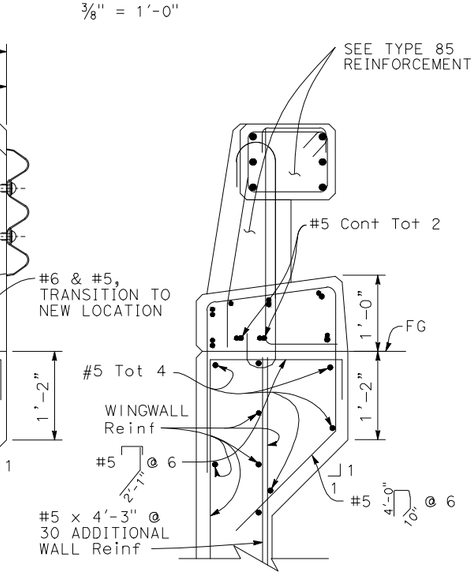
ELEVATION
3/8" = 1'-0"

PLAN
3/8" = 1'-0"

* BEGIN BARRIER TRANSITION
** END BARRIER TRANSITION

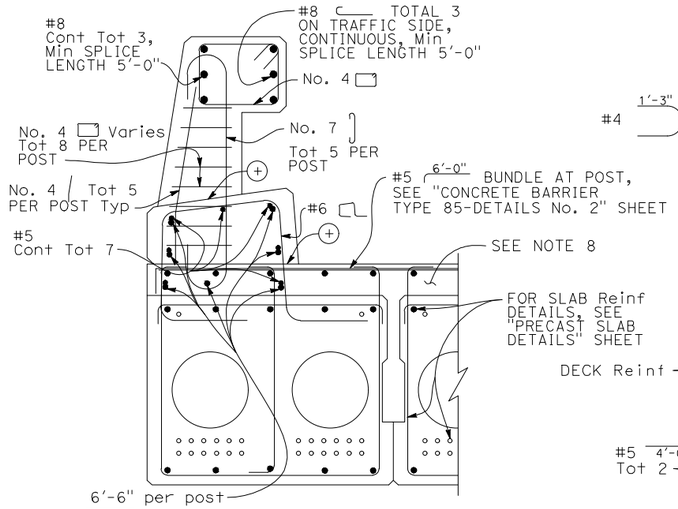


SECTION A-A



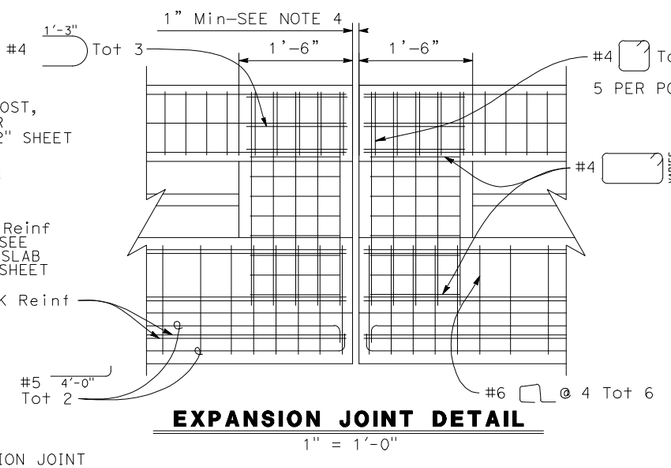
SECTION B-B

TYPE 85A

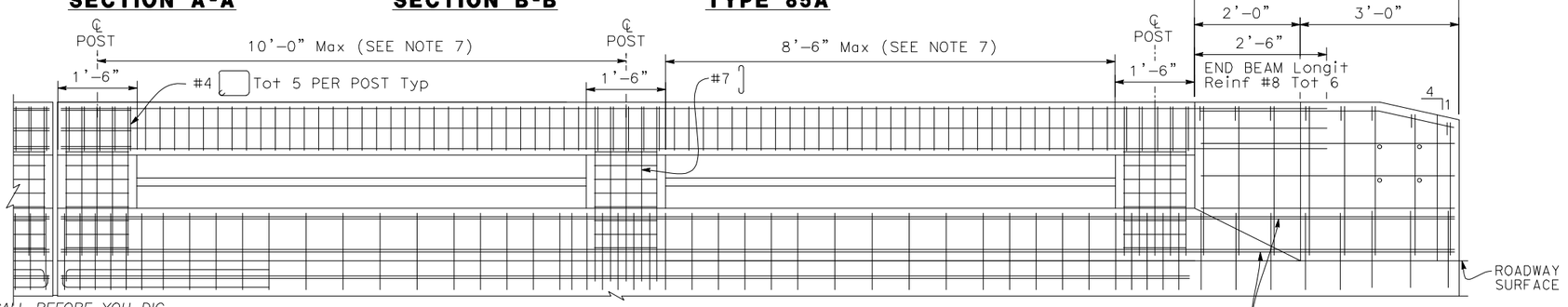


TYPE 85

⊕ CONSTRUCTION JOINT



EXPANSION JOINT DETAIL
1" = 1'-0"



LONGITUDINAL SECTION
(Deck or wingwall reinforcing not shown)

NOTE: For Reinf SHOWN AND NOTE NOTED SEE OTHER DETAILS.

NOTES:

1. Walls are to be backfilled before the barrier is placed.
2. Longitudinal reinforcing steel to stop at all expansion joints.
3. The front face dimensions are to be constant above the finish roadway profile, but the overall height will vary with certain thicknesses of surfacing and roadway slopes.
4. Expansion joint to match deck joint.
5. Splicing in longitudinal rail reinforcing must be staggered.
6. For typical metal railing connection details not shown, see Standard Plans A77U1 and A77U2.
7. Posts to be spaced equally, typically 10'-0" spacing. Post spacing may be reduced where location of expansion joints or the length of wingwalls will not accommodate the 10'-0" spacing. Maximum see-through availability is to be strived for, where 10'-0" post spacing can not be achieved.
8. For additional reinforcement details, see "CONCRETE BARRIER TYPE 85-DETAILS No. 2" sheet.

S-10

CALL BEFORE YOU DIG
1-800-227-2600

NOTE:
THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.

DESIGN	BY V. SHERBY	CHECKED T. PHAM	BRIDGE NO. 49C0472
DETAILS	BY J. DOTY	CHECKED T. PHAM	POST MILES N/A
QUANTITIES	BY A. CLUBB	CHECKED C. GUARDADO	

PREPARED FOR THE
SAN LUIS OBISPO COUNTY
PUBLIC WORKS DEPARTMENT
976 OSOS STREET, ROOM 206, SAN LUIS OBISPO, CALIFORNIA 93408

DOVER CANYON ROAD AT JACK CREEK BRIDGE REPLACEMENT PROJECT

CONCRETE BARRIER TYPE 85 DETAILS No. 1

J:\SAN LUIS OBISPO-SA-16157-DOVER CANYON-JACK CREEK BRIDGE\CADD\STRUCTURES\10-12_DCB_CB85 (UPDATED).DWG, 8/27/2020 10:08 AM, ----, NATHAN FELDE

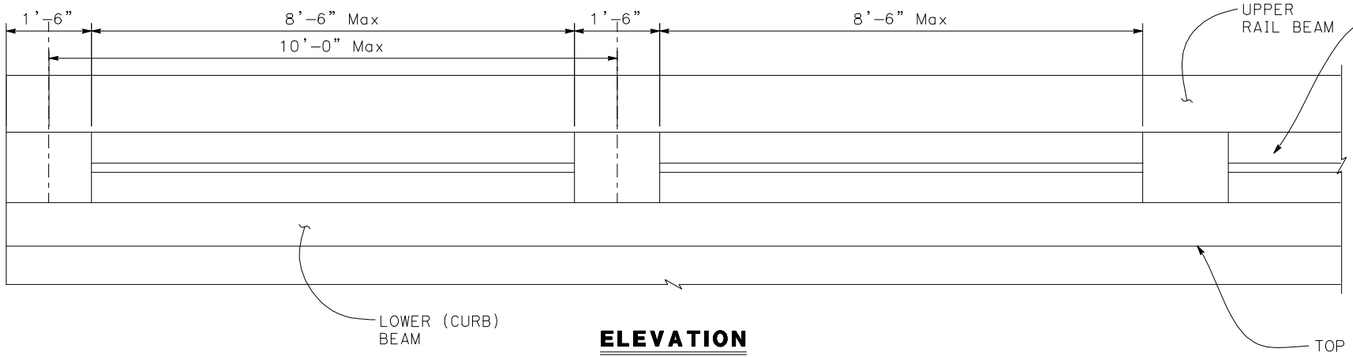
Dist	COUNTY	ROAD NO.	JOB NO.	SHEET No.	TOTAL SHEETS
05	SLO	XXX	XXX	25	XXX

REGISTERED CIVIL ENGINEER DATE

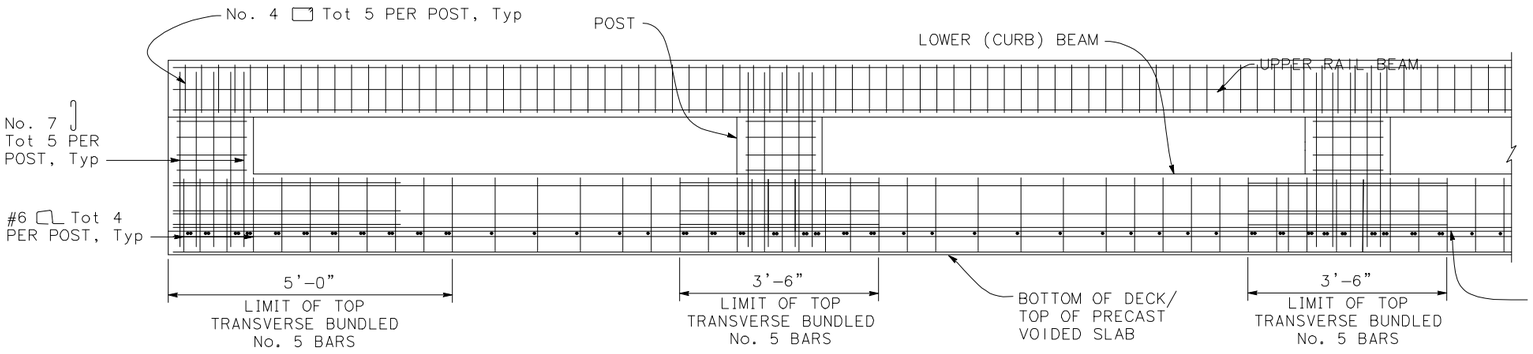
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
VICTOR ANSON SHERBY
No. 80646
Exp. 3/31/19
CIVIL
STATE OF CALIFORNIA

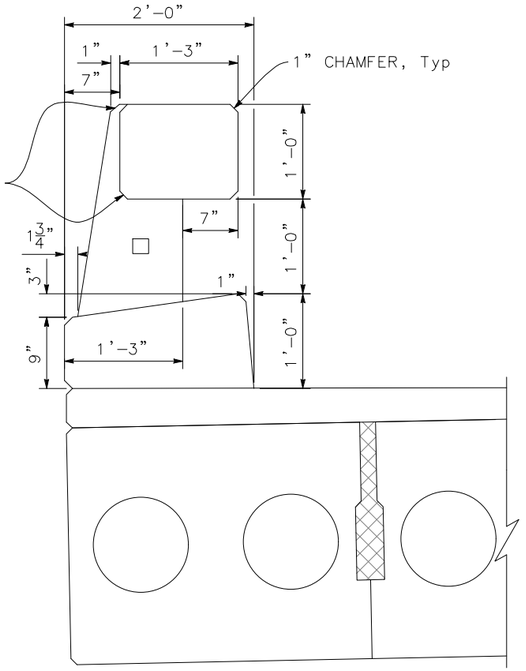
MARK THOMAS
701 UNIVERSITY AVENUE, SUITE 200
SACRAMENTO, CALIFORNIA 95825



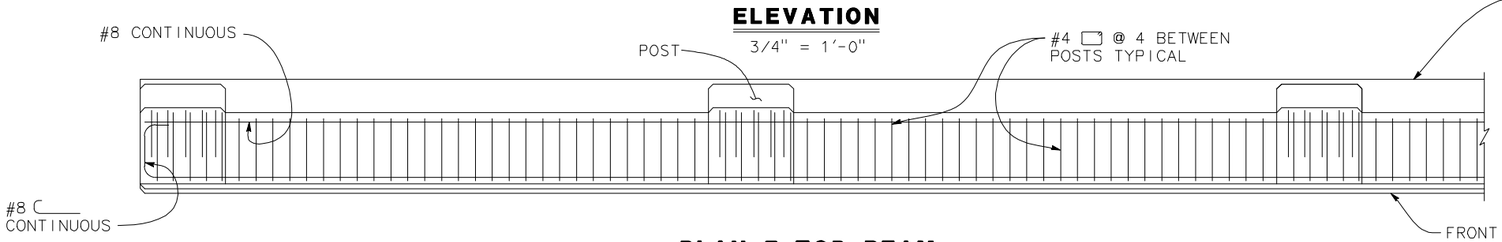
ELEVATION
3/4" = 1'-0"



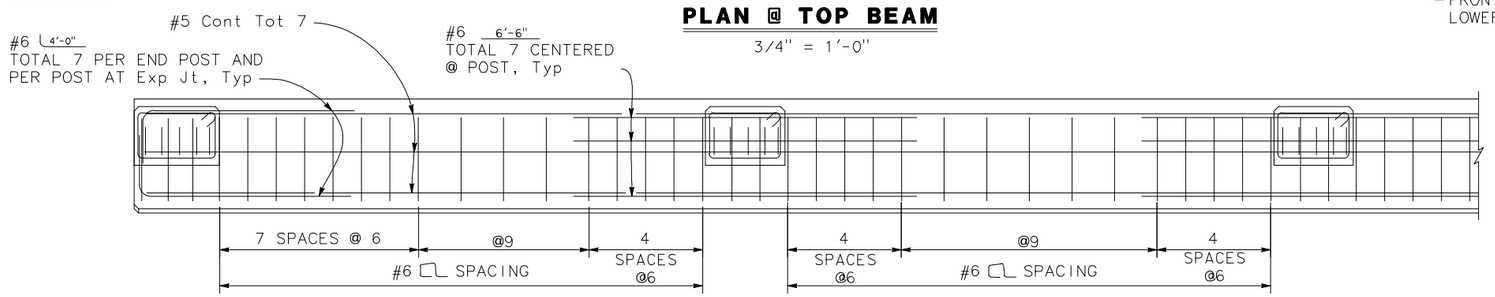
ELEVATION
3/4" = 1'-0"



TYPICAL SECTION
1 ¼" = 1'-0"



PLAN @ TOP BEAM
3/4" = 1'-0"



PLAN @ BOTTOM (CURB) BEAM
3/4" = 1'-0"

CALL BEFORE YOU DIG
1-800-227-2600

NOTE:
THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.

DESIGN	BY V. SHERBY	CHECKED T. PHAM	BRIDGE NO. 49C0472
DETAILS	BY J. DOTY	CHECKED T. PHAM	POST MILES N/A
QUANTITIES	BY A. CLUBB	CHECKED C. GUARDADO	

PREPARED FOR THE
SAN LUIS OBISPO COUNTY
PUBLIC WORKS DEPARTMENT
976 OSOS STREET, ROOM 206, SAN LUIS OBISPO, CALIFORNIA 93408

DOVER CANYON ROAD AT JACK CREEK BRIDGE REPLACEMENT PROJECT

CONCRETE BARRIER TYPE 85 DETAILS No. 2

S-11

J:\SAN LUIS OBISPO-SA-16157-DOVER CANYON-JACK CREEK BRIDGE\CADD\STRUCTURES\10-12_DCB_CB85 (UPDATED).DWG, 8/26/2020 10:56 AM, ----, NATHAN FELDE

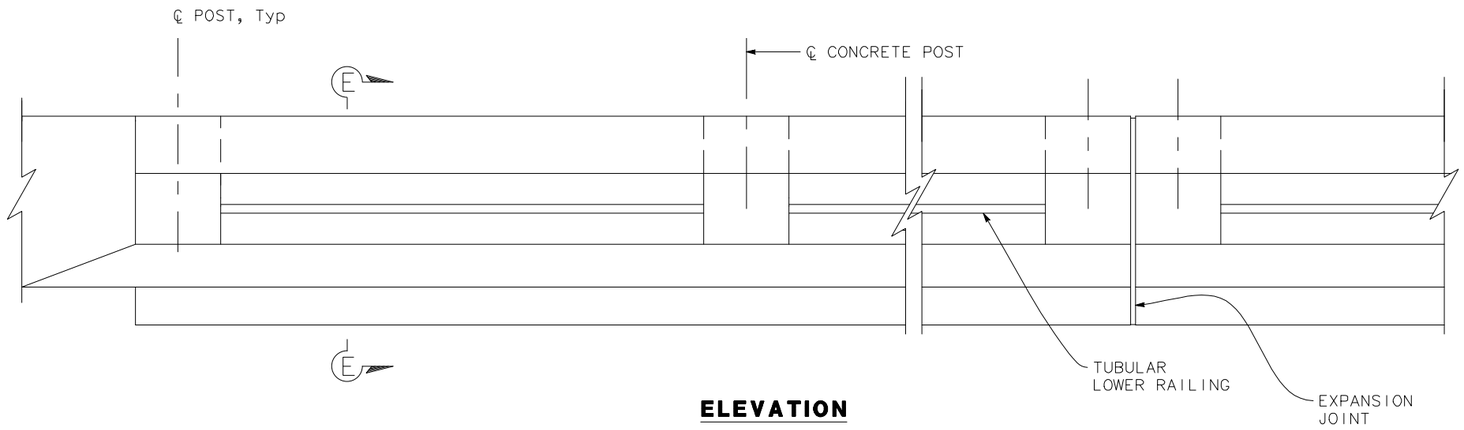
Dist	COUNTY	ROAD NO.	JOB NO.	SHEET No.	TOTAL SHEETS
05	SLO	XXX	XXX	26	XXX

REGISTERED CIVIL ENGINEER DATE

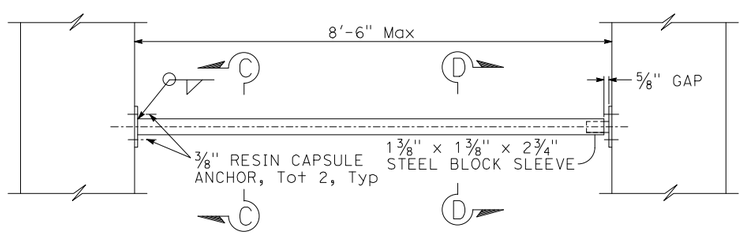
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
VICTOR ANSON SHERBY
No. 80646
Exp. 3/31/19
CIVIL
STATE OF CALIFORNIA
PROFESSIONAL ENGINEER

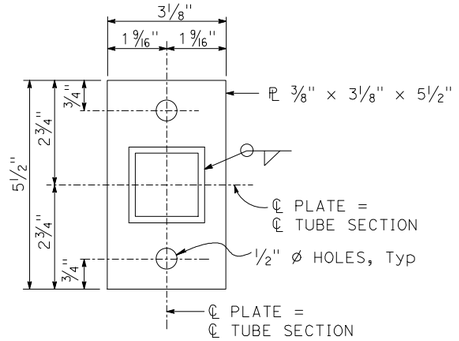
MARK THOMAS
701 UNIVERSITY AVENUE, SUITE 200
SACRAMENTO, CALIFORNIA 95825



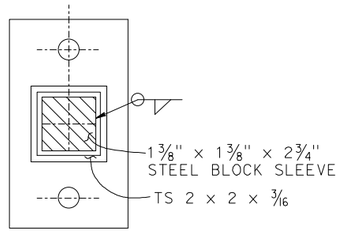
ELEVATION



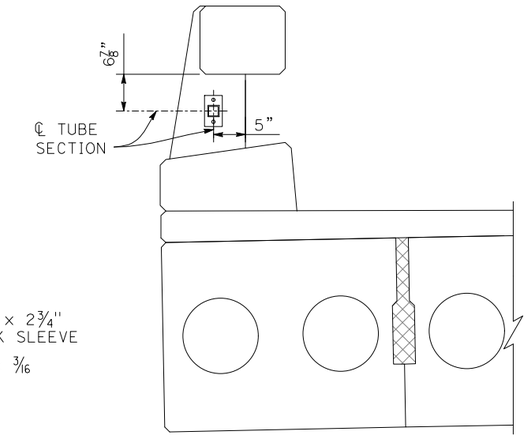
LOWER RAIL DETAIL



SECTION C-C



SECTION D-D



SECTION E-E

SEE SECTION C-C FOR DETAILS NOT SHOWN

CALL BEFORE YOU DIG
1-800-227-2600

NOTE:
THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.

DESIGN	BY V. SHERBY	CHECKED T. PHAM	BRIDGE NO. 49C0472
DETAILS	BY J. DOTY	CHECKED T. PHAM	POST MILES N/A
QUANTITIES	BY A. CLUBB	CHECKED C. GUARDADO	

PREPARED FOR THE
SAN LUIS OBISPO COUNTY
PUBLIC WORKS DEPARTMENT
976 OSOS STREET, ROOM 206, SAN LUIS OBISPO, CALIFORNIA 93408

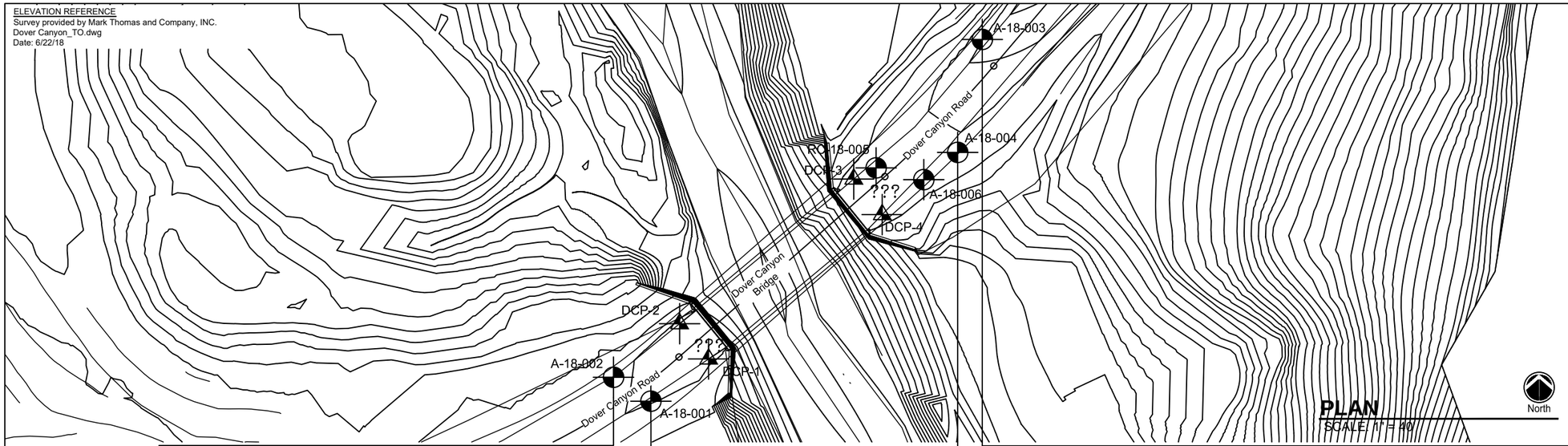
DOVER CANYON ROAD AT JACK CREEK BRIDGE REPLACEMENT PROJECT

CONCRETE BARRIER TYPE 85 DETAILS No. 3

S-12

J:\SAN LUIS OBISPO-SA-16157-DOVER CANYON-JACK CREEK BRIDGE\CADD\STRUCTURES\10-12_DCB_CB85 (UPDATED).DWG, 8/26/2020 10:59 AM, ----, NATHAN FELDE

ELEVATION REFERENCE
Survey provided by Mark Thomas and Company, INC.
Dover Canyon_TO.dwg
Date: 6/22/18



PLAN
SCALE: 1" = 80'

Dist	COUNTY	ROAD NO.	JOB NO.	SHEET No.	TOTAL SHEETS
05	SLO			01	03

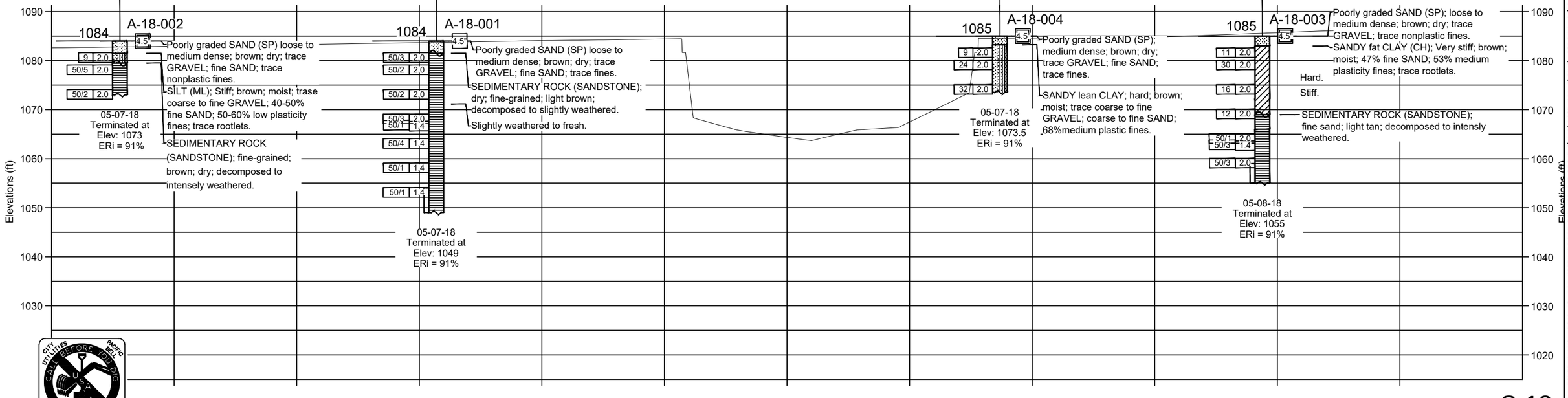
1/30/2020
REGISTERED CIVIL ENGINEER — DATE

REGISTERED PROFESSIONAL ENGINEER
BENJAMIN D. CRAWFORD
No. 68457
CIVIL
STATE OF CALIFORNIA

1/30/2020
PLANS APPROVAL DATE

Crawford & Associates, Inc
Geotechnical Engineering, Design and Construction Services
Taber Since 1954
1100 Corporate Way Suite 230 Sacramento, CA 95831 (916) 455-4225

NOTES:
1. Field classification of soils was in accordance with the Caltrans Soil & Rock Logging, Classification, and Presentation Manual (2010). See Log of Test Borings No. 3, "Soil Legend".
2. Standard Penetration tests were performed in accordance with ASTM D 1586-99 using a hammer operated with an automated drop system. Drill rods were 1 5/8-inch diameter "A"-rods; sampler was driven with brass liners.
3. "2.4 inch sampler": ID=2.4 inch, OD=2.9 inch. "2.0 inch sampler": ID=2.0 inch, OD=2.5 inch. Both driven in same manner as SPT ("1.4 inch") sampler.
4. If laboratory tests are not shown as being performed, the soil descriptions presented on the LOTB are based solely on the visual practices described in this Manual.
5. The length of each sampled interval is shown graphically on the boring log. Whole number blow counts ("N") represent the "standard penetration resistance" interval in accordance with the Caltrans Soil & Logging, Classification, and Presentation Manual (June 2010). Where less than 0.5 feet of penetration is achieved, the blow count shown is for that fraction of the "standard penetration resistance" interval actually penetrated.
6. Consistency of soils shown in ( ) where estimated.
7. Groundwater surface (GWS) elevations in the borings indicated on the Log of Test Boring Sheets reflect the fluid level in the borings on the specified date.
8. Groundwater elevations are subject to seasonal fluctuations and may occur at higher or lower elevations depending on the conditions at any particular time.
9. The "Log of Test Borings" drawing is included with plans in accordance with Section 2-1.03 of Caltrans "Standard Specifications".
10. Boring locations on the cross section view are not at the correct startions, they are at the correct elevations.



S-13

CALL BEFORE YOU DIG
1-800-227-2600

PROFILE HORIZ: 1"=20'
VERT: 1"=20

	BY	CHECKED
DESIGN	Barrett Updegraff	Benjamin Crawford
FIELD INVESTIGATION	Hailey Wagenman	

BRIDGE NO. 49C0037
POST MILES

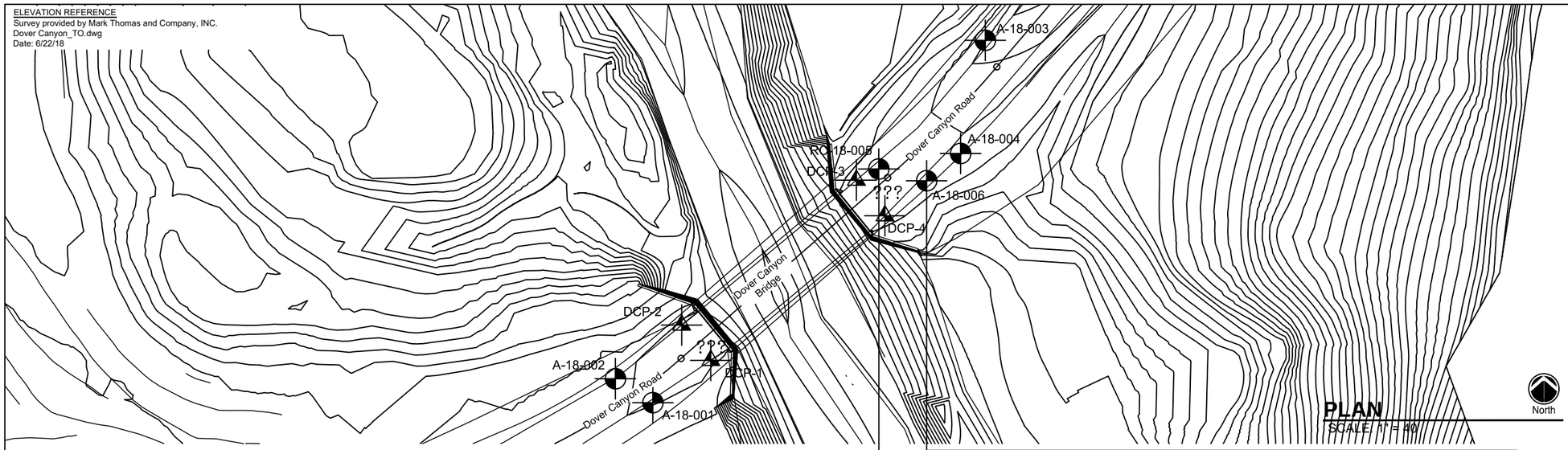
PREPARED FOR THE
SAN LUIS OBISPO COUNTY
PUBLIC WORKS DEPARTMENT
976 OSOS STREET, ROOM 206, SAN LUIS OBISPO, CALIFORNIA 93408

DOVER CANYON ROAD AT JACK CREEK BRIDGE REPLACEMENT PROJECT

LOG OF TEST BORINGS 1 OF 3

\\MAC\HOME\BOX\PROJECTS\17-375.1 DOVER CANYON ROAD AT JACK CREEK BRIDGE REPLACEMENT PROJECT\CAD\LOTB 11X17\DWG\LOTB.DWG, 8/28/2018 2:58 PM, ----, BARRETTUPDEGRAFF

ELEVATION REFERENCE
Survey provided by Mark Thomas and Company, INC.
Dover Canyon_TO.dwg
Date: 6/22/18



PLAN
SCALE: 1" = 80'

Dist	COUNTY	ROAD NO.	JOB NO.	SHEET No.	TOTAL SHEETS
05	SLO			02	03

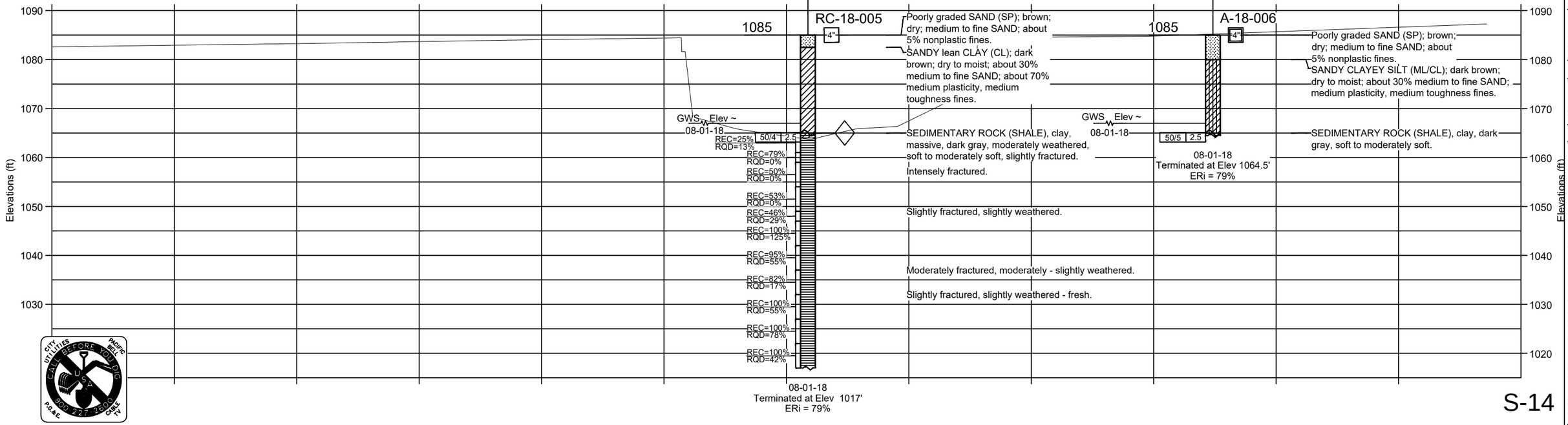
REGISTERED CIVIL ENGINEER — DATE 1/30/2020

PLANS APPROVAL DATE 1/30/2020

REGISTERED PROFESSIONAL ENGINEER
BENJAMIN D. CRAWFORD
No. 68457
CIVIL
STATE OF CALIFORNIA

Crawford & Associates, Inc
Geotechnical Engineering, Design and Construction Services
Taber Since 1954
1100 Corporate Way Suite 230 Sacramento, CA 95831 (916) 455-4225

NOTES:
1. Field classification of soils was in accordance with the Caltrans Soil & Rock Logging, Classification, and Presentation Manual (2010). See Log of Test Borings No. 3, "Soil Legend".
2. Standard Penetration tests were performed in accordance with ASTM D 1586-99 using a hammer operated with an automated drop system. Drill rods were 1 5/8-inch diameter "A"-rods; sampler was driven with brass liners.
3. "2.4 inch sampler": ID=2.4 inch, OD=2.9 inch. "2.0 inch sampler": ID=2.0 inch, OD=2.5 inch. Both driven in same manner as SPT ("1.4 inch") sampler.
4. If laboratory tests are not shown as being performed, the soil descriptions presented on the LOTB are based solely on the visual practices described in this Manual.
5. The length of each sampled interval is shown graphically on the boring log. Whole number blow counts ("N") represent the "standard penetration resistance" interval in accordance with the Caltrans Soil & Logging, Classification, and Presentation Manual (June 2010). Where less than 0.5 feet of penetration is achieved, the blow count shown is for that fraction of the "standard penetration resistance" interval actually penetrated.
6. Consistency of soils shown in ( ) where estimated.
7. Groundwater surface (GWS) elevations in the borings indicated on the Log of Test Boring Sheets reflect the fluid level in the borings on the specified date.
8. Groundwater elevations are subject to seasonal fluctuations and may occur at higher or lower elevations depending on the conditions at any particular time.
9. The "Log of Test Borings" drawing is included with plans in accordance with Section 2-1.03 of Caltrans "Standard Specifications".
10. Boring locations on the cross section view are not at the correct startions, they are at the correct elevations.



CALL BEFORE YOU DIG
1-800-227-2600

PROFILE HORIZ: 1"=20'
VERT: 1"=20

DESIGN	BY Barrett Updegraff	CHECKED Benjamin Crawford		BRIDGE NO. 49C0037	PREPARED FOR THE SAN LUIS OBISPO COUNTY PUBLIC WORKS DEPARTMENT 976 OSOS STREET, ROOM 206, SAN LUIS OBISPO, CALIFORNIA 93408
FIELD INVESTIGATION	BY Hailey Wagenman			POST MILES	

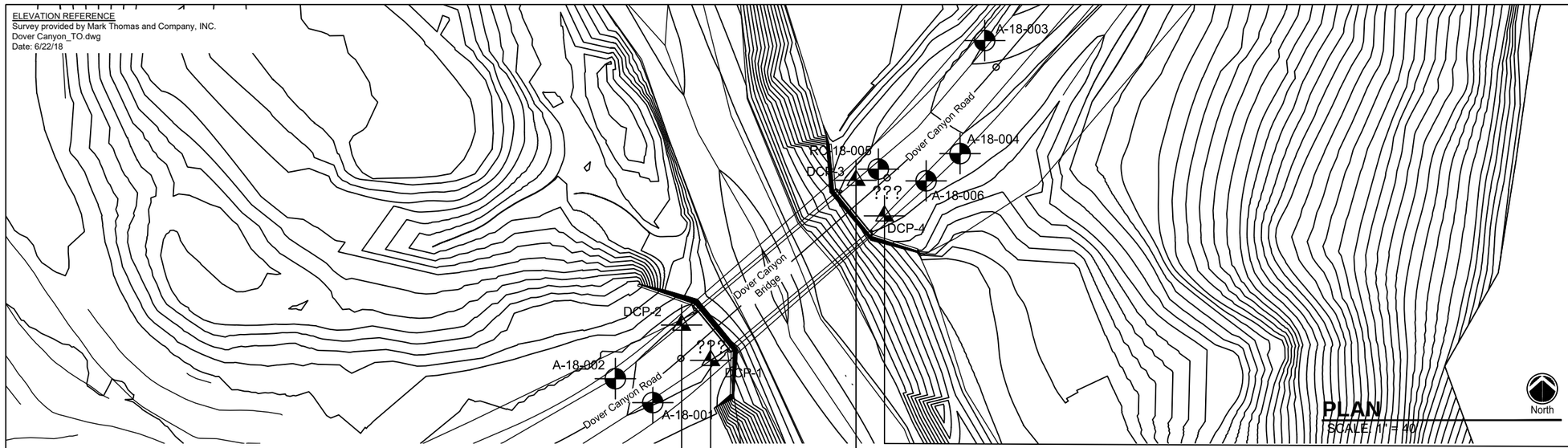
DOVER CANYON ROAD AT JACK CREEK BRIDGE REPLACEMENT PROJECT

LOG OF TEST BORINGS 2 OF 3

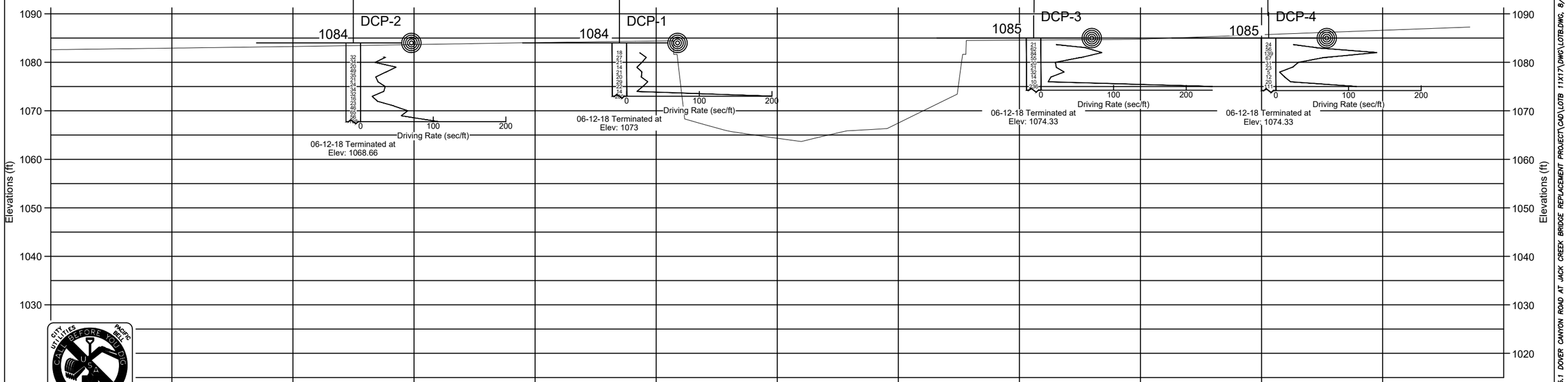
S-14

\\MAC\HOME\BOX\PROJECTS\17-375.1 DOVER CANYON ROAD AT JACK CREEK BRIDGE REPLACEMENT PROJECT\CAD\LOTB 11X17\DWG\LOTB.DWG, 8/28/2018 2:58 PM, ----, BARRETTUPDEGRAFF

ELEVATION REFERENCE
Survey provided by Mark Thomas and Company, INC.
Dover Canyon_TO.dwg
Date: 6/22/18



PLAN
SCALE: 1" = 40'



Dist	COUNTY	ROAD NO.	JOB NO.	SHEET No.	TOTAL SHEETS
05	SLO			03	03

REGISTERED CIVIL ENGINEER — DATE 1/30/2020

PLANS APPROVAL DATE 1/30/2020

REGISTERED PROFESSIONAL ENGINEER
BENJAMIN D. CRAWFORD
No. 68457
CIVIL
STATE OF CALIFORNIA

Crawford & Associates, Inc.
Geotechnical Engineering, Design and Construction Services
Taber Since 1954
1100 Corporate Way
Suite 230
Sacramento, CA 95831
(916) 455-4225

NOTES:
1. DCP tests were preformed with a WILDCAT P102/01 Dynamic Cone Penetrometer.
2. The DCP test consists of manually lifting and and dropping a 35lb hammer repeatedly to determine blow count per 10cm (~4in).
3. These tests were performed by Crawford and Associates, Inc. Project Engineers.
4. DCP locations on the cross section view are not at the correct stations, they are at the correct elevations.

S-15

CALL BEFORE YOU DIG
1-800-227-2600

PROFILE HORIZ: 1"=20'
VERT: 1"=20'

	BY	CHECKED
DESIGN	Barrett Updegraff	Benjamin Crawford
FIELD INVESTIGATION	Hailey Wagenman	

BRIDGE NO. 49C0037
POST MILES

PREPARED FOR THE
SAN LUIS OBISPO COUNTY
PUBLIC WORKS DEPARTMENT
976 OSOS STREET, ROOM 206, SAN LUIS OBISPO, CALIFORNIA 93408

DOVER CANYON ROAD AT JACK CREEK BRIDGE REPLACEMENT PROJECT

LOG OF TEST BORINGS 3 OF 3

\\MAC\HOME\BOX\PROJECTS\17-375.1 DOVER CANYON ROAD AT JACK CREEK BRIDGE REPLACEMENT PROJECT\CAD\LOTB 11X17\DWG\LOTB.DWG, 8/28/2018 2:58 PM, ----, BARRETT\PDEGRAFF

This page intentionally left blank.

Appendix B - Diversion and Dewatering Plan

This page intentionally left blank.

DIVERSION/DEWATERING PLAN

Dover Canyon Road at Jack Creek Bridge Replacement Project

Federal Project No. BRLO-5949 (152), Bridge No. 49C-0037

Prepared For:
San Luis Obispo County
Public Works Department

Prepared By:
Mark Thomas
July 2018

This page intentionally left blank.

Project Description

The County of San Luis Obispo Public Works Department (County) is proposing to replace a nearly 100-year-old, single lane bridge (Bridge No. 49C-0037) along Dover Canyon Road at Jack Creek. Implementation of the Project will replace the existing, structurally deficient Warren pony steel truss bridge with a new concrete, two-lane bridge that will carry emergency vehicles, including fully-loaded fire trucks, and improve access to the public and properties along Dover Canyon Road. The Project is a safety improvement project, funded in part by the Federal Highway Administration (FHWA) via the California Department of Transportation's (Caltrans) Highway Bridge Program (HBP). According to the Caltrans Bridge Inspection Report (BIR) dated August 3, 2015, the bridge is classified as functionally obsolete with a sufficiency rating of 48.5, and has been programed for replacement.

During the project initiation phase, the design team identified multiple alignment alternatives for the bridge and adjacent roadway. These alternatives focused on either maintaining the existing alignment or realigning the bridge to improve the right-angle curve just west of the existing structure. It was determined by the Project Development Team (PDT) that maintaining the existing bridge and roadway alignment while correcting the right-angle curve to meet the desired design speed was the preferred alternative. This alternative minimizes right of way conflicts and construction impacts.

Road closure is proposed for construction of the project, however there is no viable detour for Dover Canyon Road at the bridge crossing. To maintain the existing bridge alignment, two detour alternatives were considered: a temporary bridge and an at-grade crossing. The design team determined that a temporary bridge was the most feasible detour alternative. Resident access across Jack Creek will be maintained by a temporary bridge that will be constructed upstream of the existing bridge structure.

Water Diversion Plan

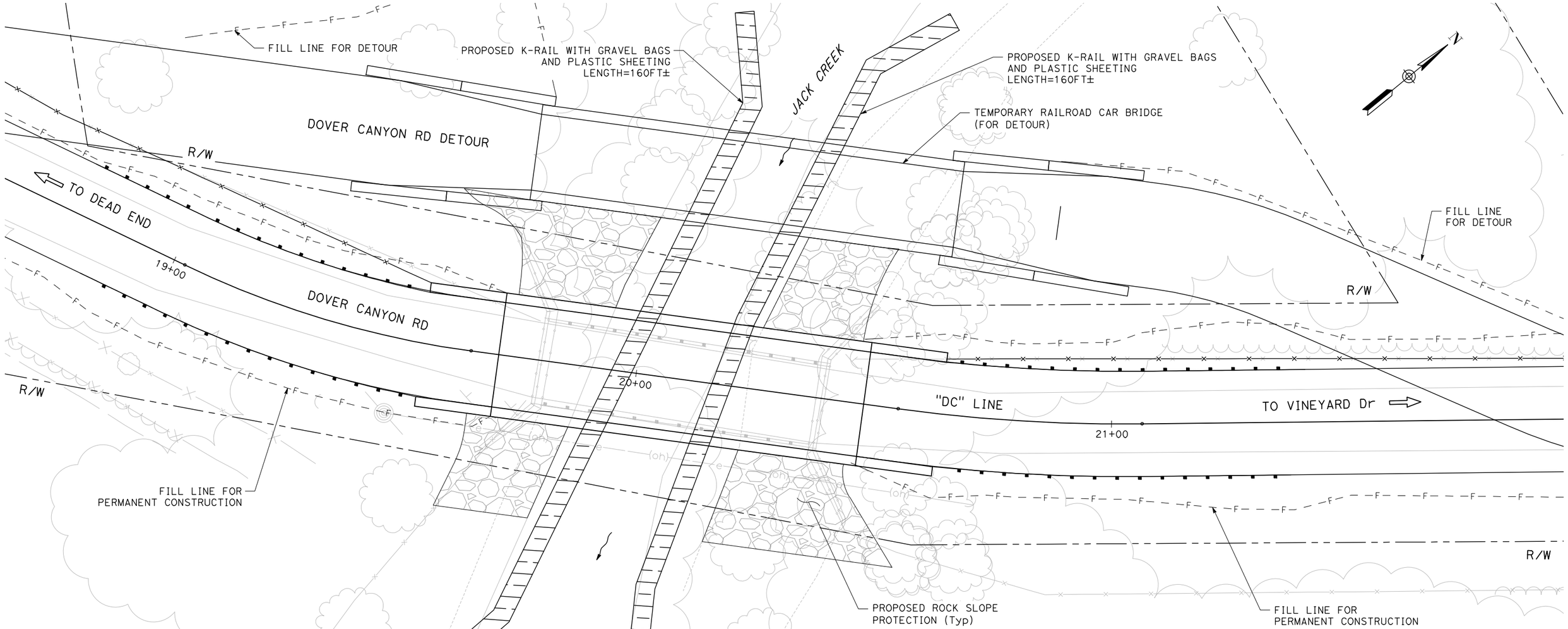
Based on historical summer flow records, average Jack Creek flows are expected to be approximately 1.1cfs between June and October. Due to the low volume of summer flow, a temporary dam and pipe diversion system is not anticipated to be necessary. To avoid impacts to fish and other aquatic life, construction within Jack Creek is planned to occur during the non-rainy season.

A water diversion system consisting of temporary k-rail will narrow the channel, keeping water out of the work area. Temporary k-rail will be installed a minimum of two feet from the toe of the proposed rock slope protection (RSP). The temporary K-rail will be cleaned, filled with clean gravel bags, and lined with clean plastic sheeting to keep water from seeping into the work area. Approximately 160ft of k-rail will be placed along each bank, running parallel to direction of flow. K-rail will be installed approximately 60ft upstream and downstream of the permanent bridge structure. Placement of the k-rail will require minor grading and excavation within Jack Creek. Any imported clean rushed rock used in the diversion system will be removed offsite or incorporated into permanent roadway fill when construction activity has finished. All diversion and dewatering activities will adhere to Caltrans Standard Specifications. See Attachment A for a typical layout of the k-rail diversion plan.

After construction of the permanent structure and roadway is complete, the contractor will remove the temporary k-rail and restore all disturbed areas within the creek to pre-construction conditions. The temporary k-rail will be removed in a manner that will provide the least amount of disturbance as possible to the existing creek environment.

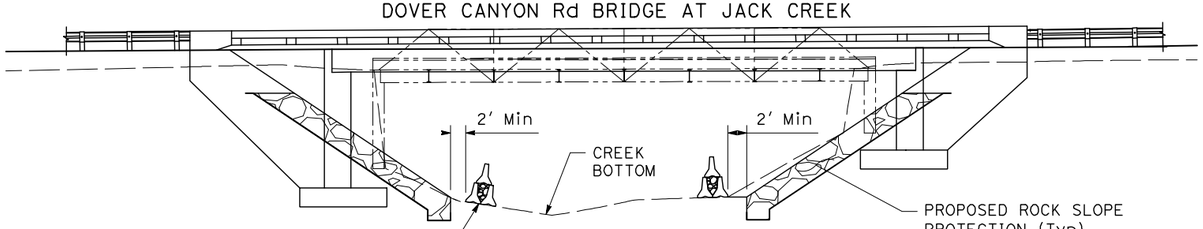
ATTACHMENT A

JACK CREEK DIVERSION AND DEWATERING EXHIBIT



PLAN VIEW
SCALE: 1" = 40'

DOVER CANYON Rd BRIDGE AT JACK CREEK



SECTION A-A
NO SCALE

BRIDGE No.: 49C-0037
FEDERAL PROJECT No.: BRLO-5949(152)

DRAWN BY: R.USEDOM
CKD. BY: Z.SIVIGLIA
DATE: 07/11/2018
SCALE: AS SHOWN

DOVER CANYON AT JACK CREEK BRIDGE REPLACEMENT PROJECT

JACK CREEK DIVERSION AND DEWATERING PLAN

MARK THOMAS
16795 VON KARMAN AVE
SUITE 240
IRVINE, CA 92608

This page intentionally left blank.

Appendix C - Special-Status Species Lists

This page intentionally left blank.

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Ventura Fish And Wildlife Office
2493 Portola Road, Suite B
Ventura, CA 93003-7726
Phone: (805) 644-1766 Fax: (805) 644-3958

In Reply Refer To: July 02, 2020
Consultation Code: 08EVEN00-2018-SLI-0313
Event Code: 08EVEN00-2020-E-01051
Project Name: Dover Canyon Road at Jack Creek Bridge Replacement Project

Subject: Updated list of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

The enclosed list identifies species listed as threatened and endangered, species proposed for listing as threatened or endangered, designated and proposed critical habitat, and species that are candidates for listing that may occur within the boundary of the area you have indicated using the U.S. Fish and Wildlife Service's (Service) Information Planning and Conservation System (IPaC). The species list fulfills the requirements under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 et seq.). Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the species list should be verified after 90 days. We recommend that verification be completed by visiting the IPaC website at regular intervals during project planning and implementation for updates to species lists following the same process you used to receive the enclosed list. Please include the Consultation Tracking Number in the header of this letter with any correspondence about the species list.

Due to staff shortages and excessive workload, we are unable to provide an official list more specific to your area. Numerous other sources of information are available for you to narrow the list to the habitats and conditions of the site in which you are interested. For example, we recommend conducting a biological site assessment or surveys for plants and animals that could help refine the list.

If a Federal agency is involved in the project, that agency has the responsibility to review its proposed activities and determine whether any listed species may be affected. If the project is a major construction project*, the Federal agency has the responsibility to prepare a biological assessment to make a determination of the effects of the action on the listed species or critical habitat. If the Federal agency determines that a listed species or critical habitat is likely to be adversely affected, it should request, in writing through our office, formal consultation pursuant to section 7 of the Act. Informal consultation may be used to exchange information and resolve conflicts with respect to threatened or endangered species or their critical habitat prior to a

written request for formal consultation. During this review process, the Federal agency may engage in planning efforts but may not make any irreversible commitment of resources. Such a commitment could constitute a violation of section 7(d) of the Act.

Federal agencies are required to confer with the Service, pursuant to section 7(a)(4) of the Act, when an agency action is likely to jeopardize the continued existence of any proposed species or result in the destruction or adverse modification of proposed critical habitat (50 CFR 402.10(a)). A request for formal conference must be in writing and should include the same information that would be provided for a request for formal consultation. Conferences can also include discussions between the Service and the Federal agency to identify and resolve potential conflicts between an action and proposed species or proposed critical habitat early in the decision-making process. The Service recommends ways to minimize or avoid adverse effects of the action. These recommendations are advisory because the jeopardy prohibition of section 7(a)(2) of the Act does not apply until the species is listed or the proposed critical habitat is designated. The conference process fulfills the need to inform Federal agencies of possible steps that an agency might take at an early stage to adjust its actions to avoid jeopardizing a proposed species.

When a proposed species or proposed critical habitat may be affected by an action, the lead Federal agency may elect to enter into formal conference with the Service even if the action is not likely to jeopardize or result in the destruction or adverse modification of proposed critical habitat. If the proposed species is listed or the proposed critical habitat is designated after completion of the conference, the Federal agency may ask the Service, in writing, to confirm the conference as a formal consultation. If the Service reviews the proposed action and finds that no significant changes in the action as planned or in the information used during the conference have occurred, the Service will confirm the conference as a formal consultation on the project and no further section 7 consultation will be necessary. Use of the formal conference process in this manner can prevent delays in the event the proposed species is listed or the proposed critical habitat is designated during project development or implementation.

Candidate species are those species presently under review by the Service for consideration for Federal listing. Candidate species should be considered in the planning process because they may become listed or proposed for listing prior to project completion. Preparation of a biological assessment, as described in section 7(c) of the Act, is not required for candidate species. If early evaluation of your project indicates that it is likely to affect a candidate species, you may wish to request technical assistance from this office.

Only listed species receive protection under the Act. However, sensitive species should be considered in the planning process in the event they become listed or proposed for listing prior to project completion. We recommend that you review information in the California Department of Fish and Wildlife's Natural Diversity Data Base. You can contact the California Department of Fish and Wildlife at (916) 324-3812 for information on other sensitive species that may occur in this area.

[*A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.]

Attachment(s):

- Official Species List

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Ventura Fish And Wildlife Office
2493 Portola Road, Suite B
Ventura, CA 93003-7726
(805) 644-1766

Project Summary

Consultation Code: 08EVEN00-2018-SLI-0313

Event Code: 08EVEN00-2020-E-01051

Project Name: Dover Canyon Road at Jack Creek Bridge Replacement Project

Project Type: BRIDGE CONSTRUCTION / MAINTENANCE

Project Description: The County of San Luis Obispo is proposing to replace the existing bridge on Dover Canyon Road at Jack Creek (Bridge No. 49C-0037) just south of the confluence of east-west trending Jack Creek and north-south trending Summit Creek. The bridge is a single-span, simply-supported, steel Warren pony truss with steel floor beams and a timber deck. The structure is founded on concrete spread footing abutments and is 63 feet long by 16 feet wide, with a clear width of 15.75 feet between the bridge rails. The proposed project will replace the existing bridge with a new concrete, two-lane bridge that will be able to carry emergency vehicles, including fully-loaded fire trucks, and improve access to the public and properties served by Dover Canyon Road. The project is a safety improvement project, funded in part by the Federal Highway Administration (FHWA) via Caltrans's Highway Bridge Program. The Area of Potential Effect is approximately 5.7 acres.

Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/place/35.58059003210235N120.83245538581238W

Counties: San Luis Obispo, CA

Endangered Species Act Species

There is a total of 15 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

---

1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Mammals

NAME	STATUS
Giant Kangaroo Rat *Dipodomys ingens* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/6051	Endangered
San Joaquin Kit Fox *Vulpes macrotis mutica* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/2873	Endangered

Birds

NAME	STATUS
California Clapper Rail *Rallus longirostris obsoletus* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/4240	Endangered
California Condor *Gymnogyps californianus* Population: U.S.A. only, except where listed as an experimental population There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/8193	Endangered
Least Bell's Vireo *Vireo bellii pusillus* There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/5945	Endangered
Southwestern Willow Flycatcher *Empidonax traillii extimus* There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/6749	Endangered

Reptiles

NAME	STATUS
Blunt-nosed Leopard Lizard *Gambelia silus* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/625	Endangered

Amphibians

NAME	STATUS
California Red-legged Frog *Rana draytonii* There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/2891	Threatened
California Tiger Salamander *Ambystoma californiense* Population: U.S.A. (Central CA DPS) There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/2076	Threatened

Insects

NAME	STATUS
Kern Primrose Sphinx Moth *Euproserpinus euterpe* There is **proposed** critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/7881	Threatened

Crustaceans

NAME	STATUS
Vernal Pool Fairy Shrimp *Branchinecta lynchi* There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/498	Threatened

Flowering Plants

NAME	STATUS
California Jewelflower *Caulanthus californicus* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/4599	Endangered
Chorro Creek Bog Thistle *Cirsium fontinale var. obispoense* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/5991	Endangered
Marsh Sandwort *Arenaria paludicola* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/2229	Endangered
Spreading Navarretia *Navarretia fossalis* There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/1334	Threatened

Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

Jon Claxton

From: Jon Claxton
Sent: Thursday, July 2, 2020 3:01 PM
To: nmfswcrca.specieslist@noaa.gov
Cc: barrett.holland@dot.ca.gov; Matthew Willis
Subject: RE: Requesting Updated Official Species List for the Dover Canyon Road at Jack Creek Bridge Replacement Project.

On behalf of California Department of Transportation (Caltrans) District 5, I hereby am requesting and updated Official Species List for the Dover Canyon Road at Jack Creek Bridge Replacement Project. Based on the NMFS Google Earth output provided below, South-Central California Coast steelhead Distinct Population Segment and South-Central California Coast steelhead Critical habitat must be addressed for the project. No changes to this list have occurred since the original request on October 10, 2019 (below).

Please note the change to my direct line, below.

Jon Claxton
Project Manager, Natural Resources Team Lead

SWCA Environmental Consultants
1422 Monterey Street, Suite C-200
San Luis Obispo, CA, 93401
Direct. 805.543.7032

Visit Our New Website!

From: Jon Claxton
Sent: Thursday, October 10, 2019 10:55 AM
To: Lauren Brown <LBrown@swca.com>; nmfswcrca.specieslist@noaa.gov
Cc: barrett.holland@dot.ca.gov; Matthew Willis <MWillis@co.slo.ca.us>
Subject: RE: Requesting Updated Official Species List for the Dover Canyon Road at Jack Creek Bridge Replacement Project.

On behalf of California Department of Transportation (Caltrans) District 5, I hereby am requesting and updated Official Species List for the Dover Canyon Road at Jack Creek Bridge Replacement Project. Based on the NMFS Google Earth output provided below, South-Central California Coast steelhead Distinct Population Segment and South-Central California Coast steelhead Critical habitat must be addressed for the project. No changes to this list have occurred since the original request on February 4, 2019 (below).

Jon Claxton
Project Manager, Natural Resources Team Lead

SWCA Environmental Consultants
1422 Monterey Street, Suite C-200
San Luis Obispo, CA, 93401
P 805.543.7095 x6813. | F 805.543.2367 | M. 805.268.6898

Visit Our New Website!

From: Lauren Brown <LBrown@swca.com>
Sent: Monday, February 4, 2019 2:21 PM
To: nmfswcrca.specieslist@noaa.gov
Cc: 'Robbins, Michaela' <Michaela.Robbins@dot.ca.gov>; Matthew Willis <MWillis@co.slo.ca.us>; Jon Claxton <jclaxton@swca.com>
Subject: Requesting Updated Official Species List for the Dover Canyon Road at Jack Creek Bridge Replacement Project.

On behalf of California Department of Transportation (Caltrans) District 5, I hereby am requesting and updated Official Species List for the Dover Canyon Road at Jack Creek Bridge Replacement Project. The project is located in a rural area along Dover Canyon Road, west of the city of Paso Robles and community of Templeton, in San Luis Obispo County, California. The County of San Luis Obispo is proposing to replace the existing bridge just south of the confluence of east-west trending Jack Creek and north-south trending Summit Creek. The bridge is a single-span, simply-supported, steel Warren pony truss with steel floor beams and a timber deck. The structure is founded on concrete spread footing abutments and is 63 feet long by 16 feet wide, with a clear width of 15.75 feet between the bridge rails. The proposed project will replace the existing bridge with a new concrete, two-lane bridge that will be able to carry emergency vehicles, including fully-loaded fire trucks, and improve access to the public and properties served by Dover Canyon Road. The project is a safety improvement project, funded in part by the Federal Highway Administration via Caltrans's Highway Bridge Program. Caltrans is the lead agency for the project with its FHWA-delegated authority.

Based on the NMFS Google Earth output provided below, South-Central California Coast steelhead Distinct Population Segment and South-Central California Coast steelhead Critical habitat must be addressed for the project.

Michaela Robbins, Caltrans District 5 biologist, will be the agency contact for this project. Her contact information is:

Michaela Robbins, District Biologist
(805) 549-3422
Environmental Stewardship Branch
Caltrans District 5

Quad Name **York Mountain**
Quad Number **35120-E7**

ESA Anadromous Fish

SONCC Coho ESU (T) -
CCC Coho ESU (E) -

CC Chinook Salmon ESU (T) -
CVSR Chinook Salmon ESU (T) -
SRWR Chinook Salmon ESU (E) -
NC Steelhead DPS (T) -
CCC Steelhead DPS (T) -
SCCC Steelhead DPS (T) - **X**
SC Steelhead DPS (E) -
CCV Steelhead DPS (T) -
Eulachon (T) -
sDPS Green Sturgeon (T) -

ESA Anadromous Fish Critical Habitat

SONCC Coho Critical Habitat -
CCC Coho Critical Habitat -
CC Chinook Salmon Critical Habitat -
CVSR Chinook Salmon Critical Habitat -
SRWR Chinook Salmon Critical Habitat -
NC Steelhead Critical Habitat -
CCC Steelhead Critical Habitat -
SCCC Steelhead Critical Habitat - **X**
SC Steelhead Critical Habitat -
CCV Steelhead Critical Habitat -
Eulachon Critical Habitat -
sDPS Green Sturgeon Critical Habitat -

ESA Marine Invertebrates

Range Black Abalone (E) -
Range White Abalone (E) -

ESA Marine Invertebrates Critical Habitat

Black Abalone Critical Habitat -

ESA Sea Turtles

East Pacific Green Sea Turtle (T) -
Olive Ridley Sea Turtle (T/E) -
Leatherback Sea Turtle (E) -
North Pacific Loggerhead Sea Turtle (E) -

ESA Whales

Blue Whale (E) -
Fin Whale (E) -
Humpback Whale (E) -
Southern Resident Killer Whale (E) -
North Pacific Right Whale (E) -
Sei Whale (E) -
Sperm Whale (E) -

ESA Pinnipeds

Guadalupe Fur Seal (T) -
Steller Sea Lion Critical Habitat -

Essential Fish Habitat

Coho EFH -
Chinook Salmon EFH -
Groundfish EFH -
Coastal Pelagics EFH -
Highly Migratory Species EFH -

MMPA Species (See list at left)

ESA and MMPA Cetaceans/Pinnipeds
See list at left and consult the NMFS Long Beach office
562-980-4000

MMPA Cetaceans -
MMPA Pinnipeds -

Lauren Brown
Senior Biologist
SWCA Environmental Consultants
1422 Monterey Street, Suite C-200
San Luis Obispo, CA, 93401
P 805.543.7095 x6813. | F 805.543.2367 | M. 805.268.6898

Selected Elements by Scientific Name

California Department of Fish and Wildlife

California Natural Diversity Database

Query Criteria: Quad IS (Adelaida (3512067) OR Lime Mountain (3512068) OR Paso Robles (3512066) OR Cypress Mountain (3512058) OR York Mountain (3512057) OR Templeton (3512056) OR Cayucos (3512048) OR Morro Bay North (3512047) OR Atascadero (3512046))

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Abies bracteata bristlecone fir	PGPIN01030	None	None	G2G3	S2S3	1B.3
Agelaius tricolor tricolored blackbird	ABPBXB0020	None	Threatened	G2G3	S1S2	SSC
Agrostis hooveri Hoover's bent grass	PMPOA040M0	None	None	G2	S2	1B.2
Anniella pulchra Northern California legless lizard	ARACC01020	None	None	G3	S3	SSC
Antirrhinum ovatum oval-leaved snapdragon	PDSCR2K010	None	None	G3	S3	4.2
Antrozous pallidus pallid bat	AMACC10010	None	None	G5	S3	SSC
Aquila chrysaetos golden eagle	ABNKC22010	None	None	G5	S3	FP
Arctostaphylos luciana Santa Lucia manzanita	PDERI040N0	None	None	G2	S2	1B.2
Arctostaphylos pilosula Santa Margarita manzanita	PDERI042Z0	None	None	G2?	S2?	1B.2
Aristocapsa insignis Indian Valley spineflower	PDPGN0U010	None	None	G1	S1	1B.2
Astragalus didymocarpus var. milesianus Miles' milk-vetch	PDFAB0F2X3	None	None	G5T2	S2	1B.2
Atractelmis wawona Wawona riffle beetle	IICOL58010	None	None	G3	S1S2	
Batrachoseps minor lesser slender salamander	AAAAD02170	None	None	G1	S1	SSC
Bombus caliginosus obscure bumble bee	IIHYM24380	None	None	G4?	S1S2	
Bombus crotchii Crotch bumble bee	IIHYM24480	None	Candidate Endangered	G3G4	S1S2	
Branchinecta lynchi vernal pool fairy shrimp	ICBRA03030	Threatened	None	G3	S3	
Calochortus obispoensis San Luis mariposa-lily	PMLIL0D110	None	None	G2	S2	1B.2
Calochortus simulans La Panza mariposa-lily	PMLIL0D170	None	None	G2	S2	1B.3

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Calycadenia villosa dwarf calycadenia	PDAST1P0B0	None	None	G3	S3	1B.1
Calystegia subacaulis ssp. episcopalis Cambria morning-glory	PDCON040J1	None	None	G3T2?	S2?	4.2
Carex obispoensis San Luis Obispo sedge	PMCYP039J0	None	None	G3?	S3?	1B.2
Castilleja densiflora var. obispoensis San Luis Obispo owl's-clover	PDSCR0D453	None	None	G5T2	S2	1B.2
Caulanthus lemmonii Lemmon's jewelflower	PDBRA0M0E0	None	None	G3	S3	1B.2
Charadrius alexandrinus nivosus western snowy plover	ABNNB03031	Threatened	None	G3T3	S2S3	SSC
Chorizanthe breweri Brewer's spineflower	PDPGN04050	None	None	G3	S3	1B.3
Chorizanthe rectispina straight-awned spineflower	PDPGN040N0	None	None	G2	S2	1B.3
Cicindela hirticollis gravida sandy beach tiger beetle	IICOL02101	None	None	G5T2	S2	
Circus hudsonius northern harrier	ABNKC11011	None	None	G5	S3	SSC
Cirsium fontinale var. obispoense Chorro Creek bog thistle	PDAST2E162	Endangered	Endangered	G2T2	S2	1B.2
Cirsium occidentale var. compactum compact cobwebby thistle	PDAST2E1Z1	None	None	G3G4T2	S2	1B.2
Cirsium occidentale var. lucianum Cuesta Ridge thistle	PDAST2E1Z6	None	None	G3G4T2	S2	1B.2
Coelus globosus globose dune beetle	IICOL4A010	None	None	G1G2	S1S2	
Corynorhinus townsendii Townsend's big-eared bat	AMACC08010	None	None	G3G4	S2	SSC
Danaus plexippus pop. 1 monarch - California overwintering population	IILEPP2012	None	None	G4T2T3	S2S3	
Delphinium parryi ssp. blochmaniae dune larkspur	PDRAN0B1B1	None	None	G4T2	S2	1B.2
Delphinium parryi ssp. eastwoodiae Eastwood's larkspur	PDRAN0B1B2	None	None	G4T2	S2	1B.2
Delphinium umbraculorum umbrella larkspur	PDRAN0B1W0	None	None	G3	S3	1B.3
Dudleya abramsii ssp. bettinae Betty's dudleya	PDCRA04011	None	None	G4T2	S2	1B.2
Dudleya abramsii ssp. murina mouse-gray dudleya	PDCRA04012	None	None	G4T2	S2	1B.3

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Dudleya blochmaniae ssp. blochmaniae Blochman's dudleya	PDCRA04051	None	None	G3T2	S2	1B.1
Emys marmorata western pond turtle	ARAAD02030	None	None	G3G4	S3	SSC
Eriastrum luteum yellow-flowered eriastrum	PDPLM03080	None	None	G2	S2	1B.2
Erigeron blochmaniae Blochman's leafy daisy	PDAST3M5J0	None	None	G2	S2	1B.2
Eucyclogobius newberryi tidewater goby	AFCQN04010	Endangered	None	G3	S3	
Extriplex joaquinana San Joaquin spearscale	PDCHE041F3	None	None	G2	S2	1B.2
Fritillaria ojaiensis Ojai fritillary	PMLIL0V0N0	None	None	G3	S3	1B.2
Fritillaria viridea San Benito fritillary	PMLIL0V0L0	None	None	G2	S2	1B.2
Galium hardhamiae Hardham's bedstraw	PDRUB0N0Y0	None	None	G3	S3	1B.3
Haliaeetus leucocephalus bald eagle	ABNKC10010	Delisted	Endangered	G5	S3	FP
Helminthoglypta walkeriana Morro shoulderband (=banded dune) snail	IMGASC2510	Endangered	None	G1	S1S2	
Horkelia cuneata var. puberula mesa horkelia	PDROS0W045	None	None	G4T1	S1	1B.1
Horkelia cuneata var. sericea Kellogg's horkelia	PDROS0W043	None	None	G4T1?	S1?	1B.1
Juncus luciensis Santa Lucia dwarf rush	PMJUN013J0	None	None	G3	S3	1B.2
Layia jonesii Jones' layia	PDAST5N090	None	None	G2	S2	1B.2
Lepidium jaredii ssp. jaredii Jared's pepper-grass	PDBRA1M0G1	None	None	G2G3T1T2	S1S2	1B.2
Malacothamnus palmeri var. palmeri Santa Lucia bush-mallow	PDMAL0Q0B5	None	None	G3T2Q	S2	1B.2
Meconella oregana Oregon meconella	PDPAP0G030	None	None	G2G3	S2	1B.1
Monardella palmeri Palmer's monardella	PDLAM180H0	None	None	G2	S2	1B.2
Monolopia gracilens woodland woollythreads	PDAST6G010	None	None	G3	S3	1B.2
Navarretia nigelliformis ssp. radians shining navarretia	PDPLM0C0J2	None	None	G4T2	S2	1B.2

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Neotoma macrotis luciana Monterey dusky-footed woodrat	AMAFF08083	None	None	G5T3	S3	SSC
Northern Interior Cypress Forest Northern Interior Cypress Forest	CTT83220CA	None	None	G2	S2.2	
Oncorhynchus mykiss irideus pop. 10 steelhead - southern California DPS	AFCHA0209J	Endangered	None	G5T1Q	S1	
Oncorhynchus mykiss irideus pop. 9 steelhead - south-central California coast DPS	AFCHA0209H	Threatened	None	G5T2Q	S2	
Perognathus inornatus psammophilus Salinas pocket mouse	AMAFD01062	None	None	G4T2?	S1	SSC
Phrynosoma blainvillii coast horned lizard	ARACF12100	None	None	G3G4	S3S4	SSC
Plagiobothrys uncinatus hooked popcornflower	PDBOR0V170	None	None	G2	S2	1B.2
Plebejus icarioides moroensis Morro Bay blue butterfly	IILEPG801B	None	None	G5T2	S2	
Polyphylla nubila Atascadero June beetle	IICOL68040	None	None	G1	S1	
Progne subis purple martin	ABPAU01010	None	None	G5	S3	SSC
Pyrgulopsis taylori San Luis Obispo pyrg	IMGASJ0A50	None	None	G1	S1	
Rana draytonii California red-legged frog	AAABH01022	Threatened	None	G2G3	S2S3	SSC
Sanicula maritima adobe sanicle	PDAPI1Z0D0	None	Rare	G2	S2	1B.1
Senecio aphanactis chaparral ragwort	PDAST8H060	None	None	G3	S2	2B.2
Sidalcea hickmanii ssp. anomala Cuesta Pass checkerbloom	PDMAL110A1	None	Rare	G3T1	S1	1B.2
Spea hammondii western spadefoot	AAABF02020	None	None	G3	S3	SSC
Streptanthus albidus ssp. peramoenus most beautiful jewelflower	PDBRA2G012	None	None	G2T2	S2	1B.2
Suaeda californica California seablite	PDCHE0P020	Endangered	None	G1	S1	1B.1
Taricha torosa Coast Range newt	AAAAF02032	None	None	G4	S4	SSC
Taxidea taxus American badger	AMAJF04010	None	None	G5	S3	SSC
Trimerotropis occulens Lompoc grasshopper	IIORT36310	None	None	G1G2	S1S2	

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Triteleia ixioides ssp. cookii	PMLIL210A2	None	None	G5T2T3	S2S3	1B.3
Cook's triteleia						
Valley Oak Woodland	CTT71130CA	None	None	G3	S2.1	
Valley Oak Woodland						
Vireo bellii pusillus	ABPBW01114	Endangered	Endangered	G5T2	S2	
least Bell's vireo						
Vulpes macrotis mutica	AMAJA03041	Endangered	Threatened	G4T2	S2	
San Joaquin kit fox						

Record Count: 85

This page intentionally left blank.

CNPS California Native Plant Society

Inventory of Rare and Endangered Plants

*The database used to provide updates to the Online Inventory is under construction. View updates and changes made since May 2019 here.

Plant List

61 matches found. *Click on scientific name for details*

Search Criteria

Found in Quads 3512068, 3512067, 3512066, 3512058, 3512057, 3512056, 3512048 3512047 and 3512046;

Modify Search Criteria | Export to Excel | Modify Columns | Modify Sort | Display Photos

Scientific Name	Common Name	Family	Lifeform	Blooming Period	CA Rare Plant Rank	State Rank	Global Rank
Abies bracteata	bristlecone fir	Pinaceae	perennial evergreen tree		1B.3	S2S3	G2G3
Abronia maritima	red sand-verbena	Nyctaginaceae	perennial herb	Feb-Nov	4.2	S3?	G4
Agrostis hooveri	Hoover's bent grass	Poaceae	perennial herb	Apr-Jul	1B.2	S2	G2
Amsinckia douglasiana	Douglas' fiddleneck	Boraginaceae	annual herb	Mar-May	4.2	S4	G4
Antirrhinum ovatum	oval-leaved snapdragon	Plantaginaceae	annual herb	May-Nov	4.2	S3	G3
Arctostaphylos luciana	Santa Lucia manzanita	Ericaceae	perennial evergreen shrub	Dec-Mar	1B.2	S2	G2
Arctostaphylos obispoensis	Bishop manzanita	Ericaceae	perennial evergreen shrub	Feb-Jun	4.3	S3	G3
Arctostaphylos pilosula	Santa Margarita manzanita	Ericaceae	perennial evergreen shrub	Dec-May	1B.2	S2?	G2?
Aspidotis carlotta-halliae	Carlotta Hall's lace fern	Pteridaceae	perennial rhizomatous herb	Jan-Dec	4.2	S3	G3
Astragalus didymocarpus var. milesianus	Miles' milk-vetch	Fabaceae	annual herb	Mar-Jun	1B.2	S2	G5T2
Astragalus macrodon	Salinas milk-vetch	Fabaceae	perennial herb	Apr-Jul	4.3	S4	G4
Calochortus clavatus var. recurvifolius	Arroyo de la Cruz mariposa lily	Liliaceae	perennial bulbiferous herb	Jun-Jul	1B.2	S1	G4T1

Calochortus obispoensis	San Luis mariposa lily	Liliaceae	perennial bulbiferous herb	May-Jul	1B.2	S2	G2
Calochortus simulans	La Panza mariposa lily	Liliaceae	perennial bulbiferous herb	Apr-Jun	1B.3	S2	G2
Calycadenia villosa	dwarf calycadenia	Asteraceae	annual herb	May-Oct	1B.1	S3	G3
Calystegia subacaulis ssp. episcopalis	Cambria morning-glory	Convolvulaceae	perennial rhizomatous herb	(Mar)Apr-Jun(Jul)	4.2	S2?	G3T2?
Carex obispoensis	San Luis Obispo sedge	Cyperaceae	perennial herb	Apr-Jun	1B.2	S3?	G3?
Castilleja densiflora var. obispoensis	San Luis Obispo owl's-clover	Orobanchaceae	annual herb (hemiparasitic)	Mar-May	1B.2	S2	G5T2
Caulanthus lemmonii	Lemmon's jewelflower	Brassicaceae	annual herb	Feb-May	1B.2	S3	G3
Ceanothus cuneatus var. fascicularis	Lompoc ceanothus	Rhamnaceae	perennial evergreen shrub	Feb-Apr	4.2	S4	G5T4
Chorizanthe breweri	Brewer's spineflower	Polygonaceae	annual herb	Apr-Aug	1B.3	S3	G3
Chorizanthe douglasii	Douglas' spineflower	Polygonaceae	annual herb	Apr-Jul	4.3	S4	G4
Chorizanthe palmeri	Palmer's spineflower	Polygonaceae	annual herb	Apr-Aug	4.2	S4	G4
Chorizanthe rectispina	straight-awned spineflower	Polygonaceae	annual herb	Apr-Jul	1B.3	S2	G2
Cirsium fontinale var. obispoense	San Luis Obispo fountain thistle	Asteraceae	perennial herb	Feb-Jul (Aug-Sep)	1B.2	S2	G2T2
Cirsium occidentale var. compactum	compact cobwebby thistle	Asteraceae	perennial herb	Apr-Jun	1B.2	S2	G3G4T2
Cirsium occidentale var. lucianum	Cuesta Ridge thistle	Asteraceae	perennial herb	Apr-Jun	1B.2	S2	G3G4T2
Deinandra paniculata	paniculate tarplant	Asteraceae	annual herb	(Mar)Apr-Nov(Dec)	4.2	S4	G4
Delphinium gypsophilum ssp. parviflorum	small-flowered gypsum-loving larkspur	Ranunculaceae	perennial herb	(Mar)Apr-Jun	3.2	S2S3	G4T2T3Q
Delphinium parryi ssp. eastwoodiae	Eastwood's larkspur	Ranunculaceae	perennial herb	(Feb)Mar-Mar	1B.2	S2	G4T2
Delphinium umbraculorum	umbrella larkspur	Ranunculaceae	perennial herb	Apr-Jun	1B.3	S3	G3
Dudleya abramsii ssp. bettinae	Betty's dudleya	Crassulaceae	perennial herb	May-Jul	1B.2	S2	G4T2
Dudleya abramsii ssp. murina	mouse-gray dudleya	Crassulaceae	perennial leaf succulent	May-Jun	1B.3	S2	G4T2
Dudleya blochmaniae ssp. blochmaniae	Blochman's dudleya	Crassulaceae	perennial herb	Apr-Jun	1B.1	S2	G3T2
		Polemoniaceae	annual herb	May-Jun	1B.2	S2	G2

Eriastrum luteum	yellow-flowered eriastrum						
Erigeron blochmaniae	Blochman's leafy daisy	Asteraceae	perennial rhizomatous herb	Jun-Aug	1B.2	S2	G2
Fritillaria ojaiensis	Ojai fritillary	Liliaceae	perennial bulbiferous herb	Feb-May	1B.2	S3	G3
Fritillaria viridea	San Benito fritillary	Liliaceae	perennial bulbiferous herb	Mar-May	1B.2	S2	G2
Galium hardhamiae	Hardham's bedstraw	Rubiaceae	perennial herb	Apr-Oct	1B.3	S3	G3
Hesperevax caulescens	hogwallow starfish	Asteraceae	annual herb	Mar-Jun	4.2	S3	G3
Horkelia cuneata var. puberula	mesa horkelia	Rosaceae	perennial herb	Feb-Jul (Sep)	1B.1	S1	G4T1
Horkelia yadonii	Santa Lucia horkelia	Rosaceae	perennial rhizomatous herb	Apr-Jul	4.2	S3	G3
Juncus luciensis	Santa Lucia dwarf rush	Juncaceae	annual herb	Apr-Jul	1B.2	S3	G3
Layia jonesii	Jones' layia	Asteraceae	annual herb	Mar-May	1B.2	S2	G2
Malacothamnus jonesii	Jones' bush-mallow	Malvaceae	perennial deciduous shrub	(Mar)Apr-Oct	4.3	S4	G4
Malacothamnus palmeri var. involucratus	Carmel Valley bush-mallow	Malvaceae	perennial deciduous shrub	Apr-Oct	1B.2	S2	G3T2Q
Malacothamnus palmeri var. palmeri	Santa Lucia bush-mallow	Malvaceae	perennial deciduous shrub	May-Jul	1B.2	S2	G3T2Q
Meconella oregana	Oregon meconella	Papaveraceae	annual herb	Mar-Apr	1B.1	S2	G2G3
Monardella palmeri	Palmer's monardella	Lamiaceae	perennial rhizomatous herb	Jun-Aug	1B.2	S2	G2
Monolopia gracilens	woodland woolythreads	Asteraceae	annual herb	(Feb)Mar-Jul	1B.2	S3	G3
Navarretia nigelliformis ssp. radians	shining navarretia	Polemoniaceae	annual herb	(Mar)Apr-Jul	1B.2	S2	G4T2
Piperia leptopetala	narrow-petaled rein orchid	Orchidaceae	perennial herb	May-Jul	4.3	S4	G4
Plagiobothrys uncinatus	hooked popcornflower	Boraginaceae	annual herb	Apr-May	1B.2	S2	G2
Sanicula hoffmannii	Hoffmann's sanicle	Apiaceae	perennial herb	Mar-May	4.3	S3	G3
Sanicula maritima	adobe sanicle	Apiaceae	perennial herb	Feb-May	1B.1	S2	G2
Senecio aphanactis	chaparral ragwort	Asteraceae	annual herb	Jan-Apr (May)	2B.2	S2	G3
Senecio astephanus	San Gabriel ragwort	Asteraceae	perennial herb	May-Jul	4.3	S3	G3
Sidalcea hickmanii ssp. anomala	Cuesta Pass checkerbloom	Malvaceae	perennial herb	May-Jun	1B.2	S1	G3T1
	most beautiful jewelflower	Brassicaceae	annual herb	(Mar)Apr-Sep(Oct)	1B.2	S2	G2T2

Streptanthus albidus ssp. peramoenus							
Suaeda californica	California seablite	Chenopodiaceae	perennial evergreen shrub	Jul-Oct	1B.1	S1	G1
Triteleia ixioides ssp. cookii	Cook's triteleia	Themidaceae	perennial bulbiferous herb	May-Jun	1B.3	S2S3	G5T2T3

Suggested Citation

California Native Plant Society, Rare Plant Program. 2020. Inventory of Rare and Endangered Plants of California (online edition, v8-03 0.39). Website http://www.rareplants.cnps.org [accessed 22 October 2020].

Search the Inventory
Simple Search
Advanced Search
Glossary

Information
About the Inventory
About the Rare Plant Program
CNPS Home Page
About CNPS
Join CNPS

Contributors
The Calflora Database
The California Lichen Society
California Natural Diversity Database
The Jepson Flora Project
The Consortium of California Herbaria
CalPhotos

Questions and Comments
rareplants@cnps.org

Appendix D - List of Species Observed

This page intentionally left blank.

Plant Species Observed at Dover Canyon Road at Jack Creek Bridge

Scientific Name	Common Name	Native	Notes-WIS/Cal-IPC*
Nomenclature follows The Jepson Online Interchange for California Floristics http://ucjeps.berkeley.edu/interchange/.			
FERNS			
Dryopteris arguta	wood fern	Yes	
Equisetum sp.	horsetail	Yes	FAC (or wetter)
Adiantum jordanii	California maidenhair	Yes	FAC
GYMNOSPERMS			
Pinaceae	***Pine Family***		
Pinus sabiniana	gray pine	Yes	
ANGIOSPERMS			
Adoxaceae	***Moschatel family***		
Sambucus nigra ssp. *caerulea*	black elderberry	Yes	FACU
Anacardiaceae	***Sumac Family***		
Toxicodendron diversilobum	poison oak	Yes	FACU
Apiaceae	***Carrot Family***		
Conium maculatum	poison hemlock	No	FACW, Cal-IPC moderate
Daucus pusillus	wild carrot	Yes	
Osmorhiza berteroi	sweet cicely	Yes	
Sanicula crassicaulis	sanicula	Yes	
Sanicula hoffmannii	Hoffmann's sanicle	Yes	CRPR 4.2
Torilis arvensis	hedge parsley	No	FAC, Cal-IPC moderate
Apocynaceae	***Milkweed family***		
Asclepias fascicularis	narrow leaf milkweed	Yes	
Asteraceae	***Sunflower Family***		
Ambrosia psilostachya	western ragweed	Yes	FACU
Artemisia douglasiana	mugwort	Yes	FAC
Baccharis pilularis	coyote brush	Yes	
Baccharis salicifolia	mulefat	Yes	FAC
Carduus pycnocephalus	Italian thistle	No	Cal-IPC moderate
Erigeron canadensis	Canada horseweed	Yes	FACU
Senecio vulgaris	common groundsel	No	
Silybum marianum	milk thistle	No	Cal-IPC limited

Scientific Name	Common Name	Native	Notes-WIS/Cal-IPC*
Boraginaceae	***Borage Family***		
Amsinckia spectabilis	seaside fiddleneck	Yes	
Brassicaceae	***Mustard Family***		
Brassica sp.	mustard	No	
Cardamine californica	milk maids	Yes	
Cardamine oligosperma	little western bittercress	Yes	FAC
Caprifoliaceae	***Honeysuckle Family***		
Lonicera interrupta	chaparral honeysuckle	Yes	
Symphoricarpos albus	common snowberry	Yes	FACU
Caryophyllaceae	***Pink Family***		
Cerastium glomeratum	Sticky mouse-eared chickweed	No	UPL
Stellaria media	chickweed	No	FACU
Convolvulaceae	***Morning-glory Family***		
Convolvulus arvensis	bindweed	No	
Fabaceae	***Pea Family***		
Lotus corniculatus	bird's-foot trefoil	No	FAC
Lupinus nanus	sky lupine	Yes	
Lupinus succulentus	succulent lupine	Yes	
Melilotus albus	white sweetclover	No	
Melilotus indicus	annual yellow sweetclover	No	FACU
Melilotus officinalis	yellow sweetclover		FACU
Trifolium sp.	clover		
Vicia americana	American vetch	Yes	
Fagaceae	***Oak Family***		
Quercus agrifolia	coast live oak	Yes	
Quercus lobata	blue oak	Yes	FACU
Geraniaceae	***Geranium Family***		
Geranium molle	storkbill	No	
Lamiaceae	***Mint Family***		
Clinopodium douglasii	yerba buena	Yes	
Marrubium vulgare	white horehound	No	FACU, Cal-IPC limited
Mentha spicata	spearmint	No	FACW
Mentha sp.	mint	Yes	
Stachys ajugoides	hedge-nettle	Yes	OBL

Scientific Name	Common Name	Native	Notes-WIS/Cal-IPC*
Lauraceae	***Laurel family***		
Umbellularia californica	California bay	Yes	FAC
Montiaceae	***Miner's Lettuce Family***		
Claytonia perfoliata	miner's lettuce	Yes	FAC
Onagraceae	***Evening-Primrose Family***		
Epilobium ciliatum	willowherb	Yes	FACW
Plantaginaceae	***Plantain Family***		
Plantago lanceolata	narrow leaf plantain	No	FAC, Cal-IPC limited
Plantago major	common plantain		FAC
Platanaceae	***Sycamore Family***		
Platanus racemosa	California sycamore	Yes	FAC
Polygonaceae	***Buckwheat Family***		
Rumex crispus	curly dock	No	FAC, Cal-IPC limited
Ranunculaceae	***Buttercup Family***		
Clematis ligusticifolia	Western virgin's bower	Yes	FAC
Rhamnaceae	***Buckthorn Family***		
Frangula californica	California coffeeberry	Yes	
Rosacea	***Rose family***		
Fragaria vesca	wild strawberry	Yes	UPL
Rosa californica	California wild rose	Yes	FAC
Rubus armeniacus	Himalayan blackberry	No	FAC, Cal-IPC high
Rubus ursinus	California blackberry	Yes	FAC
Rubiaceae	***Madder Family***		
Galium aparine	bedstraw	Yes	FACU
Galium andrewsii	phlox-leaved bedstraw	Yes	
Salicaceae	***Willow Family***		
Salix lasiolepis	arroyo willow	Yes	FACW
Salix laevigata	red willow	Yes	FACW
Scrophulariaceae	***Figwort Family***		
Scrophularia californica	California figwort	Yes	**FAC**
Verbascum thapsus	woolly mullein	No	FACU, Cal-IPC limited
Urticaceae	***Nettle Family***		
Urtica dioica	stinging nettle	Yes	FAC

Scientific Name	Common Name	Native	Notes-WIS/Cal-IPC*
Verbenaceae	***Verbena Family***		
Verbena lasiostachys	western vervain	Yes	FAC
MONOCOTS			
Cyperaceae	***Sedge Family***		
Carex spp.	sedges	Yes	FAC (or wetter)
Scirpus pungens	common three-square	Yes	FACW
Juncaceae	***Rush Family***		
Juncus effusus	common bog rush	Yes	FACW
Juncus xiphioides (or *J. phaeocephalus*)	iris-leaved rush (or brown-headed rush)	Yes	OBL or FACW
Poaceae	***Grass Family***		
Avena spp.	wild oats	No	Cal-IPC moderate
Brachypodium sp.	false brome	No	
Bromus catharticus	rescue grass	No	
Bromus diandrus	rip-gut brome	No	Cal-IPC moderate
Bromus hordeaceus	soft chess brome	No	FACU, Cal-IPC limited
Cynosurus echinatus	dogtail grass	No	Cal-IPC moderate
Elymus triticoides	beardless wild rye	Yes	FAC
Festuca bromoides	brome fescue	No	
Festuca perennis	Italian rye grass	No	Cal-IPC moderate
Gastridium phleoides	nit grass	No	FACU
Hordeum murinum	foxtail barley	No	FACU, Cal-IPC moderate
Muhlenbergia rigens	deer grass	Yes	FAC
Poa annua	annual blue grass	No	FAC
Poa bulbosa	bulbous blue grass	No	FACU
Polypogon monspeliensis	rabbitsfoot grass	No	FACW, Cal-IPC limited
Stipa miliacea var. *miliacea*	smilo grass	No	Cal-IPC limited

* WIS = Wetland Indicator Status
OBL (Obligate Wetland) = almost always occur in wetlands
FACW (Facultative Wetland) = usually occur in wetlands, but may occur in non-wetlands
FAC (Facultative) = occur in wetlands and non-wetlands
FACU (Facultative Upland) = usually occur in non-wetlands, but may occur in wetlands
UPL (Obligate Upland) = almost never occur in wetlands
Cal-IPC = California Invasive Plant Council, species included on the Inventory of Invasive Species
CRPR = California Rare Plant Rank, Species included on the CDFW,/CNPS rare plant inventory – List 4.2 (a watch list)

Source: Surveys: 3/24/2017 (SLO County Biologists); 05/13/2017 (SWCA biologist).

Wildlife Species Observed at Jack Creek Bridge

Scientific Name	Common Name	Species Status/ Notes
Birds		
Cathartes aura	turkey vulture	MBTA
Sialia mexicana	western bluebird	MBTA
Aphelocoma californica	Western scrub jay	MBTA
Cyanocitta stelleri	Steller's jay*	MBTA
Baeolophus inornatus	oak titmouse	MBTA
Melozone crissalis	California towhee	MBTA
Zenaida macroura	mourning dove	MBTA
Melanerpes formicivorus	acorn woodpecker	MBTA
Anas platyrhynchos	mallard	MBTA
Empidonax difficilis	Pacific-slope flycatcher	MBTA
Mammals		
Didelphis virginiana	opossum	
Canis latrans	coyote	
Otospermophilus beecheyi	California ground squirrel	
Odocoileus hemionus	Mule deer	
Amphibians		
Hyla sp.	tree frog	

This page intentionally left blank.

Appendix E - Wetlands and Waters Assessment

This page intentionally left blank.

Dover Canyon Road at Jack Creek Bridge Replacement Project

Jurisdictional Waters Assessment

Dover Canyon Road, Paso Robles, San Luis Obispo County

Bridge Replacement Project

Existing Bridge Number 49C-0037

Federal Project Number BRLO-5949(152)

March 2019

Caltrans
CALIFORNIA DEPARTMENT OF TRANSPORTATION

For individuals with sensory disabilities, this document is available in Braille, large print, on audiocassette, or computer disk. To obtain a copy in one of these alternate formats, please call or write to Caltrans, Attn: Randy LaVack, District 5, 50 Higuera St. San Luis Obispo, CA 93401; (805) 549-3182 (Voice) or use the California Relay Service 1 (800) 735-2929 (TTY), 1 (800) 735-2929 (Voice) or 711.

Table of Contents

List of Figures

List of Tables

List of Abbreviated Terms

Abbreviation	Term
°F	degrees Fahrenheit
APN	Assessor's Parcel Number
BSA	Biological Study Area
Cal-IPC	California Invasive Plant Council
Caltrans	California Department of Transportation
CDFW	California Department of Fish and Wildlife
CNPS	California Native Plant Society
County	County of San Luis Obispo Department of Public Works
CWA	Clean Water Act
FAC	Facultative Plants
FACU	Facultative Upland Plants
FACW	Facultative Wetland Plants
FHWA	Federal Highway Administration
GPS	Global Positioning System
HBP	Highway Bridge Program
NRCS	United States Department of Agriculture Natural Resources Conservation Service
NWI	National Wetland Inventory
NWPL	National Wetland Plant List
OBL	Obligate Wetland Plants
OHWM	ordinary high water mark
PFO/SS6	Palustrine, Forested/Scrub-Shrub, Deciduous
project	Dover Canyon Road at Jack Creek Bridge Replacement Project
R4SB3	Riverine, Intermittent, Streambed, Cobble-Gravel
RWQCB	Regional Water Quality Control Board
SWCA	SWCA Environmental Consultants
SWRCB	State Water Resources Control Board
TNW	Traditional Navigable Waters
UPL	Upland Plants
USACE	United States Army Corps of Engineers
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey

Abbreviation	Term
WDR	Waste Discharge Requirements
WIS	Wetland Indicator Status
WIS	Wetland Indicator Status
WOTUS	Waters of the United States
WRCC	Western Regional Climate Center

This page intentionally left blank.

Chapter 1. Introduction

1.1. Scope

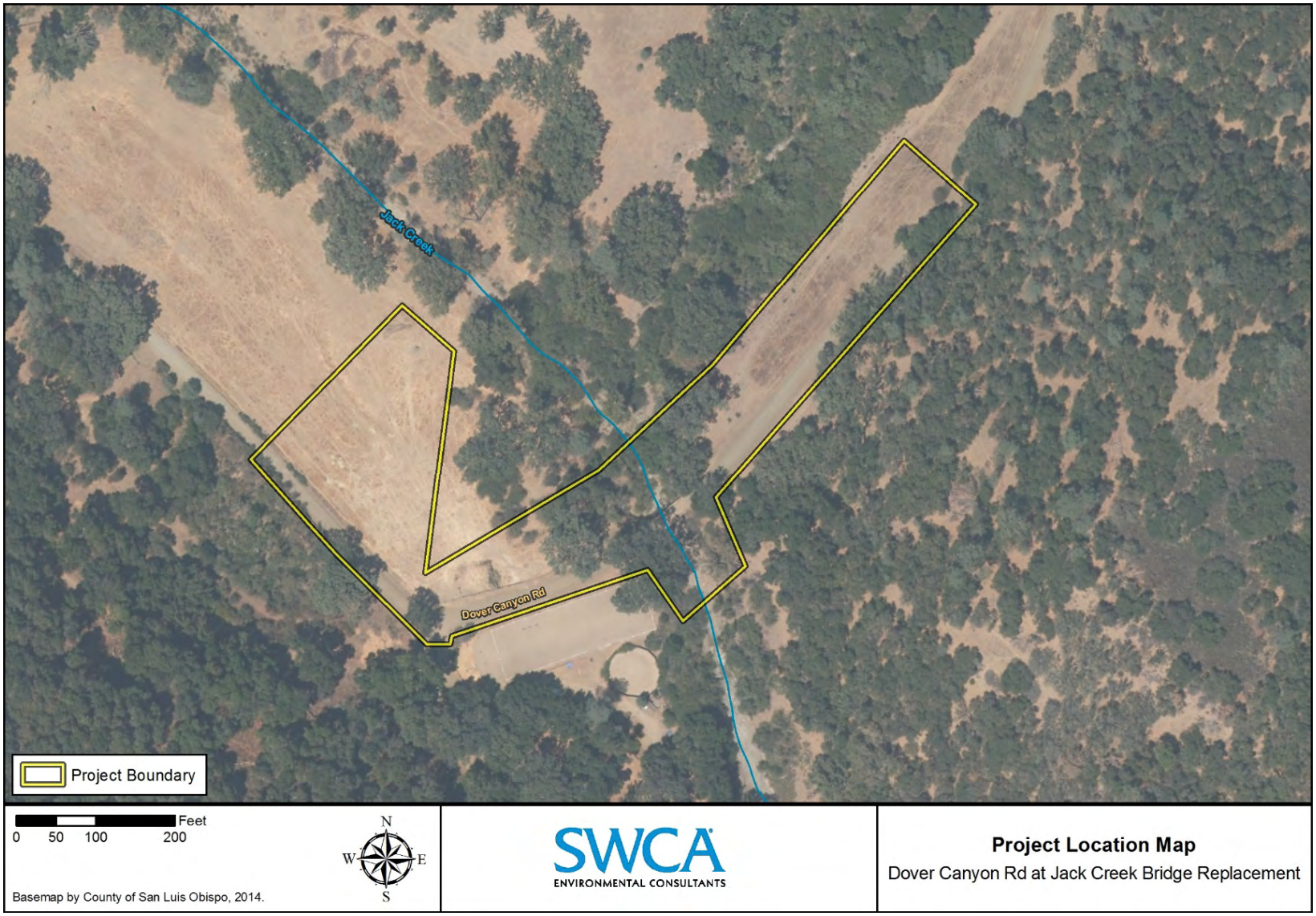
This Jurisdictional Waters Assessment summarizes existing vegetative conditions, soil, and hydrology associated with potential federal and state jurisdictional waters for the proposed Dover Canyon Road at Jack Creek Bridge Replacement Project (project), San Luis Obispo County, California (Federal Project Number BRLO-5949(152), Existing Bridge Number 49C-0037. The California Department of Transportation (Caltrans) District 5 has prepared this report based on information gathered in the field at the time of investigation and on Caltrans' understanding of the 1987 *Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratory 1987), the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0)* (U.S. Army Corps of Engineers [USACE] 2008a), *A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States: A Delineation Manual* (Lichvar and McColley 2008), and federal, state, and local guidelines for delineation of jurisdictional waters.

1.2. Project Description

The County of San Luis Obispo Department of Public Works (County) is proposing to replace the existing Dover Canyon Road at Jack Creek Bridge, located in rural Paso Robles, San Luis Obispo County, California (Figure 1). The existing bridge (No. 49C-0037) is a County bridge carrying Dover Canyon Road across Jack Creek just south of the confluence of east-west trending Jack Creek and north-south trending Summit Creek (Figure 2). The existing bridge is a single-span, simply supported steel Warren pony truss with steel floor-beams and a timber deck. The structure is founded on concrete spread footing abutments and is 63 feet long by 16 feet wide, with a clear width of 15.75 feet between the bridge rails. Constructed in 1920, the bridge is classified as structurally deficient by Caltrans. The proposed project will replace the existing bridge with a new concrete, two-lane bridge that will carry emergency vehicles, including fully loaded fire trucks, and improve access to the public and properties served by Dover Canyon Road. The project is a safety improvement project, funded in part by the Federal Highway Administration (FHWA) through Caltrans' Highway Bridge Program (HBP). Project Plans are included as Appendix A.

Figure 1: Project Vicinity Map

Figure 2: Project Location Map



1.3. Study Area Setting

The Biological Study Area (BSA), which includes the project boundary, is 5.7 acres west of the city of Paso Robles, San Luis Obispo County, California. The BSA is within Township 27 South, Range 11 East, Section 18, on the U.S. Geological Survey (USGS) York Mountain, California 7.5-minute topographic quadrangle. The immediate project area is sparsely populated. The bridge and approach roadway are located entirely within the boundaries of one parcel (Assessor's Parcel Number [APN] 014-211-001). The single-family residence associated with the parcel is located approximately 1,000 feet from the bridge. A five-acre tract of flat land occupies a bench above the west bank of the Jack Creek channel; it is used for a horse arena, grazing, and growing hay. Adjacent properties are zoned rural agricultural and are part of the Adelaida Sub Area of the North County Planning Area. The surrounding terrain is generally mountainous oak woodland, typical of the Santa Lucia Mountain Range.

Elevation in this area is approximately 1,075 to 1,125 feet (325 to 340 meters) above mean sea level. Paso Robles is subject to a Mediterranean climate with hot and dry summer seasons and cooler temperatures with light to moderate precipitation during the winter seasons. The average temperatures in this area range between 33 degrees Fahrenheit (°F) during the months of January and December and 92°F in July and August based on data collected at the Paso Robles, California Station (046730) (Western Regional Climate Center [WRCC] 2018). The average annual precipitation in this area is 15.21 inches, with the majority of rain falling between December and March (WRCC 2018).

Chapter 2. Regulatory Setting

2.1. Clean Water Act Section 404/U.S. Army Corps of Engineers

Regulatory protection for water resources throughout the United States is under the jurisdiction of the USACE. Section 404 of the Clean Water Act (CWA) prohibits the discharge of dredged or fill material into waters of the U.S. (WOTUS) without formal consent from the USACE. Policies relating to the loss of aquatic habitats generally stress the need for no net loss of wetland resources. Under Section 404, actions in WOTUS may be subject to an individual permit, nationwide permit, or general permit, or may be exempt from regulatory requirements.

Federal jurisdictional WOTUS protected under the CWA were most recently defined in a 2015 Final Rule by the USACE and U.S. Environmental Protection Agency (USEPA) (USACE and USEPA 2015); however, the Sixth Circuit U.S. Court of Appeals issued an order staying the new Clean Water Rule nationwide, pending a determination by the court on jurisdiction to review the rule. Thus, the 2015 Clean Water Rule is stayed, and the prior regulations published in 1986 (USACE 1986), along with some changes in 2008 as a result of the Rapanos U.S. Supreme Court decision (USACE 2008b), are currently in effect nationwide. The USACE currently asserts jurisdiction over the following WOTUS: traditional navigable waters (TNWs), wetlands adjacent to TNWs, non-navigable tributaries of TNWs that are relatively permanent where the tributaries typically flow year-round or have continuous flow at least seasonally (e.g., typically three months), and wetlands that directly abut such tributaries. In addition, the USACE will decide jurisdiction over the following waters based on a fact-specific analysis to determine whether they have a significant nexus with a TNW, including non-navigable tributaries that are not relatively permanent, wetlands adjacent to non-navigable tributaries that are not relatively permanent, and wetlands adjacent to but that do not directly abut a relatively permanent non-navigable tributary (USACE 2008b).

Regarding the types of federal WOTUS regulated by USACE, the term “wetlands” includes the above WOTUS in the instances where all three wetland parameters (i.e., hydrophytic vegetation, hydric soil, and wetland hydrology) are present (see Chapter 3, Study Methods). The term “other waters” includes the above WOTUS that may lack one or more of the three wetland parameters.

2.2. Clean Water Act Section 401 and Porter-Cologne Act/ Regional Water Quality Control Board

Section 401 of the CWA ensures that federally permitted activities comply with the federal CWA and state water quality laws. Section 401 is implemented by California's Regional Water Quality Control Board (RWQCB), triggered by the Section 404 permitting process. RWQCB issues a Water Quality Certification via the Section 401 process that a proposed project complies with water quality standards and other conditions of California law. Evaluating the effects of the proposed project on both water quality and quantity (runoff) falls under the jurisdiction of RWQCB. This certification typically precedes USACE permit issuance. Any activities that would require a USACE Section 404 permit would also likely require a Section 401 Water Quality Certification from RWQCB.

In addition, the Porter-Cologne Act serves as the primary water quality law in California and addresses two primary functions: water quality control planning and waste discharge regulation. The various RWQCBs are charged with protecting all waters of California, defined as "any surface water or groundwater, including saline waters, within the boundaries of the State." This encompasses all waters of the State, including those not under federal jurisdiction. The Porter-Cologne Act defines "waters of the State" very broadly, with no physical descriptors, and no interstate commerce limitation. In regulating discharges of dredged or fill material, therefore, the RWQCB jurisdiction is more broad than federal jurisdiction. If a project would impact both waters inside and outside of federal jurisdiction, an applicant would obtain a combination CWA Section 401 certification/Waste Discharge Requirement (WDR) from RWQCB.

2.3. California Fish and Game Code Section 1602/California Department of Fish and Wildlife

Section 1602 of the California Fish and Game Code requires a proponent proposing a project that may affect a river, stream, or lake to notify the California Department of Fish and Wildlife (CDFW) before beginning the project. If activities will result in the diversion or obstruction of the natural flow of a stream, or substantially alter its bed, channel, or bank, or adversely affect existing fish and wildlife resources, a Streambed Alteration Agreement is required. A Streambed Alteration Agreement lists the CDFW conditions of approval relative to the proposed project and serves as an agreement between an applicant and the CDFW for the performance of activities subject to this

section. Implementation of the proposed project may require a Section 1602 Streambed Alteration Agreement for any impacts within the bed, bank, and/or riparian corridor of Jack Creek.

Chapter 3. Study Methods

An assessment and delineation of potentially jurisdictional waters was conducted within the BSA by SWCA Environmental Consultants (SWCA) biologists (representing Caltrans), who are Wetland Training Institute-certified wetland delineators. Delineations of potential jurisdictional boundaries were mapped using a Trimble Global Positioning System (GPS) unit with sub-meter accuracy. Prior to conducting the field survey, existing information was reviewed including aerial photography, rainfall records to determine if seasonal conditions were normal, the National Wetlands Inventory (NWI) (U.S. Fish and Wildlife Service [USFWS] 2018) and soil survey data (U.S. Department of Agriculture Natural Resources Conservation Service [NRCS] 2018).

The wetland determination methodology used was conducted in accordance with the *Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratory 1987) and *Regional Supplement to the Corps of Engineers Wetland Delineation Manual for the Arid West Region (Version 2.0)* (USACE 2008a). Data were collected, as needed, using the Wetland Determination Data Form – Arid West Region (Version 2.0). Positive indicators for each of the three parameters are required for a wetland to meet the USACE criteria for jurisdictional wetland determination, as follows:

- **Hydrophytic vegetation** is defined as macrophytic vegetation that is adapted to and occurs in areas where soils are frequently or permanently saturated of sufficient duration to exert a controlling influence on the plant species present. Plant species adjacent to the delineation pit were identified and included following the "50/20 rule," meaning that plant species in each layer of the vegetation (herb, shrub, tree, and vine) were included in order of abundance until at least 50% of the total vegetation cover was accounted for, and all species with at least 20% relative cover were included. Plants are assigned a Wetland Indicator Status (WIS) based on their frequency of occurrence in wetland habitats following the 2016 National Wetland Plant List (NWPL) (Lichvar et al. 2016), and using the Indicator Ratings Definitions (Lichvar et al. 2012), as follows:
    - ***OBL (Obligate Wetland Plants):*** Almost always occur under natural conditions in wetlands. With few exceptions, these plants (herbaceous or woody) are found in standing water or seasonally saturated soils (14 or more consecutive days) near the surface;

- ***FACW (Facultative Wetland Plants):*** Usually occur in wetlands but may occur in non-wetlands. These plants predominately occur with hydric soils, often in geomorphic settings where water saturates the soils or floods the soil surface at least seasonally;
- ***FAC (Facultative Plants):*** Occur in wetlands and non-wetlands. These plants can grow in hydric, mesic, or xeric habitats. The occurrence of these plants in different habitats represents responses to a variety of environmental variables other than just hydrology, such as shade tolerance, soil pH, and elevation, and they have a wide tolerance of soil moisture conditions;
- ***FACU (Facultative Upland Plants):*** Usually occur in non-wetlands but may occur in wetlands. These plants predominately occur on drier or more mesic sites in geomorphic settings, where water rarely saturates the soils or floods the soil surface seasonally; and,
- ***UPL (Upland Plants):*** Almost never occur under natural conditions in wetlands. These plants occupy mesic to xeric non-wetland habitats. They almost never occur in standing water or saturated soils. Typical growth forms include herbaceous, shrubs, woody vines, and trees.

The hydrophytic vegetation parameter is met when at least one of the following tests is fulfilled:

- The prevalent vegetation (more than 50% of the dominant plant species) is typically adapted to areas having wetland hydrology and hydric soil conditions and rated OBL, FACW, or FAC.
- The prevalence index, which is a value determined by accounting for the relative cover and WIS and ranges from one (only OBL species present) to five (only UPL species present), is less than or equal to three.
- Vegetation has morphological adaptations to growing in inundated or saturated conditions.

- **Hydric Soils**, which are indicative of wetlands, are defined as soils that are sufficiently ponded, flooded, or saturated throughout the growing season to produce anaerobic conditions that favor the growth of hydrophytic vegetation (Environmental Laboratory 1987). Hydric soils are identified based on observable properties that result from prolonged saturated-anaerobic conditions. To assess whether hydric soil was present at each sample point, a soil pit was excavated to a depth of 24 inches (when possible), and soil attributes (including color, mottling, texture, grain size, structure, streaking, degree of saturation)

were recorded on the delineation forms. Soil colors were assessed using Munsell Soil Color Charts (Munsell Color 1992). Other than direct observation of saturated conditions, low chroma (dark) soil colors are among the most conspicuous indicators of hydric soils.

- **Wetland hydrology** refers to inundation and/or saturation of the soil by flooding or a shallow water table for a prolonged period during the growing season, such that the character of the soil and vegetation are substantially different from areas that do not experience inundation/saturation in this manner. The identification of wetland hydrology follows the Wetlands Delineation Manual (Environmental Laboratory 1987) and Arid West Regional Supplement (USACE 2008a). Geomorphic features associated with flooding (e.g., channels, shorelines) and sediment deposits are among the positive indicators of wetland hydrology.

The ordinary high water mark (OHWM) was delineated using the *USACE Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the United States* (Lichvar and McColley 2008). Data were recorded using the *Updated Datasheet for the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the United States* (Curtis and Lichvar 2010), copies of which are included in Appendix B.

Potential jurisdictional boundaries for waters of the State under RWQCB and CDFW jurisdiction were delineated using the latest available recommended procedures per the California Water Boards' (defined as the State Water Resources Control Board [SWRCB] and nine RWQCBs) draft staff report *Procedures for Discharges of Dredged or Fill Materials to Waters of the State* (California Water Boards 2016). Under the proposed procedures, the California Water Boards would rely on delineations approved by USACE within the boundaries of WOTUS. Where federal jurisdiction does not extend to state waters, the proposed procedures direct applicants to use the methods described by Environmental Laboratory (1987) and the USACE (2008a). For the purposes of this delineation, waters of the State extend from the channel bed to the top of a bank or outer edge of riparian canopy (whichever were greater) and include adjacent wetlands and non-federal isolated waters (if present).

Chapter 4. Results

The following presents a description of the vegetation, soils, hydrologic conditions, and determination of federal and state jurisdictional features within the BSA based on the review of existing data and field surveys. No areas of potential wetlands were observed within the BSA. One transect was established for determination of the OHWM (refer to Appendix B). Representative photos are included in Appendix C.

4.1. Vegetation

The descriptions of plant communities use the naming conventions of *A Manual of California Vegetation* (Sawyer et al. 2009) and include the *Preliminary Description of Terrestrial Natural Communities of California* (Holland 1986) for comparison. Plant names follow the *Jepson Manual, Vascular Plants of California* (Baldwin et al 2012). The WIS for the plant species included in the text below, based on Lichvar et al. (2016), follows the scientific name of the species. Plants not listed (NL) in Lichvar et al. (2016) are identified as No Indictor (NI) and treated as upland species (UPL). A list of plants observed within the BSA and their WIS is included in Appendix D.

Dover Canyon Road is a winding, paved rural road through rolling oak woodland terrain typical of the Santa Lucia Mountain Range. The BSA is 5.7 acres in a rural area on private properties supporting residences and agricultural land uses. The vegetation is affected by the presence of the bridge as well as roads and land uses adjacent to the BSA.

Annual brome grassland (Sawyer et al. 2009) or non-native grassland (Holland 1986) is the dominant plant community within the BSA. Plant species within this habitat type are primarily non-native and naturalized grasses and forbs. Bromes (*Bromus diandrus, B. hordeaceus, B. catharticus*), wild oats (*Avena* spp.), and foxtail (*Hordeum marinum*) are the dominant grasses. This habitat type provides limited resources for wildlife and is utilized primarily by species tolerant of human activities. The disturbed condition of these lands within the BSA reduces their habitat value and ability to sustain sensitive plants or diverse wildlife assemblages, although they may provide shelter for reptiles and small mammals. A total of 2.12 acres of annual brome grassland are present within the project BSA.

Valley oak woodland alliance (Sawyer et al. 2009) or valley oak woodland (Holland 1986) is present within the BSA, with valley oak (*Quercus lobata*), dominant or co-

dominant, and coast live oak (*Quercus agrifolia*) forming an open to continuous canopy within and adjacent to the BSA. This plant community typically occurs on alluvial or residual soils in valley bottoms or lower slopes that may be intermittently flooded. Within the BSA, the understory is a mix of native shrubs, such as coyote brush (*Baccharis pilularis* ssp. *consanguinea*), common snow berry (*Symphoricarpos albus*), and poison oak (*Toxicodendron diversilobum*), and a mix of non-native grasses found in the annual brome grassland as well as native grasses and forbs, such as deer grass (*Muhlenbergia rigens*), California figwort (*Scrophularuia californica*), and others.

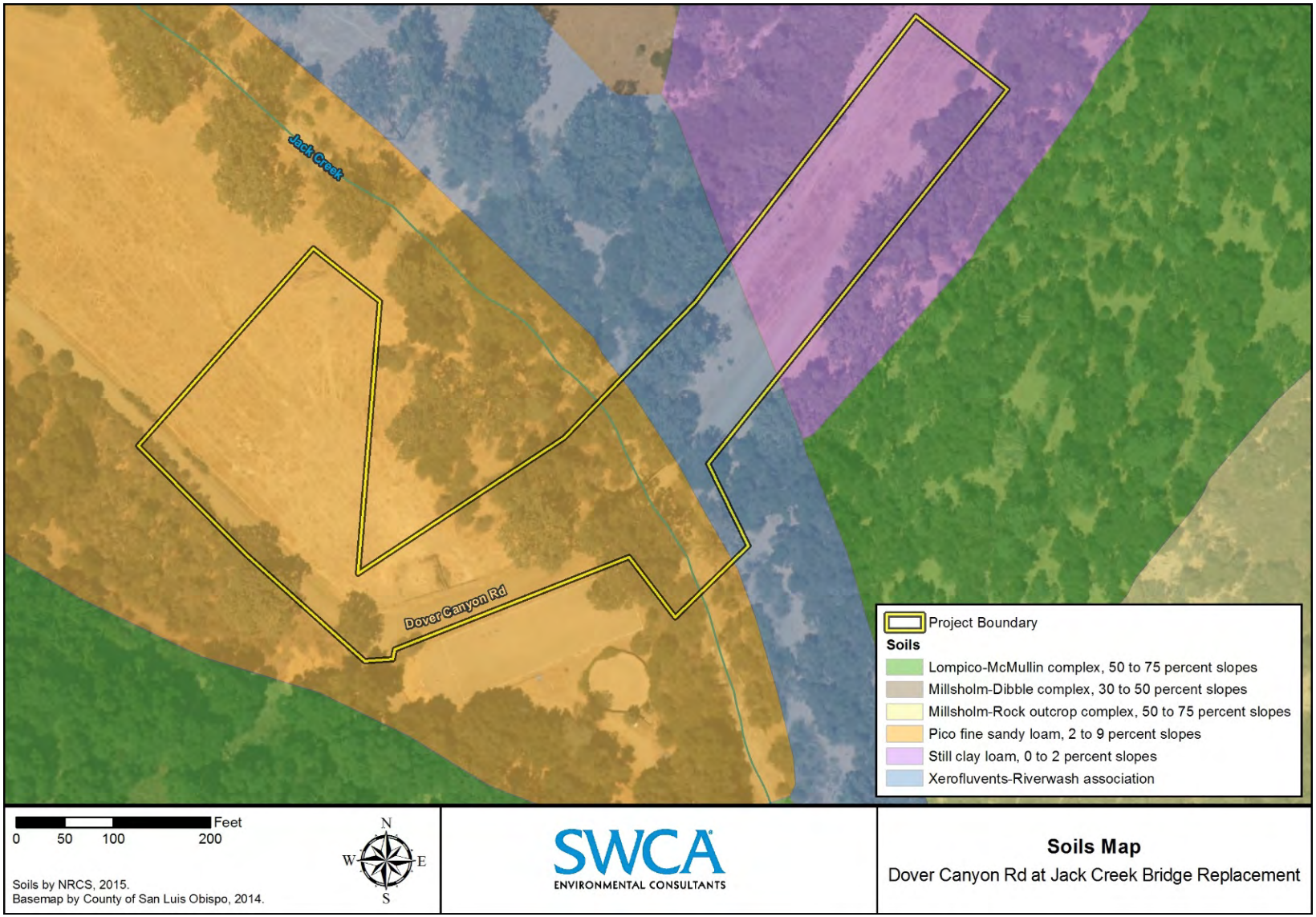
Jack Creek supports arroyo willow thicket (Sawyer et al. 2009) or Central Coast riparian scrub (Holland 1986). Both shrub and tree forms of arroyo willow (*Salix lasiolepis*) are dominant on the banks of the creek, with red willow (*Salix laevigata*), California sycamore (*Platanus racemosa*), and California bay (*Umbellularia californica*) present. Valley oak trees are also mixed in with the willows, although most of the oak canopy is from larger trees rooted outside the streambanks. The understory includes black elderberry (*Sambucus nigra*), mulefat (*Baccharis salicifolia*), mugwort (*Artemisia douglasiana*), stinging nettle (*Urtica dioica* ssp. *holosericea*), and others. The arroyo willow thicket (Central Coast riparian scrub) is considered a riparian plant community for jurisdictional purposes.

The streambed is classified as Riverine habitat (Cowardin et al. 1979). Within the stream channel, plant species include mulefat and mugwort, and patches of sedges (*Carex* spp., *Scirpus pungens*), rushes (*Juncus effusus*, *J. xiphioides*), hedge nettle (*Stachys ajugiodes*), and other herbaceous plants. Although plant species with an FACW or OBL WIS were present in the BSA, the plants were found as individuals or in small patches (generally less than 10 square feet) and sparsely distributed along the banks within the OHWM. There were no areas dominated by emergent wetland vegetation outside the OHWM in the BSA. Riverine habitats located within the OHWMs are within USACE jurisdiction.

4.2. Soil Conditions

A review of the NRCS web soil surveys map indicated the BSA is underlain by three soil types, described below and depicted in Figure 3 (NRCS 2018):

Figure 3: Soils Map



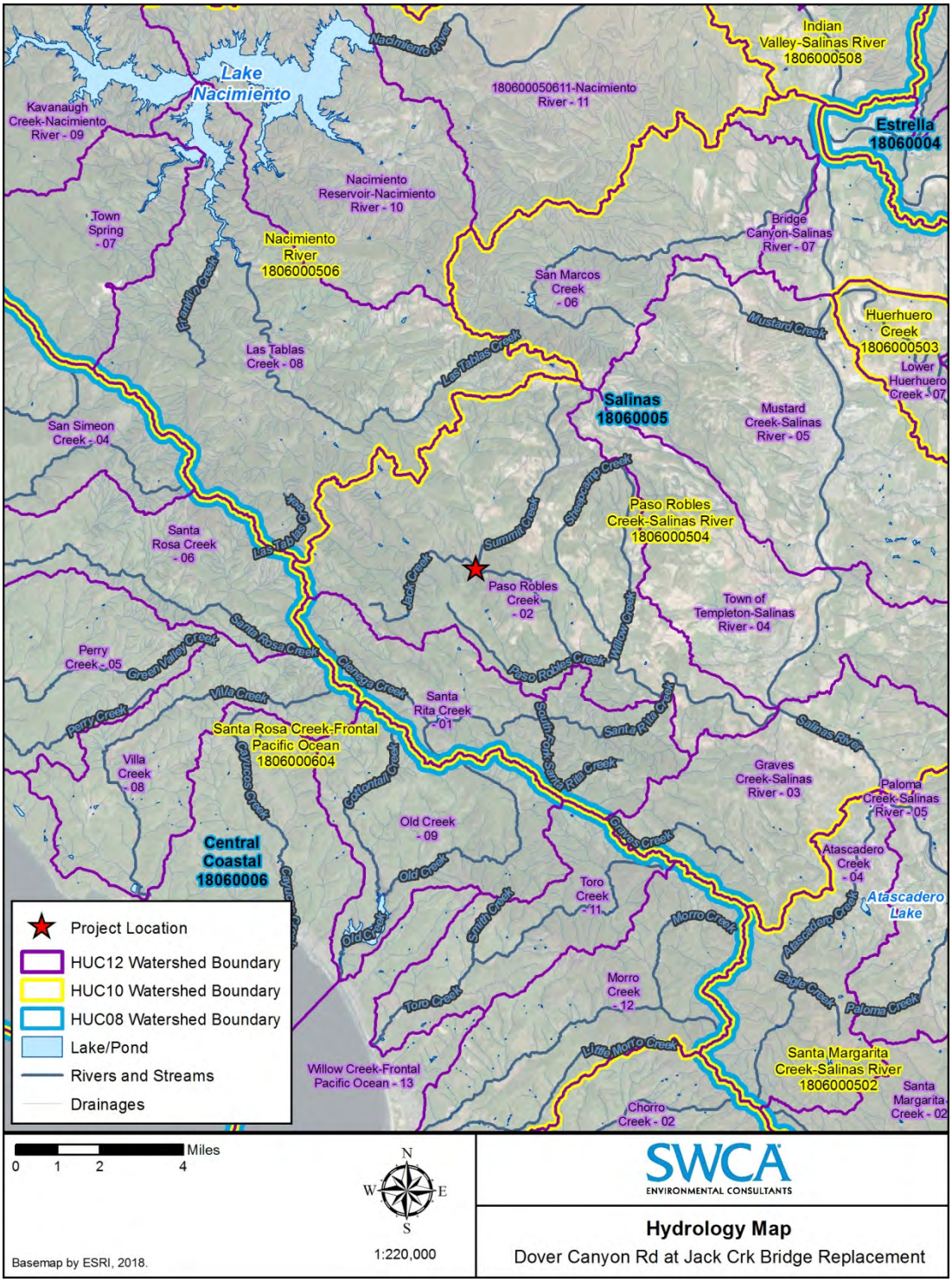
- Pico fine sandy loam, 2 to 9 percent slopes, are found on alluvial fans along footslopes and typically consist of alluvium derived from calcareous sedimentary sources. They are well-drained soils with a low runoff class, more than 80 inches to a restrictive layer and water table.
- Still clay loam, 0 to 2 percent slopes, are found on alluvial flats on toe slopes and consist of alluvium-derived sedimentary rock. They are well-drained soils with a runoff class, more than 80 inches to a restrictive layer and water table. This soil type is considered prime farmland, if irrigated.
- Xerofluevents-Riverwash Association, 0 to 5 percent slopes, are found on alluvial fans, floodplains and stream terraces and consist of mixed alluvium derived from igneous and sedimentary rock. These are somewhat excessively drained soils with a very low runoff class and more than 80 inches to a restrictive layer and water table.

There was a district difference in soil/sediment texture in areas below and above the OHWM. The soils within the stream channel, below the OHWM observed during the surveys, consisted of gravel and cobble, with few boulders, and areas above the OHWM were clayey.

4.3. Hydrological Conditions

Jack Creek at the project location flows generally east to west. The Dover Canyon Road Bridge is over Jack Creek, just south of the confluence of Summit Creek with Jack Creek. Jack Creek flows into Paso Robles Creek about three miles southeast of the BSA, and Paso Robles Creek flows into the Salinas River, which eventually drains to the Pacific Ocean. The project site is located within the Paso Robles Creek Subwatershed (Hydrologic Unit Code [HUC]: 180600050402), which is within the larger Paso Robles Creek-Salinas River Watershed (HUC: 1806000504) (Figure 4).

Figure 4: Hydrology Map



The Paso Robles Creek-Salinas River Watershed encompasses approximately 143,654 acres in northern-central San Luis Obispo County and includes a portion of the Salinas River and adjacent tributaries. Upper Paso Robles Creek and its tributaries are steep pre-Quaternary non-infiltrative headwaters with steep, moderately infiltrative early to mid-tertiary valleys (SLO Watershed Project 2018). Jack and Summit Creeks are intermittent streams that convey water seasonally.

4.4. National Wetland Inventory

Classification of wetlands under the NWI follows Cowardin et al. (1979), which is also the wetland classification system used by the USACE. According to the NWI, the BSA supports Riverine and Forested/Shrub wetlands. This is consistent with the observations during the survey, although the boundaries of the categories have changed. Using the Cowardin classification system, the wetland categories associated with Jack Creek within the BSA include Riverine (R), Intermittent (4), Streambed (SB), Cobble-Gravel (3) (or R4SB3) within the stream channel, and Palustrine (P), Forested (FO)/Scrub-Shrub (SS), Deciduous (6) (or PFO/SS6) on the banks supporting riparian vegetation.

4.5. Jurisdictional Determination

The delineated potential jurisdictional areas are quantified in Table 1 and shown on Figure 5. Note this does not include impacts to jurisdictional areas.

Table 1: Preliminary Jurisdictional Area Totals

Agency	Jurisdictional Areas	Area in Square Feet	Area in Acres	Linear Feet[1]
USACE	Other Waters of the U.S.[2]	6,534	0.15	179
	Total USACE Jurisdiction	**6,534**	**0.15**	**179**
CDFW/ RWQCB	Streambed/ Intermittent Stream[2]	6,534	0.15	179
	Riparian below top of bank[3]	13,939	0.32	179
	Total CDFW/RWQCB Jurisdiction	**20,473.2**	**0.47**	**179**

[1] Linear feet are measured parallel to the streambed.
[2] USACE WOTUS include jurisdictional features at or below the OHWM that lack one or more of the wetland parameters; there would be a minor amount of incursion into the OHWM for removal of existing concrete and placement of rock slope protection. Streambed/Intermitted Stream = Other WOTUS.
[3] RWQCB and CDFW jurisdiction extends to the outer edge of the riparian canopy, beyond top of bank.

Figure 5: Jurisdictional Wetland Assessment Map

4.5.1. U.S. Army Corps of Engineers Jurisdiction

No potential three-parameter CWA wetlands were delineated within the BSA. At the time of the 2017 surveys, a total of 0.05 acre (2,180 square feet), averaging 30 feet wide and 120 feet in length, of Other WOTUS was delineated within the BSA, with a Cowardin classification of R4SB3 (Riverine, Intermittent, Streambed, Cobble-Gravel) within the stream channel. This reflects the findings of the field investigation for this Jurisdictional Waters Assessment and may be subject to final verification by USACE.

4.5.2. Regional Water Quality Control Board Jurisdiction

A total of 0.23 acre (10,020 square feet) falls within RWQCB jurisdiction. This includes 0.05 acre (2,180 square feet) of CWA other waters and 0.18 acre (7,840 square feet) of riparian habitat. Areas within the streambed have a Cowardin classification of R4SB3 and the riparian habit associated with is classified as PFO/SS6 (Palustrine, Forested/Scrub-Shrub, Deciduous). This reflects the findings of the field investigation for this Jurisdictional Waters Assessment and may be subject to final verification by RWQCB.

4.5.3. California Department of Fish and Wildlife Jurisdiction

A total of 0.23 acre (10,020 square feet) falls within RWQCB jurisdiction. This includes 0.05 acre (2,180 square feet) of CWA other waters and 0.18 acre (7,840 square feet) of riparian habitat. Areas within the streambed have a Cowardin classification of R4SB3 within the stream channel and PFO/SS6. Non-riparian areas, including valley oak woodlands and annual brome grasslands, are classified as Uplands. This reflects the findings of the field investigation for this Jurisdictional Waters Assessment and may be subject to final verification by CDFW.

4.6. Preliminary Functions and Values Assessment

Wetland functions are the physical, chemical, and/or ecological attributes that a wetland naturally provides, while values are those attributes that directly or indirectly benefit humans. Some examples of wetland functions and values include:

- Functions
    - Physical/Hydrological Functions
        1) Flood Control

2) Coastal Protection
3) Ground Water Recharge
4) Sediment Traps
5) Atmospheric Equilibrium

- Chemical Functions
  1) Waste Treatment/Pollution Interception
  2) Biogeochemical Cycling
- Ecological Functions
  1) Wildlife Nurseries and Fish/Shellfish Spawning Grounds
  2) Fish and Wildlife Habitat
  3) Endangered Species Habitat
  4) Wildlife Migration

- Values
  - Food
  - Fuel
  - Timber/Fiber
  - Recreation
  - Aesthetics
  - Education

While the functions and values of wetlands are interconnected, there is limited agreement on the importance of any one function or value. Not all wetlands perform all functions nor do they perform all functions equally well. The location and size of a wetland may determine what functions it will perform: the geographic location may determine wetland habitat functions, and the location of a wetland within a watershed may determine its hydrologic or water-quality functions. Many factors determine how well a wetland will perform these functions: climatic conditions, quantity and quality of water entering the wetland, and disturbances or alteration within the wetland or the surrounding ecosystem (USGS 1996).

Based on initial observations and the size of the BSA, the portion of Jack Creek within the BSA provides low physical/hydrological functions (flood control, ground water recharge, and sediment traps), low chemical functions (waste treatment/pollution interception or biogeochemical cycling), and moderate ecological functions (fish and wildlife habitat, endangered species habitat, wildlife migration).

Values, such as recreation (bird and wildlife watching), aesthetics, and education, from the Jack Creek corridor, especially in the vicinity of the BSA, would be low as this portion of the creek is a remote location on private property with no public access and the values are restricted to the private residences adjacent to the creek.

The California Rapid Assessment Method (CRAM) for wetlands is the current standard for monitoring the conditions of wetlands throughout California. It is designed for assessing ambient conditions within watersheds, within regions, and throughout California. It can also be used to assess the performance of compensatory mitigation and restoration projects. While CRAM primarily assesses the overall condition of wetlands, the results of a condition assessment can be used to infer the ability to provide various functions or services to which a wetland is most suited (California Wetlands Monitoring Workgroup 2009). CRAM condition scores are correlated with some wetland functions and one can infer whether certain functions are or are not likely to occur based on a CRAM condition score.

CRAM may be used to further characterize the condition of Jack Creek within the BSA during the permitting process for the project, if needed. If CRAM is used, Jack Creek would be evaluated as a riverine system using the CRAM *Riverine Wetlands Field Book* (California Wetlands Monitoring Workgroup 2013).

Chapter 5. Summary and Discussion

No potential three-parameter CWA wetlands were delineated within the Jack Creek BSA; however, 0.05 acre (2,180 square feet) and 120 linear feet of potential CWA other waters were delineated within the Jack Creek BSA. A total of 0.23 acre (10,020 square feet) and 120 linear feet is within the RWQCB jurisdiction.

Based on the above descriptions, Jack Creek would qualify as a WOTUS because it is a relatively permanent tributary to a TNW (i.e., the Salinas River). Any activities that would result in the deposition of dredged or fill material (e.g., such as bridge pilings and/or temporary dams for dewatering) within the OHWM of Jack Creek would be likely to require a USACE Section 404 permit, upon field verification by USACE staff.

Chapter 6. References

Baldwin, B.G., D.H. Goldman, D.J. Keil, R. Patterson, T.J. Rosatti, and D.H. Wilken. 2012. *The Jepson Manual: Vascular Plants of California*. Second Edition. University of California Press. Berkeley, California.

California Invasive Plant Council (Cal-IPC). California Invasive Plant Inventory Database. Available at: http://cal-ipc.org/paf/. Accessed June 1, 2017.

California Native Plant Society (CNPS). 2018. Online Inventory of Rare and Endangered Plants. Available at: http://www.rareplants.cnps.org. Accessed February 26, 2018.

California Water Boards. 2016. *Draft Staff Report Including the Substitute Environmental Documentation Procedures for Discharges of Dredged or Fill Materials to Waters of the State [Proposed for Inclusion in the Water Quality Control Plans for Inland Surface Waters and Enclosed Bays and Estuaries and Ocean Waters of California]*. SCH#: 2011012009. June 17, 2016.

California Wetlands Monitoring Workgroup. 2009. *Using CRAM (California Rapid Assessment Method) to Assess Wetland Projects as an Element of Regulatory and Management Programs*. 46 pp.

———. 2013. *CRAM Riverine Wetlands Field Book*. Version 6.1. January 2013.

Cowardin, L. M., V. Carter, F.C. Golet, and E.T. LaRoe. 1979. *Classification of wetlands and deepwater habitats of the United States*. Prepared for the U.S. Fish and Wildlife Service. FWS/OBS-79/31.

Curtis and Lichvar. 2010. *Updated Datasheet for the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the United States*. Prepared for U.S. Army Corps of Engineers Engineer Research and Development Center, Cold Regional Research and Engineering Laboratory, No. ERDC/CRREL TN-10-1. July 2010.

Environmental Laboratory. 1987. *Corps of Engineers Wetlands Delineation Manual*. Technical Report Y-87-1. U.S. Army Engineer Waterways Experiment Station, Vicksburg, Mississippi.

Holland, R.F. 1986. *Preliminary Description of Terrestrial Natural Communities of California*. State of California, The Resources Agency, Department of Fish and Game.

Lichvar, R.W., and S.M. McColley. 2008. *A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States: A Delineation Manual*. Report Number ERDC/CRREL TR-08-12. Prepared for U.S. Army Corps of Engineers Wetland Regulatory Assistance Program. August 2008.

Lichvar, R.W., D.L. Banks, W.N. Kirchner, and N.C. Melvin. 2016. The National Wetland Plant List: 2016 wetland ratings. *Phytoneuron* 2016-30:1–17. Published 28 April 2016. ISSN 2153 733X.

Lichvar, R.W., N.C. Melvin, M.L. Butterwick, and W.N. Kirchner. 2012. *National Wetland Plant List Indicator Rating Definitions*. Prepared for U.S. Army Corps of Engineers Wetland Regulatory Assistance Program. Report No. ERDC/CRREL TN-12-1. July.

Munsell Color. 2000. *Munsell Soil Color Charts*. Year 2000 Revised. GretagMacbeth, New York.

Sawyer, J.O., T. Keeler-Wolf, and J.M. Evens. 2009. *A Manual of California Vegetation, Second Edition*. California Native Plant Society, Sacramento.

SLO Watershed Project. 2018. Lower Salinas-Paso Robles Creek Area. Available at: http://slowatershedproject.org/watersheds/lower-salinas-paso-robles-creek-area/. Accessed February 2018.

State Water Resources Control Board (SWRCB). 2012. *Final 2012 Integrated Report (CWA Section 303(d) List/305(b) Report).* Available at: http://www.waterboards.ca.gov/water_issues/programs/tmdl/integrated2012.shtml. Accessed February 2018.

U.S. Army Corps of Engineers (USACE). 1986. Regulatory Programs of the Corps of Engineers; Final Rule. *Federal Register* 51(219):41206–41260.

———. 2008a. *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0).* Edited by J. S. Wakeley, R. W. Lichvar, and C. V. Noble. ERDC/EL TR-08-28. Vicksburg, MS: U.S. Army Engineer Research and Development Center.

———. 2008b. Memorandum: Clean Water Act Jurisdiction Following the U.S. Supreme Court's Decision in Rapanos v. United States & Carabell v. United States. December 2, 2008.

U.S. Army Corps of Engineers (USACE) and Environmental Protection Agency (EPA). 2015. Clean Water Rule: Definition of "Waters of the United States;" Final Rule. *Federal Register* 80(124):37054–37127.

U.S. Department of Agriculture Natural Resource Conservation Service (NRCS). 2018. Web Soil Survey Results. Available at: http://websoilsurvey.sc.egov.usda.gov/App/HomePage.htm. Accessed February 2018.

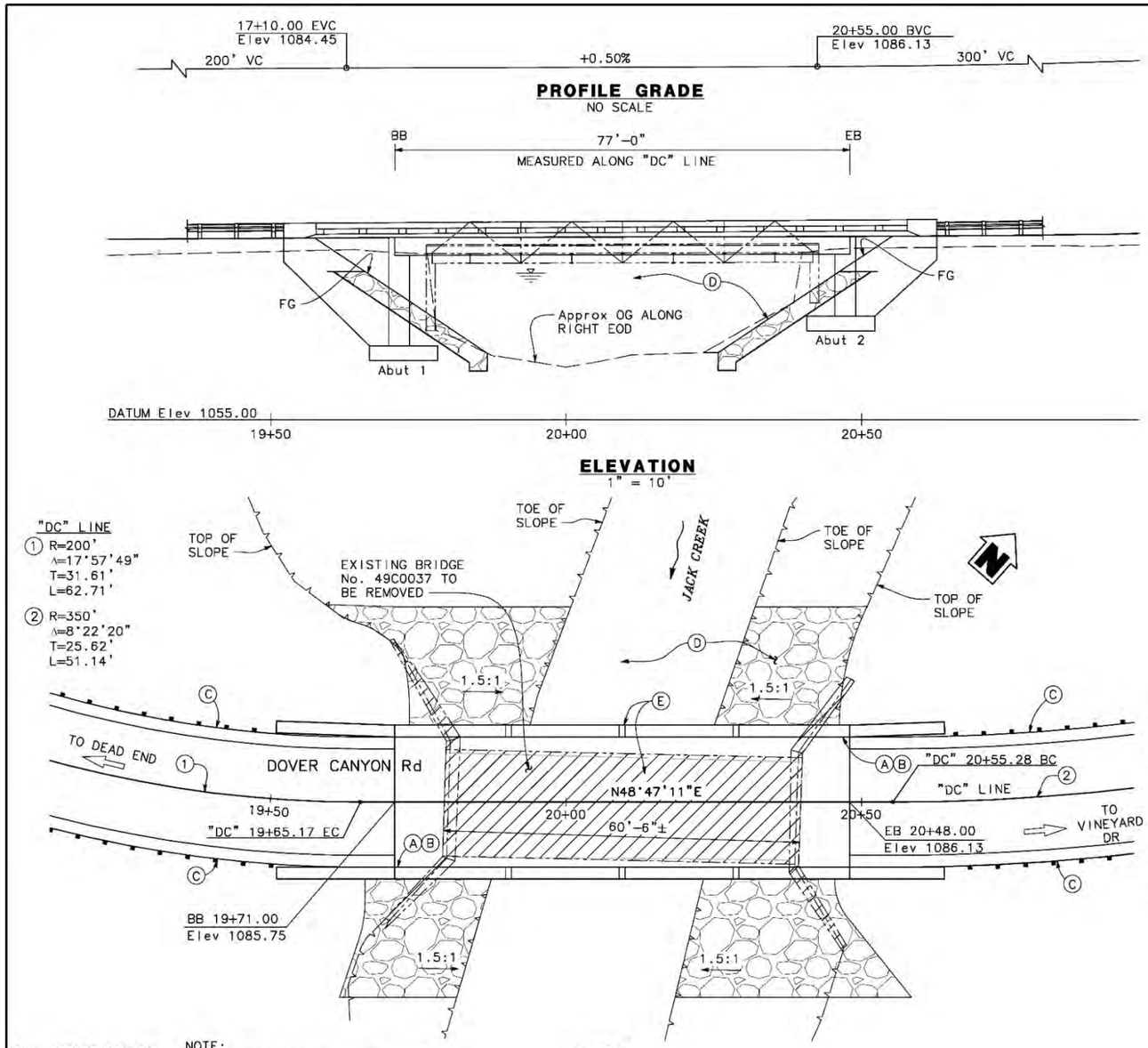
U.S. Fish and Wildlife Service (USFWS). 2018. National Wetland Inventory. Available at: https://www.fws.gov/wetlands/Data/Mapper.html. Accessed March 2018.

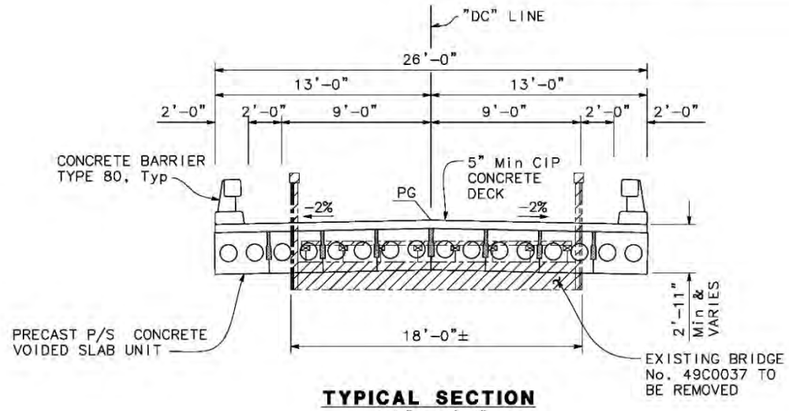
U.S. Geological Survey (USGS). 1996. Restoration, Creation, and Recovery of Wetlands: Wetland Functions, Values, and Assessment. *Water Supply Paper 2425*. Online: http://pubs.usgs.gov/wsp/2425/report.pdf. Accessed January 6, 2017.

Western Regional Climate Center (WRCC). 2018. Period of Record Monthly Climate Summary for Paso Robles, California (046730). Available at: https://wrcc.dri.edu/cgi-bin/cliMAIN.pl?ca6730. Accessed January 31, 2018.

Appendix A Project Plans

This page intentionally left blank.





TYPICAL SECTION
1/4" = 1'-0"

Dist	COUNTY	ROAD NO.	JOB NO.	SHEET No.	TOTAL SHEETS
05	SLO	XXX	XXX	####	XXX

REGISTERED CIVIL ENGINEER DATE

REGISTERED PROFESSIONAL ENGINEER — VICTOR ANSON SHERBY — No. 80648 — Exp. 3/31/19 — CIVIL — STATE OF CALIFORNIA

PLANS APPROVAL DATE

MARK THOMAS
701 UNIVERSITY AVENUE, SUITE 200
SACRAMENTO, CALIFORNIA 95825

INDEX TO PLANS

NOTES:
- (A) Paint "JACK CREEK BRIDGE"
- (B) Paint "BR. NO. 49CXXXX"
- (C) MGS, see "ROAD PLANS"
- (D) Rock Slope Protection, see "ROCK SLOPE PROTECTION DETAILS" sheet
- (E) Scuppers, see "TYPICAL SECTION" sheet
1. For GENERAL NOTES, see "DECK CONTOURS" sheet.
2. For "FOOTING DATA TABLE" and "SCOUR DATA TABLE", see "FOUNDATION PLAN" sheet.

LEGEND:
- Indicates Bridge Removal
- Indicates Exist Structure

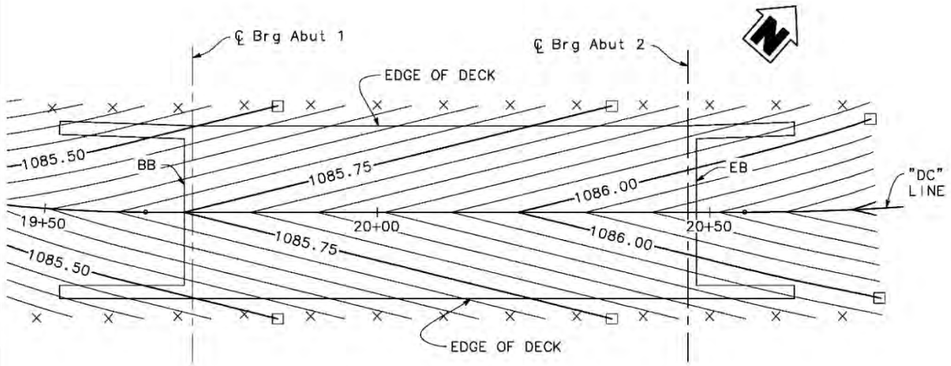
CALL BEFORE YOU DIG 1-800-227-2600

NOTE:
THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.

DESIGN	BY V. SHERBY	CHECKED X	LOAD AND RESISTANCE FACTOR DESIGN	LIVE LOADING: HL93 w/ "LOW BOY" AND PERMIT DESIGN VEHICLE		BRIDGE NO. 49CXXXX	PREPARED FOR THE SAN LUIS OBISPO COUNTY PUBLIC WORKS DEPARTMENT 976 OSOS STREET, ROOM 206, SAN LUIS OBISPO, CALIFORNIA 93408	DOVER CANYON ROAD AT JACK CREEK BRIDGE REPLACEMENT PROJECT
DETAILS	BY J. DOTY	CHECKED X	LAYOUT	BY R. USEDOM	CHECKED X	POST MILES X		GENERAL PLAN
QUANTITIES	BY A. CLUBB	CHECKED X	SPECIFICATIONS	BY X	PLANS AND SPECS COMPARED X			

S-1

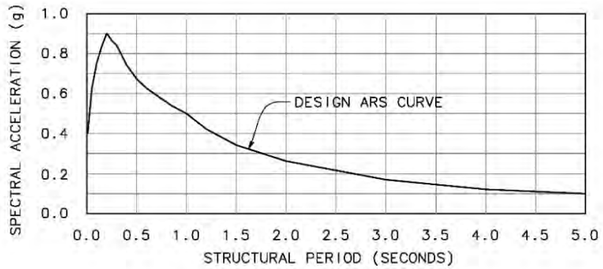
J:\SAN LUIS OBISPO-SA-16157-DOVER CANYON-JACK CREEK BRIDGE\CADD\STRUCTURES\01_DCBL_GP.DWG, 7/2/2018 11:26 AM, ——, ALAN MILLAR



DECK CONTOURS
1" = 10'

NOTES:

1. Contour interval is 0.05 feet.
2. X – Indicates 10 foot intervals.
3. □ – Indicates 0.25 foot contour.
4. Contours do not include camber.



ARS CURVE
5% DAMPING

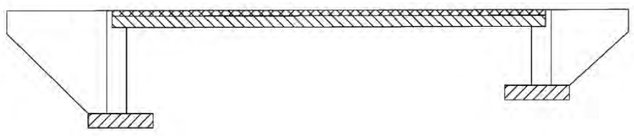
Dist	COUNTY	ROAD NO.	JOB NO.	SHEET No.	TOTAL SHEETS
05	SLO	XXX	XXX	####	XXX

REGISTERED CIVIL ENGINEER DATE

REGISTERED PROFESSIONAL ENGINEER — VICTOR ANSON SHERBY — No. 80648 — Exp. 3/31/19 — CIVIL — STATE OF CALIFORNIA

PLANS APPROVAL DATE

MARK THOMAS
701 UNIVERSITY AVENUE, SUITE 200
SACRAMENTO, CALIFORNIA 95825



CONCRETE STRENGTH AND TYPE LIMITS
NO SCALE

- Structural Concrete, Bridge
- Structural Concrete, Bridge (Polymer Fiber) (f'c = 6.5 ksi)
- Precast Prestressed Slab Units, see "PRECAST SLAB LAYOUT" sheet for concrete strength
- Structural Concrete, Bridge Footing

GENERAL NOTES
LOAD AND RESISTANCE FACTOR DESIGN

DESIGN:
AASHTO LRFD Bridge Design Specifications, 6th edition and the California Amendments, preface dated January 2014

SEISMIC DESIGN:
Caltrans Seismic Design Criteria (SDC), Version 1.7 dated April 2013.

DEAD LOAD:
Includes 35 psf for future wearing surface.

LIVE LOADING:
HL93 and permit design Load.

SEISMIC LOADING:
Soil Profile: Vs30 = 360 m/s (1181 ft/s)
Moment Magnitude: 6.5
Peak Ground Acceleration 0.40g
See ARS Curve

CONCRETE:
fy = 60 ksi
f'c = 3.6 ksi unless otherwise noted
n = 8
See prestressing notes on "PRECAST SLAB LAYOUT" sheet

FOOTING PRESSURE:
See SPREAD FOOTING DATA TABLE on "FOUNDATION PLAN" Sheet.

STANDARD PLANS DATED MAY, 2015

	A3A	ABBREVIATIONS (SHEET 1 OF 3)
	A3B	ABBREVIATIONS (SHEET 2 OF 3)
	A3C	ABBREVIATIONS (SHEET 3 OF 3)
	A10A	LINES AND SYMBOLS (SHEET 1 OF 5)
RSP	A10B	LINES AND SYMBOLS (SHEET 2 OF 5)
	A10C	LINES AND SYMBOLS (SHEET 3 OF 5)
	A10D	LINES AND SYMBOLS (SHEET 4 OF 5)
	A10E	LINES AND SYMBOLS (SHEET 5 OF 5)
	A10F	LEGEND – SOIL (SHEET 1 OF 2)
	A10G	LEGEND – SOIL (SHEET 2 OF 2)
	A10H	LEGEND – ROCK
	A62C	LIMITS OF PAYMENT FOR EXCAVATION AND BACKFILL – BRIDGE
	B0-1	BRIDGE DETAILS
	B0-3	BRIDGE DETAILS
	B0-5	BRIDGE DETAILS
	B0-13	BRIDGE DETAILS
	B6-21	JOINT SEALS (MAXIMUM MOVEMENT RATING = 2")
	B11-60	CONCRETE BARRIER TYPE 80 (SHEET 1 OF 2)
	B11-61	CONCRETE BARRIER TYPE 80 (SHEET 2 OF 2)

Standard Plan Sheet No.
Detail No.

CALL BEFORE YOU DIG
1-800-227-2600

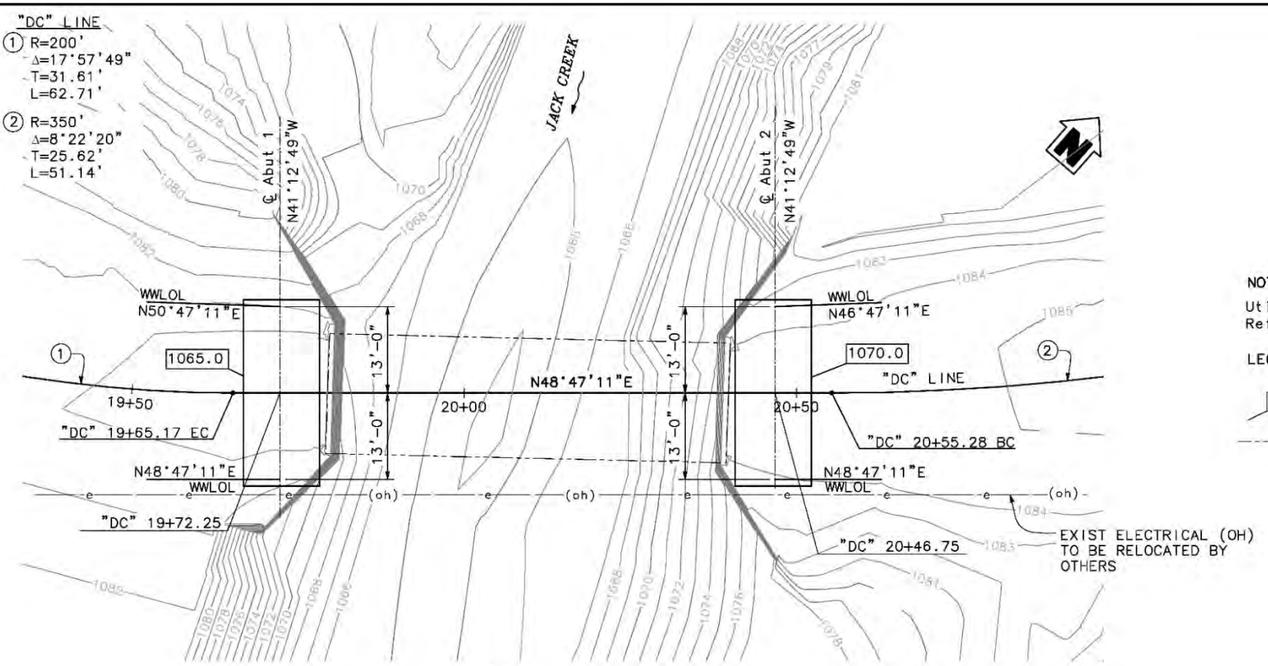
DESIGN	BY V. SHERBY	CHECKED X	BRIDGE NO. X	PREPARED FOR THE SAN LUIS OBISPO COUNTY PUBLIC WORKS DEPARTMENT 976 OSOS STREET, ROOM 206, SAN LUIS OBISPO, CALIFORNIA 93408
DETAILS	BY J. DOTY	CHECKED X	POST MILES X	
QUANTITIES	BY A. CLUBB	CHECKED X		

DOVER CANYON ROAD AT JACK CREEK BRIDGE REPLACEMENT PROJECT

DECK CONTOURS

S-2

J:\SAN LUIS OBISPO-SA-16157-DOVER CANYON-JACK CREEK BRIDGE\CADD\STRUCTURES\02_DCB_DC.DWG, 7/2/2018 10:54 AM, ----, ALAN MILLAR



PLAN
1" = 10'

NOTE:
Utilities shown here are for reference only.
Refer to "UTILITY PLANS" for specifics.

LEGEND:

Indicates Bottom of Footing Elevation (feet)

Indicates Existing Structure

HYDROLOGIC SUMMARY

Drainage Area 23.2 Square Mile

	Design Flood	Base Flood	Overtopping Flood
Frequency (Years)	50	100	N/A
Discharge (Cubic Foot per Sec)	7293	8882	N/A
Water Surface (Elevation at Bridge)	1078.7	1079.7	N/A

Flood plain data are based upon information available when the plans were prepared and are shown to meet federal requirements. The accuracy of said information is not warranted by the County and interested or affected parties should make their own investigation.

DATUM

National Geodetic Vertical Datum of 1988 (NGVD 88)
North American Datum of 1983 (NAD 83)

SPREAD FOOTING DATA TABLE

Support Location	Service[2] Permissible Net Contact Stress (Settlement) (ksf)	Strength/Construction[3] Factored Gross Nominal Bearing Resistance $\varphi_b = 0.45$ (ksf)	Extreme Event[3] Factored Gross Nominal Bearing Resistance $\varphi_b = 1.00$ (ksf)
Abut 1	24.0	10.0	N/A
Abut 2	24.0	10.0	N/A

1. Controlling load combination is the one resulting in the highest ratio of $q_{g,u}/q_R$ for foundations on soil, or $q_{g,max}/q_R$ for foundation on rock.
2. Controlling load combination for service limit state is the one resulting in the highest ratio of $q_{n,u}/q_{pn}$ for foundation on soil, or $q_{g,max}/q_R$ for foundations on rock.
3. Controlling load combination for strength, construction, and extreme event is the one resulting in the highest ratio of $q_{g,u}/q_R$ for foundations on soil, or $q_{g,max}/q_R$ for foundations on rock.

SCOUR DATA TABLE

Location	Long Term (Degradation and Contraction) Scour Elevation (ft)	Short Term (Local) Scour Depth (ft)
Abut 1	1052.0	19.0
Abut 2	1052.0	19.0

BENCHMARK

NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88) NATIONAL GEODETIC SURVEY PERMANENT IDENTIFIER (NGSPID) FV-1022. A STANDARD DISK, STAMPED "R 707 1943" IN CONCRETE POST, ELEVATION = 1495.86'

Dist	COUNTY	ROAD NO.	JOB NO.	SHEET No.	TOTAL SHEETS
05	SLO	XXX	XXX	####	XXX

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — VICTOR ANSON SHERBY — No. 80648 — Exp. 3/31/19 — CIVIL — STATE OF CALIFORNIA

MARK THOMAS
701 UNIVERSITY AVENUE, SUITE 200
SACRAMENTO, CALIFORNIA 95825

CALL BEFORE YOU DIG 1-800-227-2600

NOTE:
THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.

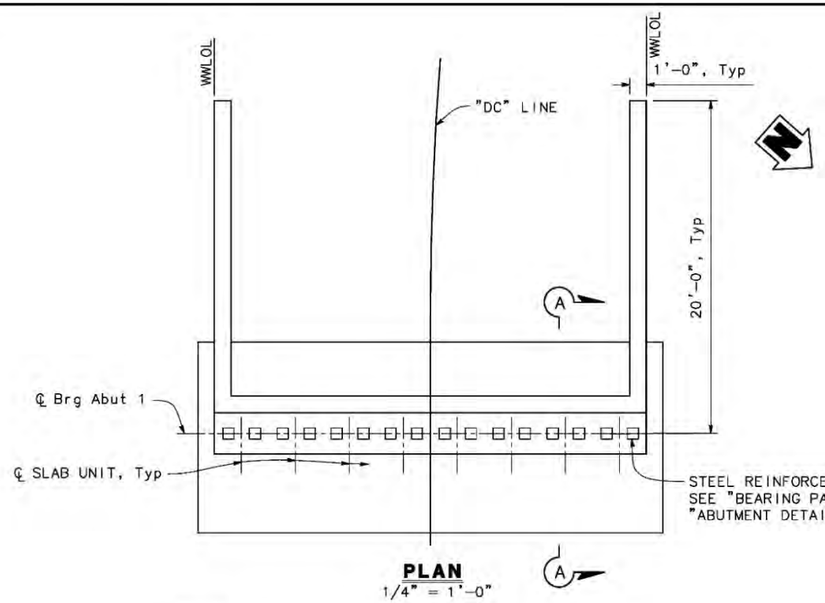
SCALE: X	VERT. DATUM X	HORZ. DATUM X	DESIGN	BY V. SHERBY	CHECKED X	BRIDGE NO. X	PREPARED FOR THE SAN LUIS OBISPO COUNTY PUBLIC WORKS DEPARTMENT 976 OSOS STREET, ROOM 206, SAN LUIS OBISPO, CALIFORNIA 93408
PHOTOGRAMMETRY AS OF: X	ALIGNMENT TIES X		DETAILS	BY J. DOTY	CHECKED X	POST MILES X	
SURVEYED BY X	DRAFTED BY X		QUANTITIES	BY A. CLUBB	CHECKED X		
FIELD CHECKED BY X	CHECKED BY X						

DOVER CANYON ROAD AT JACK CREEK BRIDGE REPLACEMENT PROJECT

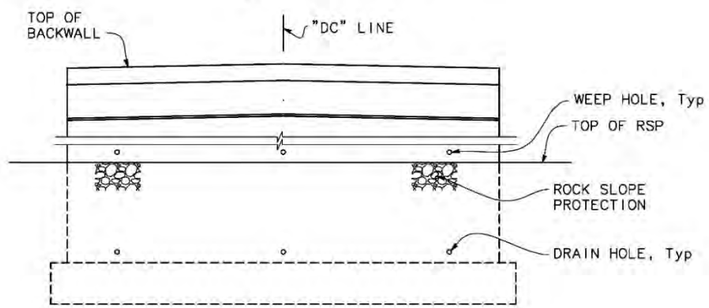
FOUNDATION PLAN

S-3

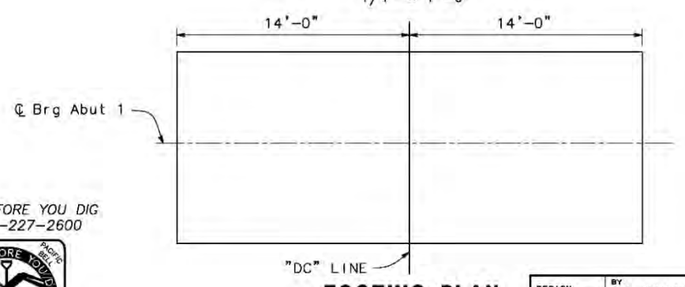
J:\SAN LUIS OBISPO-SA-16157-DOVER CANYON-JACK CREEK BRIDGE\CADD\STRUCTURES\02_DCB_FP.DWG 7/2/2018 10:55 AM ALAN MILLAR



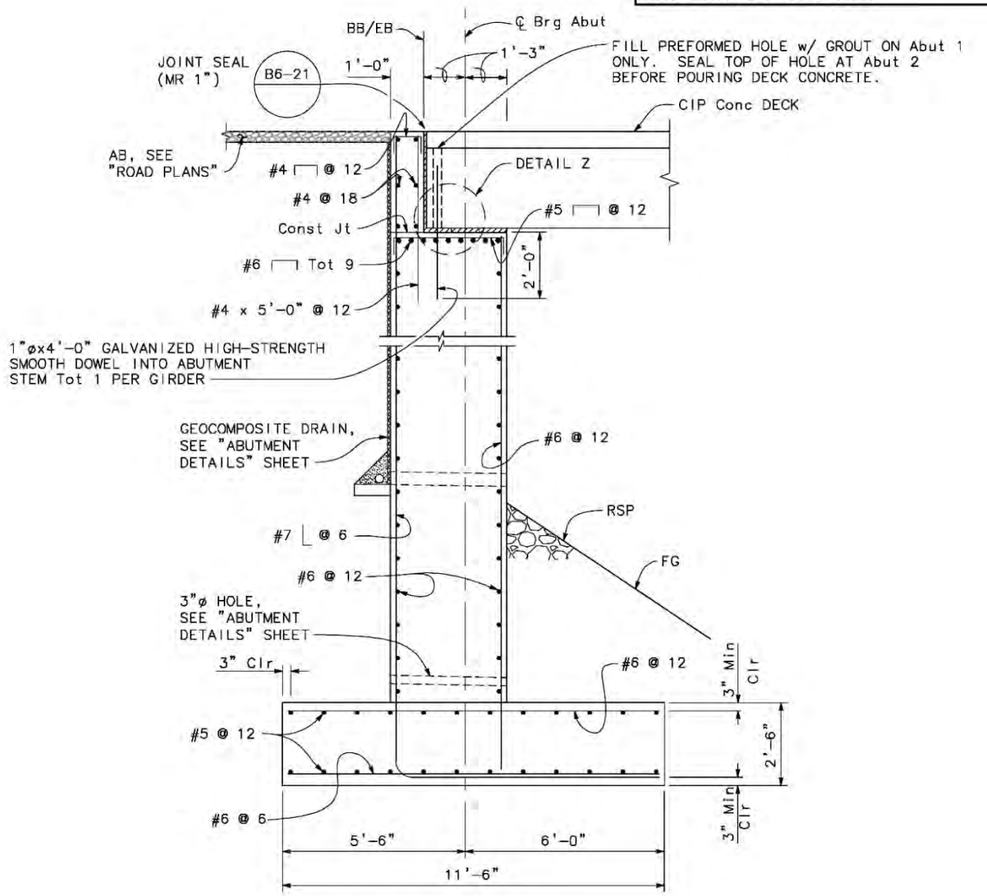
PLAN
1/4" = 1'-0"



ELEVATION
1/4" = 1'-0"



FOOTING PLAN
1/4" = 1'-0"



SECTION A-A
1/2" = 1'-0"

NOTES:
1. For "DETAIL Z", see "ABUTMENT DETAILS" sheet.
2. Section A-A shown for Abut 1, Abut 2 similar.

CALL BEFORE YOU DIG
1-800-227-2600

Dist	COUNTY	ROAD NO.	JOB NO.	SHEET No.	TOTAL SHEETS
05	SLO	XXX	XXX	####	XXX

REGISTERED CIVIL ENGINEER DATE

VICTOR ANSON SHERBY No. 80648 Exp. 3/31/19 CIVIL — REGISTERED PROFESSIONAL ENGINEER — STATE OF CALIFORNIA

PLANS APPROVAL DATE

MARK THOMAS
701 UNIVERSITY AVENUE, SUITE 200
SACRAMENTO, CALIFORNIA 95825

DESIGN	BY V. SHERBY	CHECKED X	BRIDGE NO.	X
DETAILS	BY J. DOTY	CHECKED X	POST MILES	
QUANTITIES	BY A. CLUBB	CHECKED X		X

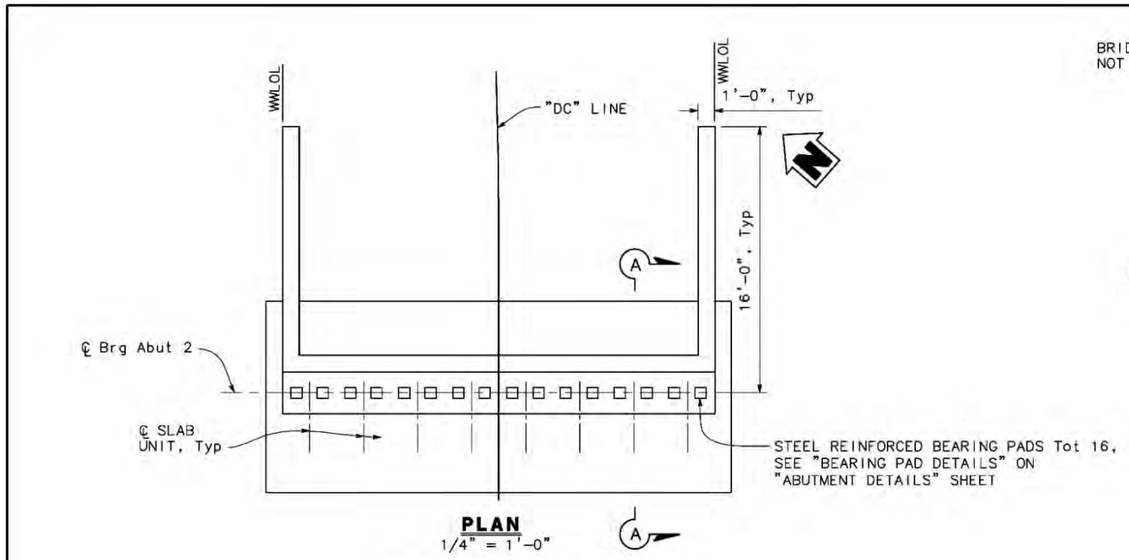
PREPARED FOR THE
SAN LUIS OBISPO COUNTY
PUBLIC WORKS DEPARTMENT
976 OSOS STREET, ROOM 206, SAN LUIS OBISPO, CALIFORNIA 93408

DOVER CANYON ROAD AT JACK CREEK BRIDGE REPLACEMENT PROJECT

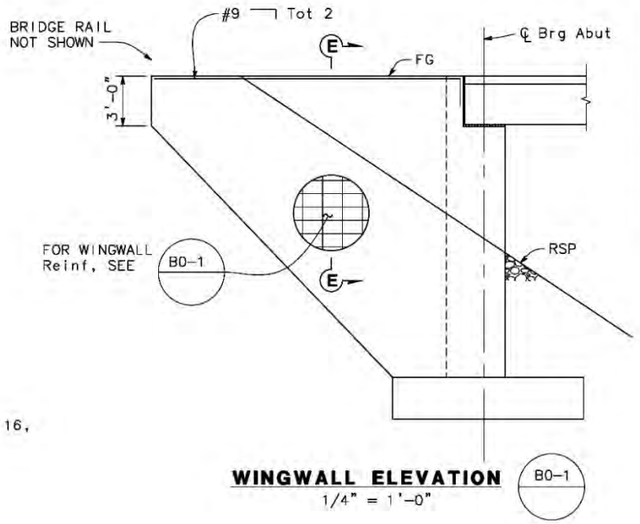
ABUTMENT 1 LAYOUT

S-4

J:\SAN LUIS OBISPO-SA-16157-DOVER CANYON-JACK CREEK BRIDGE\CADD\STRUCTURES\04_05_PCBL_ALDWG, 6/29/2018 1:53 PM, ALAN MILLAR



PLAN
1/4" = 1'-0"



WINGWALL ELEVATION
1/4" = 1'-0"
B0-1

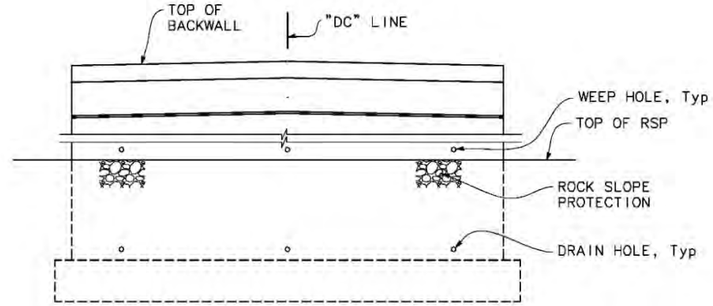
Dist	COUNTY	ROAD NO.	JOB NO.	SHEET No.	TOTAL SHEETS
05	SLO	XXX	XXX	####	XXX

REGISTERED CIVIL ENGINEER DATE

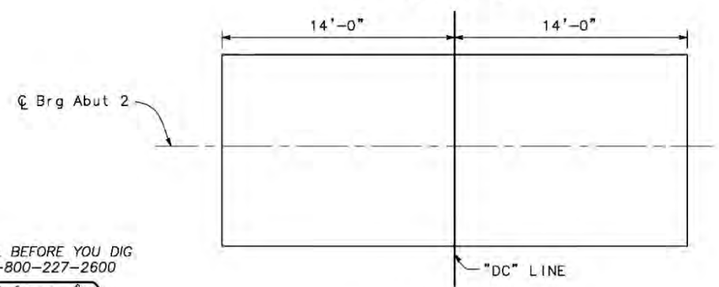
REGISTERED PROFESSIONAL ENGINEER — VICTOR ANSON SHERBY — No. B0648 — Exp. 3/31/19 — CIVIL — STATE OF CALIFORNIA

PLANS APPROVAL DATE

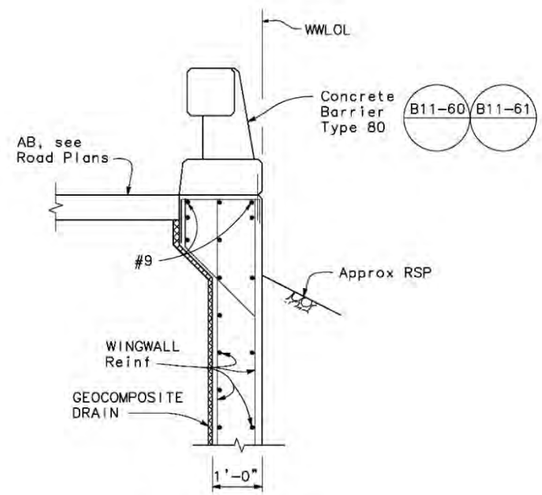
MARK THOMAS
701 UNIVERSITY AVENUE, SUITE 200
SACRAMENTO, CALIFORNIA 95825



ELEVATION
1/4" = 1'-0"



FOOTING PLAN
1/4" = 1'-0"



SECTION E-E
3/4" = 1'-0"

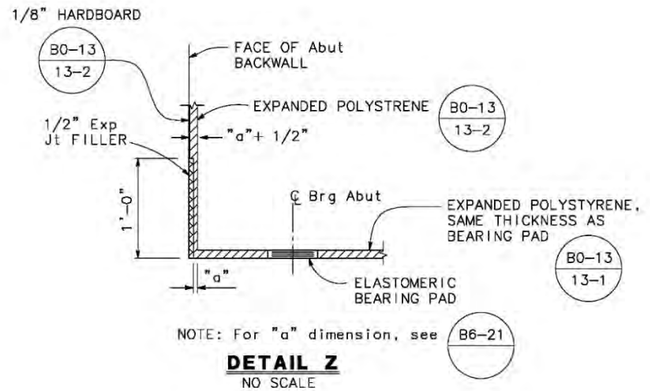
CALL BEFORE YOU DIG
1-800-227-2600

NOTES:
1. For Section A-A, see "ABUTMENT 1 LAYOUT" sheet

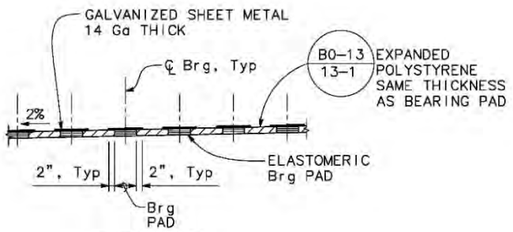
S-5

DESIGN	BY V. SHERBY	CHECKED X	BRIDGE NO. X	PREPARED FOR THE SAN LUIS OBISPO COUNTY PUBLIC WORKS DEPARTMENT 976 OSOS STREET, ROOM 206, SAN LUIS OBISPO, CALIFORNIA 93408	DOVER CANYON ROAD AT JACK CREEK BRIDGE REPLACEMENT PROJECT
DETAILS	BY J. DOTY	CHECKED X	POST MILES X		ABUTMENT 2 LAYOUT
QUANTITIES	BY A. CLUBB	CHECKED X			

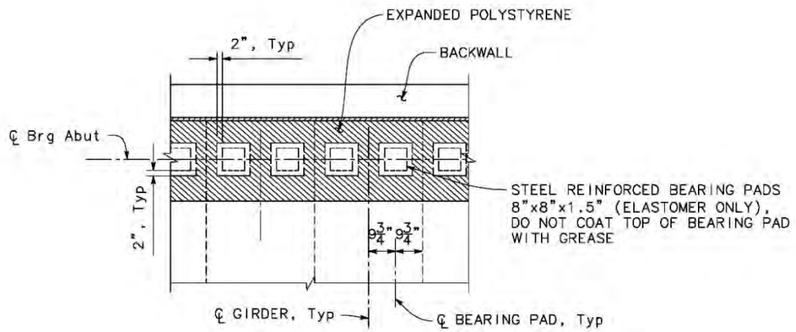
J:\SAN LUIS OBISPO-SA-16157-DOVER CANYON-JACK CREEK BRIDGE\CADD\STRUCTURES\04_05_DCBL_AL.DWG, 6/29/2018 1:53 PM, ——, ALAN MILLAR



DETAIL Z
NO SCALE

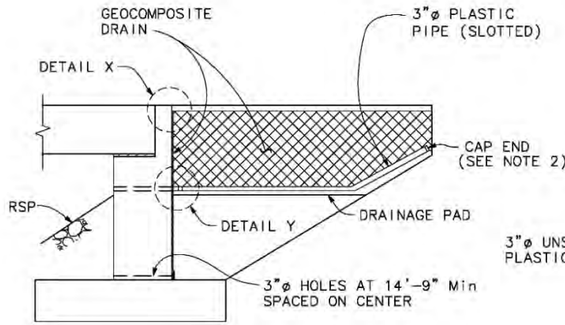


ELEVATION
NO SCALE

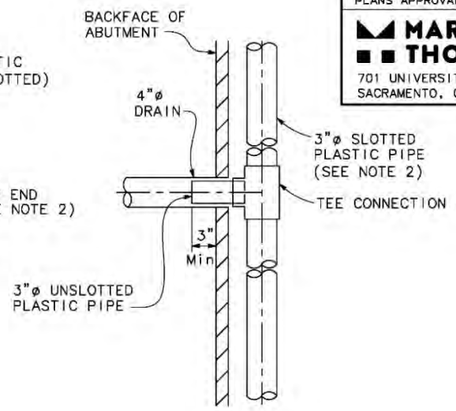


PLAN

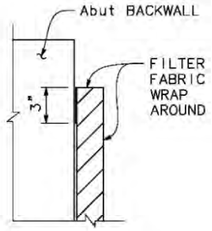
BEARING PAD DETAILS
1/2" = 1'-0"



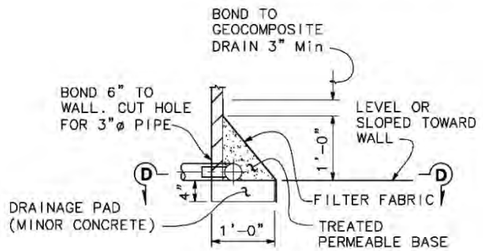
ABUTMENT SECTION



SECTION D-D



DETAIL X



DETAIL Y

WEEP HOLE AND ABUTMENT DRAINAGE
NO SCALE

NOTES:
1. 4" Drains at intermediate sag points and at 25' maximum center to center. Exposed wall drains shall be located 3" above finished grade.
2. Geocomposite drain, cement treated permeable base, and 3"ø slotted plastic pipe continuous behind abutment. Cap ends of pipe. Provide "Tee" connection at each 4"ø drain.

Dist	COUNTY	ROAD NO.	JOB NO.	SHEET No.	TOTAL SHEETS
05	SLO	XXX	XXX	####	XXX

REGISTERED CIVIL ENGINEER DATE

REGISTERED PROFESSIONAL ENGINEER — VICTOR ANSON SHERBY — No. 80648 — Exp. 3/31/19 — CIVIL — STATE OF CALIFORNIA

PLANS APPROVAL DATE

MARK THOMAS
701 UNIVERSITY AVENUE, SUITE 200
SACRAMENTO, CALIFORNIA 95825

CALL BEFORE YOU DIG
1-800-227-2600

DESIGN	BY V. SHERBY	CHECKED X	BRIDGE NO. X
DETAILS	BY J. DOTY	CHECKED X	POST MILES X
QUANTITIES	BY A. CLUBB	CHECKED X	

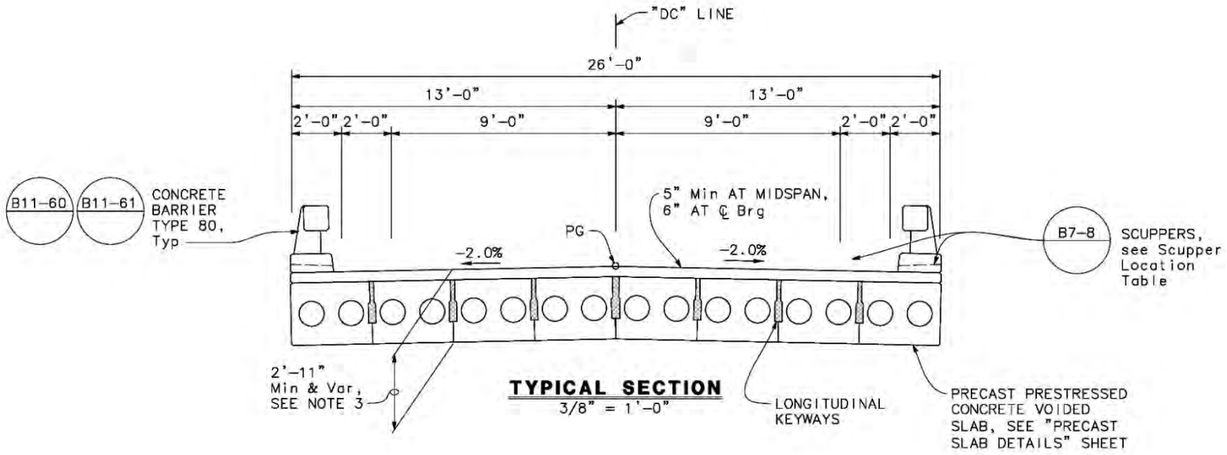
PREPARED FOR THE
SAN LUIS OBISPO COUNTY
PUBLIC WORKS DEPARTMENT
976 OSOS STREET, ROOM 206, SAN LUIS OBISPO, CALIFORNIA 93408

DOVER CANYON ROAD AT JACK CREEK BRIDGE REPLACEMENT PROJECT

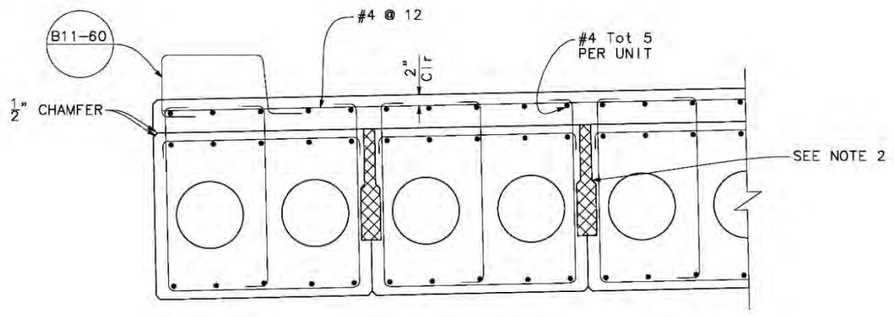
ABUTMENT DETAILS

S-6

J:\SAN LUIS OBISPO-SA-16157-DOVER CANYON-JACK CREEK BRIDGE\CADD\STRUCTURES\DB_07_DCEL_A0.DWG, 6/29/2018 1:54 PM, ——, ALAN MELLAR



TYPICAL SECTION
3/8" = 1'-0"



PART TYPICAL SECTION
1" = 1'-0"

SCUPPER LOCATION TABLE	
SCUPPER No.	STATION
SCUPPER 1	19+90.25
SCUPPER 2	20+09.50
SCUPPER 3	20+28.75

NOTES:

1. Concrete barriers shall not be placed until 7 days after concrete deck is placed.
2. Longitudinal keyways shall be filled with non-shrink grout prior to deck pour.
3. Concrete deck shall be 6" at centerline of bearing to accommodate the slab unit camber at erection.
4. For details not shown, see details on "PRECAST SLAB DETAILS" sheet.

Dist	COUNTY	ROAD NO.	JOB NO.	SHEET No.	TOTAL SHEETS
05	SLO	XXX	XXX	####	XXX

REGISTERED CIVIL ENGINEER DATE

REGISTERED PROFESSIONAL ENGINEER — VICTOR ANSON SHERBY — No. 80648 — Exp. 3/31/19 — CIVIL — STATE OF CALIFORNIA

PLANS APPROVAL DATE

MARK THOMAS
701 UNIVERSITY AVENUE, SUITE 200
SACRAMENTO, CALIFORNIA 95825

CALL BEFORE YOU DIG
1-800-227-2600

S-7

DESIGN	BY V. SHERBY	CHECKED X	BRIDGE NO. X	PREPARED FOR THE SAN LUIS OBISPO COUNTY PUBLIC WORKS DEPARTMENT 976 OSOS STREET, ROOM 206, SAN LUIS OBISPO, CALIFORNIA 93408	DOVER CANYON ROAD AT JACK CREEK BRIDGE REPLACEMENT PROJECT
DETAILS	BY J. DOTY	CHECKED X	POST MILES		TYPICAL SECTION
QUANTITIES	BY A. CLUBB	CHECKED X	X		

J:\SAN LUIS OBISPO-SA-16157-DOVER CANYON-JACK CREEK BRIDGE\CADD\STRUCTURES\08_DOB_TS.DWG, 6/29/2018 1:54 PM, ——, ALAN MILLAR

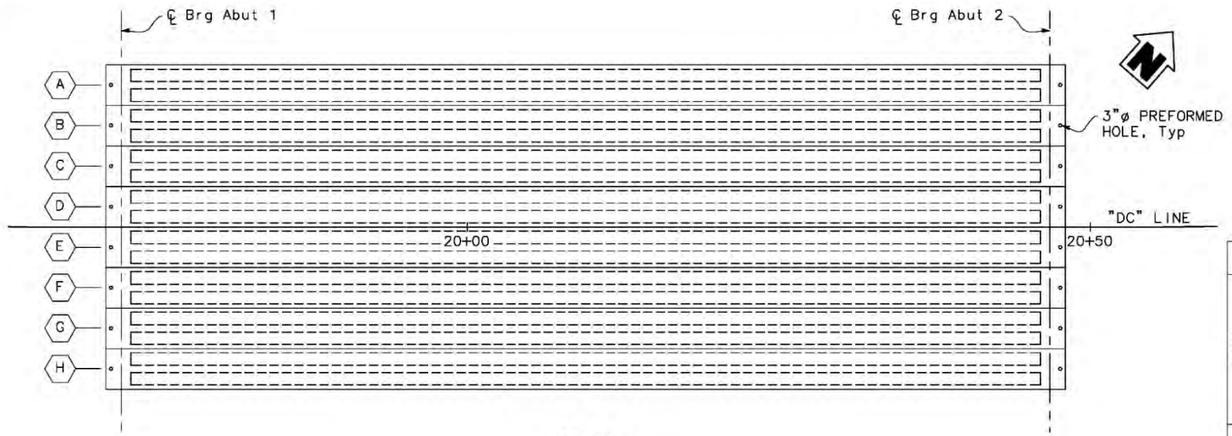
Dist	COUNTY	ROAD NO.	JOB NO.	SHEET No.	TOTAL SHEETS
05	SLO	XXX	XXX	####	XXX

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — VICTOR ANSON SHERBY — No. 80648 — Exp. 3/31/19 — CIVIL — STATE OF CALIFORNIA

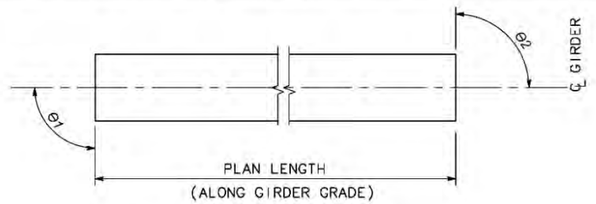
MARK THOMAS
701 UNIVERSITY AVENUE, SUITE 200
SACRAMENTO, CALIFORNIA 95825



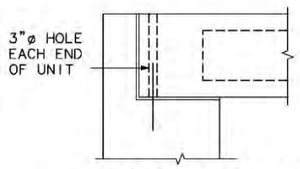
PLAN
3/16" = 1'-0"

GIRDER SCHEDULE

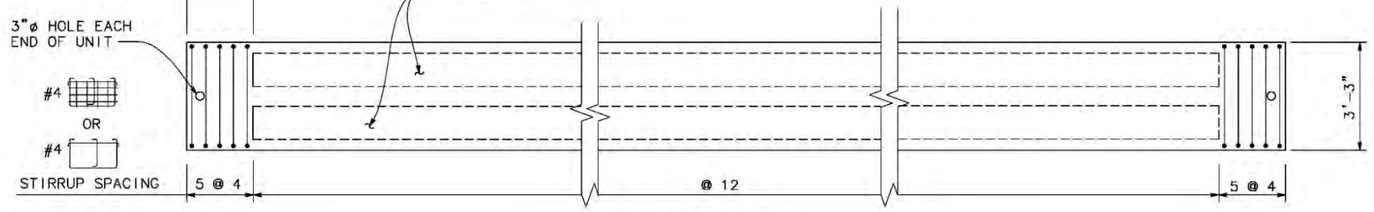
SPAN	GIRDER	PLAN LENGTH (ALONG GIRDER GRADE)	θ1	θ2	MIN. CONC. COMP. STRENGTH f'c (ksi)	MIN. CONC. COMP. STRENGTH f'ci (ksi)	NUMBER OF STRAIGHT STRANDS	NUMBER OF TEMP. STRANDS	JACKING FORCE (P) PER UNIT	MIDSPAN DEAD LOAD DEFLECTION DECK	MIDSPAN DEAD LOAD DEFLECTION BARRIER
1	A–H	77'-0"	90°	90°	6.5	5.0	34	0	1494 kips	0.36"	0.22"



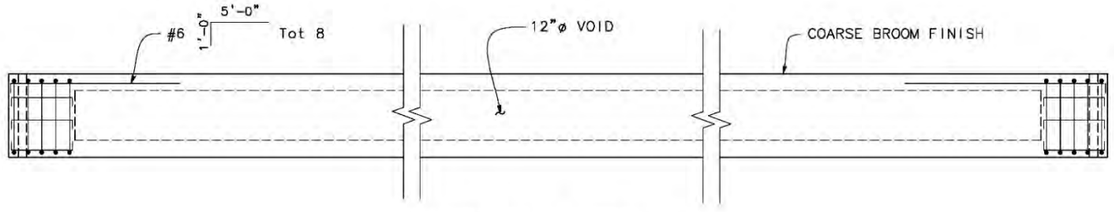
GIRDER SCHEDULE LEGEND



SUPPORT DETAILS
1/2" = 1'-0"



PARTIAL PLAN
1/2" = 1'-0"



LONGITUDINAL SECTION
1/2" = 1'-0"

GENERAL NOTES:

1. The Jacking Force (P) is the force required at the point of control along the span. The jacking force does not include any fabrication specific losses
2. The maximum tensile stress in the prestressing steel upon release shall not exceed 75% of the specified minimum ultimate tensile strength of the prestressing steel
3. The maximum temporary tensile stress (jacking stress) in the prestressing steel shall not exceed 80% of the specified minimum ultimate tensile strength of the prestressing steel
4. Concrete Strength:
   f'ci is at time of initial stressing
   f'c is at 28 days

S-8

CALL BEFORE YOU DIG
1-800-227-2600

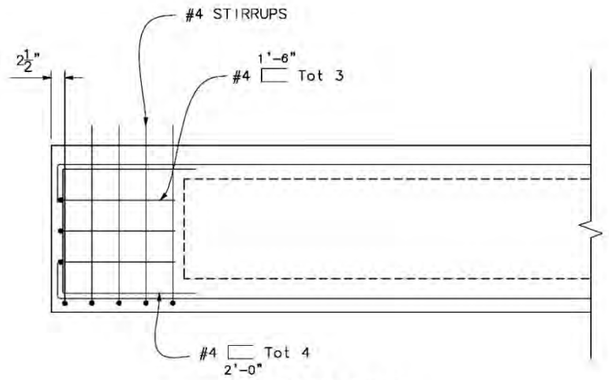
DESIGN	BY V. SHERBY	CHECKED X	BRIDGE NO. X
DETAILS	BY J. DOTY	CHECKED X	POST MILES X
QUANTITIES	BY A. CLUBB	CHECKED X	

PREPARED FOR THE
SAN LUIS OBISPO COUNTY
PUBLIC WORKS DEPARTMENT
976 OSOS STREET, ROOM 206, SAN LUIS OBISPO, CALIFORNIA 93408

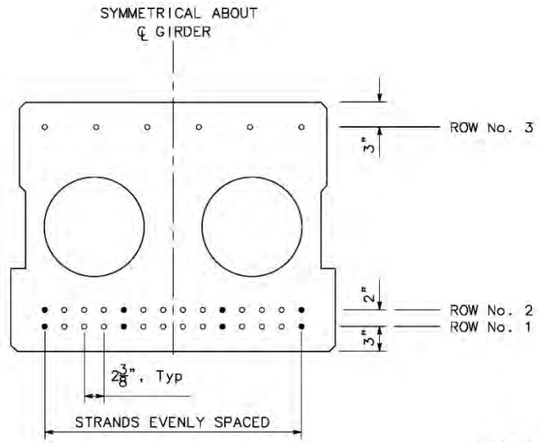
DOVER CANYON ROAD AT JACK CREEK BRIDGE REPLACEMENT PROJECT

PRESCAST SLAB LAYOUT

d:\SAN LUIS OBISPO-SA-16157-DOVER CANYON-JACK CREEK BRIDGE\CADD\STRUCTURES\09_DCB_PSL.DWG, 6/29/2018 1:54 PM, -----, ALAN MILLAR



END ELEVATION
1" = 1'-0"



STRAND PATTERN
1 1/2" = 1'-0"

Dist	COUNTY	ROAD NO.	JOB NO.	SHEET No.	TOTAL SHEETS
05	SLO	XXX	XXX	####	XXX

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — VICTOR ANSON SHERBY — No. 80648 — Exp. 3/31/19 — CIVIL — STATE OF CALIFORNIA

MARK THOMAS
701 UNIVERSITY AVENUE, SUITE 200
SACRAMENTO, CALIFORNIA 95825

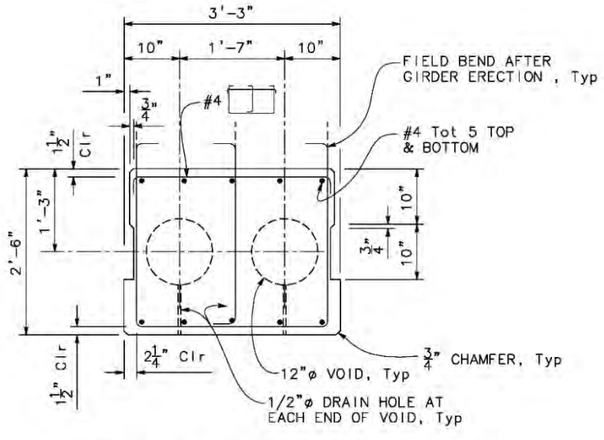
STRANDS LAYOUT		
ROW No.	TOTAL No OF STRANDS	TOTAL No OF DEBONDED STRANDS
1	14	4
2	14	4
3	6	0

LEGEND:

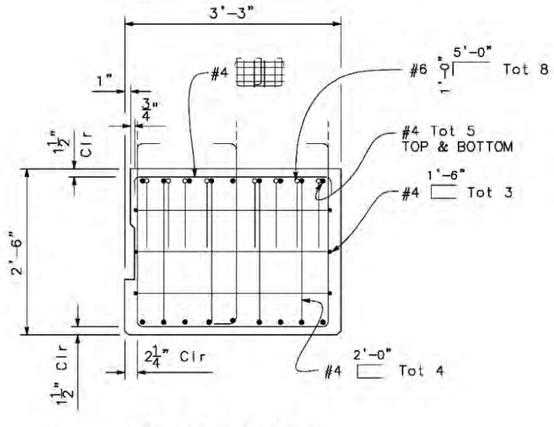
- ○ Denotes continuously bonded strand location
- • Denotes permissible debonded strand location

NOTE:

1. Debond strands shown for 3' from each girder end.



TYPICAL SECTION
1" = 1'-0"



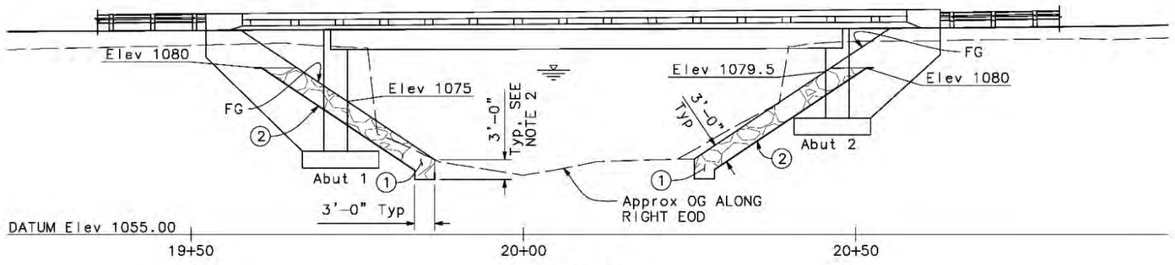
END DIAPHRAGM
1" = 1'-0"

CALL BEFORE YOU DIG
1-800-227-2600

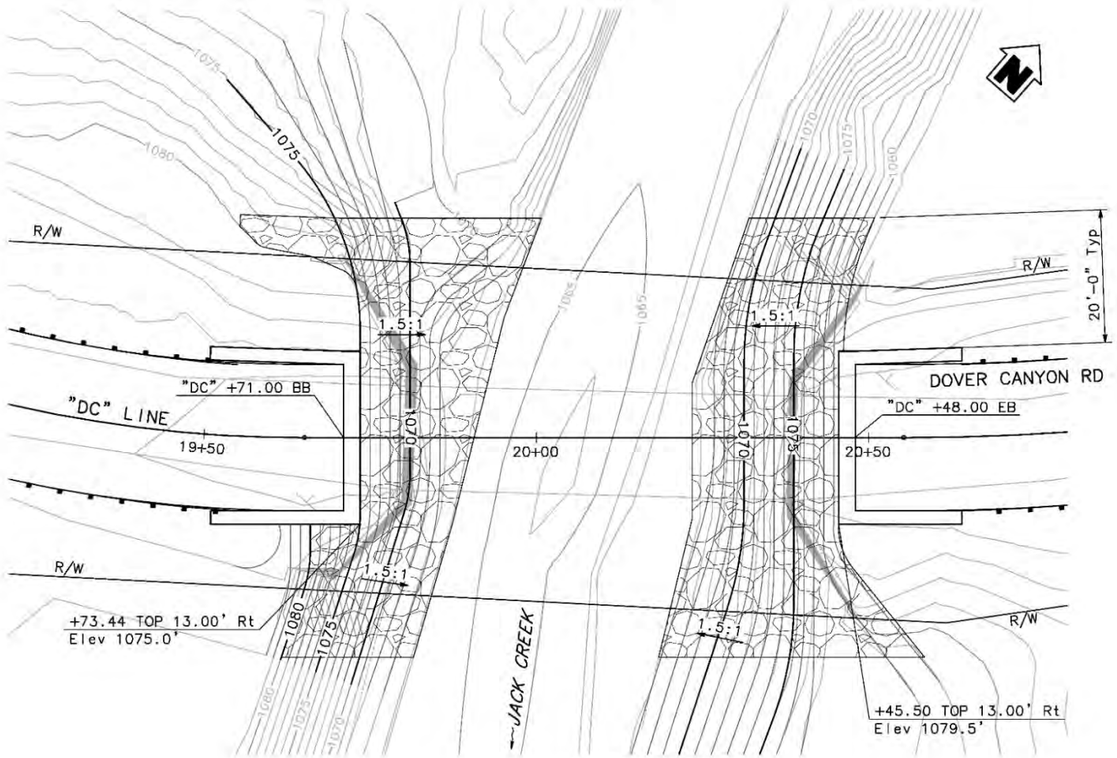
S-9

DESIGN	BY V. SHERBY	CHECKED X	BRIDGE NO. X	PREPARED FOR THE SAN LUIS OBISPO COUNTY PUBLIC WORKS DEPARTMENT 976 OSOS STREET, ROOM 206, SAN LUIS OBISPO, CALIFORNIA 93408	DOVER CANYON ROAD AT JACK CREEK BRIDGE REPLACEMENT PROJECT
DETAILS	BY J. DOTY	CHECKED X	POST MILES X		PRESCAST SLAB DETAILS
QUANTITIES	BY A. CLUBB	CHECKED X			

J:\SAN LUIS OBISPO-SA-16157-DOVER CANYON-JACK CREEK BRIDGE\CADD\STRUCTURES\10_DGB_PSD.DWG, 6/29/2018 1:55 PM, -----, ALAN MILLAR



ELEVATION
1" = 10'



PLAN
1" = 10'

NOTES:

1. Extend Rock Slope Protection Fabric 1 foot beyond the RSP limit.
2. RSP to be keyed into scour resistant rock. Depth to be determined by the Geotechnical Engineer during construction due to varying geologic conditions.

LEGEND:

(1) Rock Slope Protection (1/4T, Class V, Method B)
(2) Rock Slope Protection, Fabric Type 8

S-10

Dist	COUNTY	ROAD NO.	JOB NO.	SHEET No.	TOTAL SHEETS
05	SLO	XXX	XXX	####	XXX

REGISTERED CIVIL ENGINEER DATE

REGISTERED PROFESSIONAL ENGINEER — VICTOR ANSON SHERBY — No. 80648 — Exp. 3/31/19 — CIVIL — STATE OF CALIFORNIA

PLANS APPROVAL DATE

MARK THOMAS
701 UNIVERSITY AVENUE, SUITE 200
SACRAMENTO, CALIFORNIA 95825

CALL BEFORE YOU DIG
1-800-227-2600

DESIGN	BY V. SHERBY	CHECKED X	BRIDGE NO. X
DETAILS	BY J. DOTY	CHECKED X	POST MILES X
QUANTITIES	BY A. CLUBB	CHECKED X	

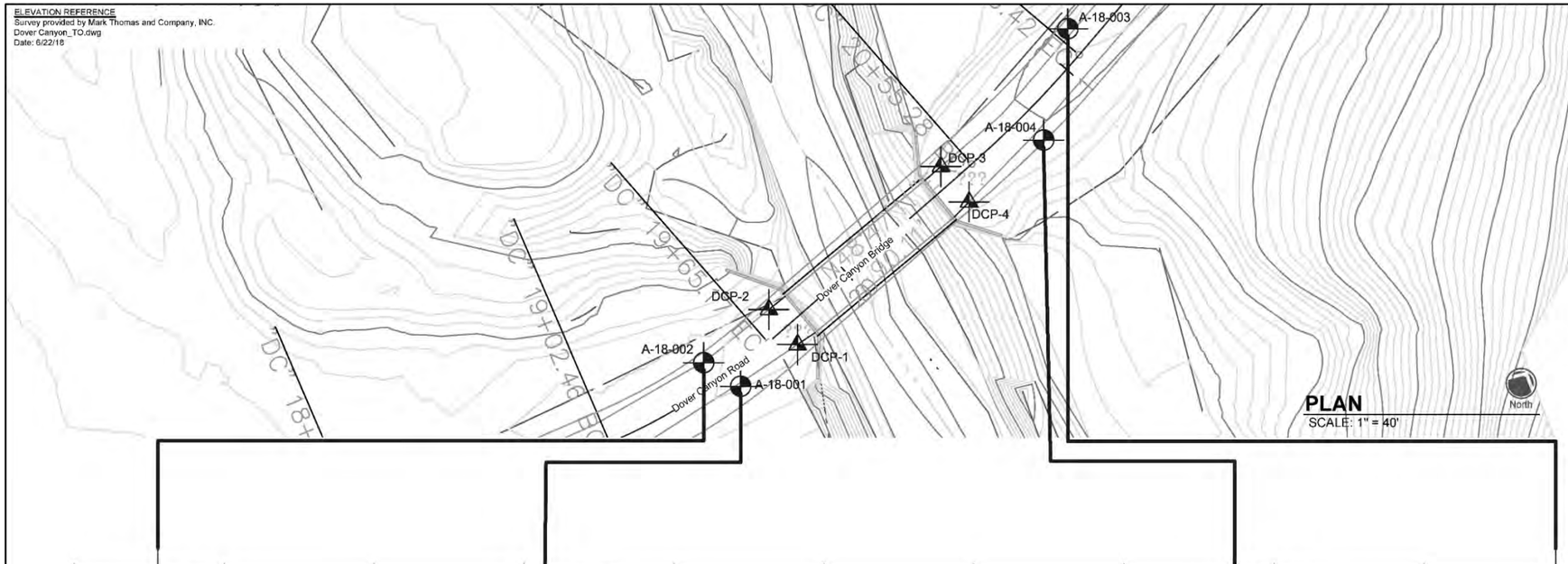
PREPARED FOR THE
SAN LUIS OBISPO COUNTY
PUBLIC WORKS DEPARTMENT
976 OSOS STREET, ROOM 206, SAN LUIS OBISPO, CALIFORNIA 93408

DOVER CANYON ROAD AT JACK CREEK BRIDGE REPLACEMENT PROJECT

ROCK SLOPE PROTRECTION DETAILS

J:\SAN LUIS OBISPO-SA-16157-DOVER CANYON-JACK CREEK BRIDGE\CADD\STRUCTURES\11_DCBL_RSP.DWG, 6/29/2018 1:56 PM, ——, ALAN MILLAR

ELEVATION REFERENCE
Survey provided by Mark Thomas and Company, INC.
Dover Canyon_TO.dwg
Date: 6/22/18



Dist	COUNTY	ROAD NO.	JOB NO.	SHEET No.	TOTAL SHEETS
05	SLO			XXX	XXX

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER BENJAMIN D. CRAWFORD No. 68457 CIVIL STATE OF CALIFORNIA

Crawford & Associates Inc.
Geotechnical Engineering, Design and Construction Services
Taber Since 1954
1100 Corporate Way Suite 230 Sacramento, CA 95831 (916) 455-4275

NOTES:
1. Field classification of soils was in accordance with the Caltrans Soil & Rock Logging, Classification, and Presentation Manual (2010). See Log of Test Borings No. 3, "Soil Legend".
2. Standard Penetration tests were performed in accordance with ASTM D 1586-99 using a hammer operated with an automated drop system. Drill rods were 1 5/8-inch diameter "A"-rods; sampler was driven with brass liners.
3. "2.4 inch sampler": ID=2.4 inch, OD=2.9 inch. "2.0 inch sampler": ID=2.0 inch, OD=2.5 inch. Both driven in same manner as SPT ("1.4 inch") sampler.
4. If laboratory tests are not shown as being performed, the soil descriptions presented on the LOTB are based solely on the visual practices described in this Manual.
5. The length of each sampled interval is shown graphically on the boring log. Whole number blow counts ("N") represent the "standard penetration resistance" interval in accordance with the Caltrans Soil & Logging, Classification, and Presentation Manual (June 2010). Where less than 0.5 feet of penetration is achieved, the blow count shown is for that fraction of the "standard penetration resistance" interval actually penetrated.
6. Consistency of soils shown in ( ) where estimated.
7. Groundwater surface (GWS) elevations in the borings indicated on the Log of Test Boring Sheets reflect the fluid level in the borings on the specified date.
8. Groundwater elevations are subject to seasonal fluctuations and may occur at higher or lower elevations depending on the conditions at any particular time.
9. The "Log of Test Borings" drawing is included with plans in accordance with Section 2-1.03 of Caltrans "Standard Specifications".
10. Boring locations on the cross section view are not at the correct startions, they are at the correct elevations.

S-11

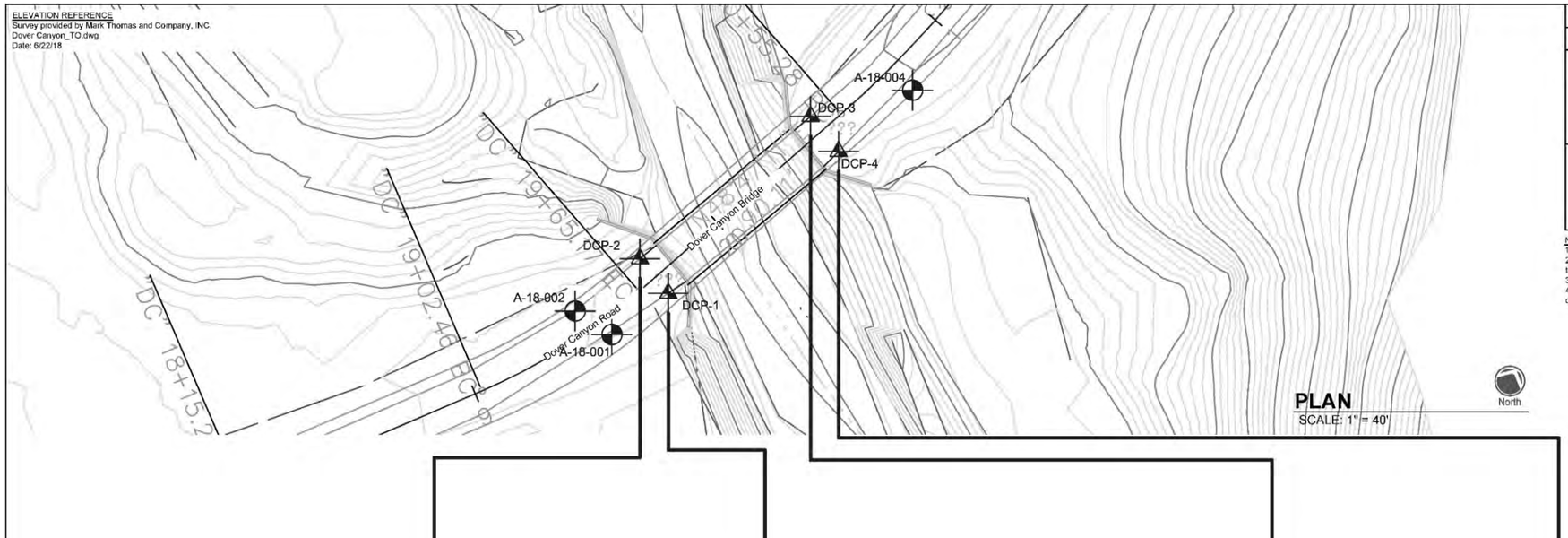
CALL BEFORE YOU DIG
1-800-227-2600

PROFILE HORIZ: 1"=20'
VERT: 1"=20'

	BY	CHECKED		BRIDGE NO.	PREPARED FOR THE	
DESIGN	Barrett Updegraff	Benjamin Crawford		49C0037	SAN LUIS OBISPO COUNTY PUBLIC WORKS DEPARTMENT	DOVER CANYON ROAD AT JACK CREEK BRIDGE REPLACEMENT PROJECT
FIELD INVESTIGATION	Hailey Wagenman			POST MILES	976 OSOS STREET, ROOM 206, SAN LUIS OBISPO, CALIFORNIA 93408	LOG OF TEST BORINGS 1 OF 2

\\MAC\HOME\BOX\PROJECTS\17-375.1 DOVER CANYON ROAD AT JACK CREEK BRIDGE REPLACEMENT PROJECT\CAD\LOTB 11X17.DWG\LOTBLDWG, 7/2/2018 3:23 PM, ------, BARRETTUPDEGRAFF

ELEVATION REFERENCE
Survey provided by Mark Thomas and Company, INC.
Dover Canyon_TO.dwg
Date: 6/22/18



Dist	COUNTY	ROAD NO.	JOB NO.	SHEET No.	TOTAL SHEETS
05	SLO			XXX	XXX

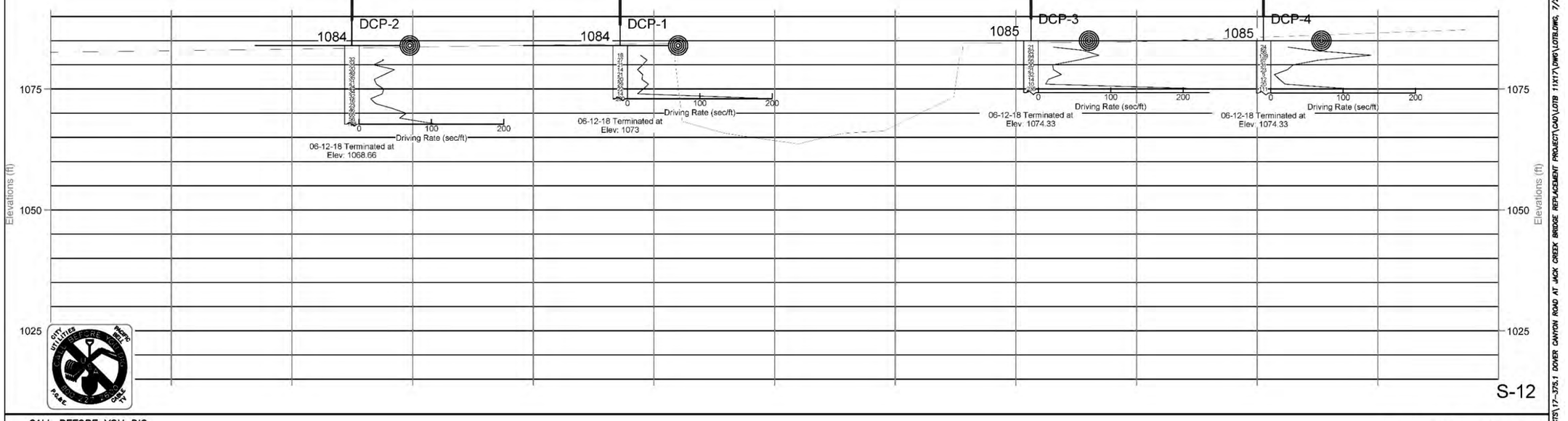
REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER BENJAMIN D. CRAWFORD No. 68457 CIVIL STATE OF CALIFORNIA

Crawford & Associates, Inc.
Geotechnical Engineering, Design and Construction Services
Taber Since 1954
1100 Corporate Way Suite 230 Sacramento, CA 95831 (916) 455-4275

NOTES:
1. DCP tests were preformed with a WILDCAT P102/01 Dynamic Cone Penetrometer.
2. The DCP test consists of manually lifting and and dropping a 35lb hammer repeatedly to determine blow count per 10cm (~4in).
3. These tests were performed by Crawford and Associates, Inc. Project Engineers.
4. DCP locations on the cross section view are not at the correct stations, they are at the correct elevations.



S-12

CALL BEFORE YOU DIG
1-800-227-2600

PROFILE HORIZ: 1"=20'
VERT: 1"=20'

	BY	CHECKED		BRIDGE NO.	PREPARED FOR THE	
DESIGN	Barrett Updegraff	Benjamin Crawford		49C0037	SAN LUIS OBISPO COUNTY PUBLIC WORKS DEPARTMENT	DOVER CANYON ROAD AT JACK CREEK BRIDGE REPLACEMENT PROJECT
FIELD INVESTIGATION	Hailey Wagenman			POST MILES	976 OSOS STREET, ROOM 206, SAN LUIS OBISPO, CALIFORNIA 93408	LOG OF TEST BORINGS 2 OF 2

\\MAG\HOME\BOX\PROJECTS\17-375.1 DOVER CANYON ROAD AT JACK CREEK BRIDGE REPLACEMENT PROJECT\CAD\LOTB 11X17\DWG\LOTBLDWG, 7/2/2018 3:24 PM, ——, BARRETTUPDEGRAFF

Dist	COUNTY	ROAD NO.	JOB NO.	SHEET No.	TOTAL SHEETS
05	SLO	5154	XXX	XXX	XXX

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER ZACHARY JAMES SIVIGLIA No. 73128 Exp. 12/31/18 CIVIL STATE OF CALIFORNIA

MARK THOMAS
16795 VON KARMEN AVE. SUITE 240
IRVINE, CA 92606

INDEX OF SHEETS

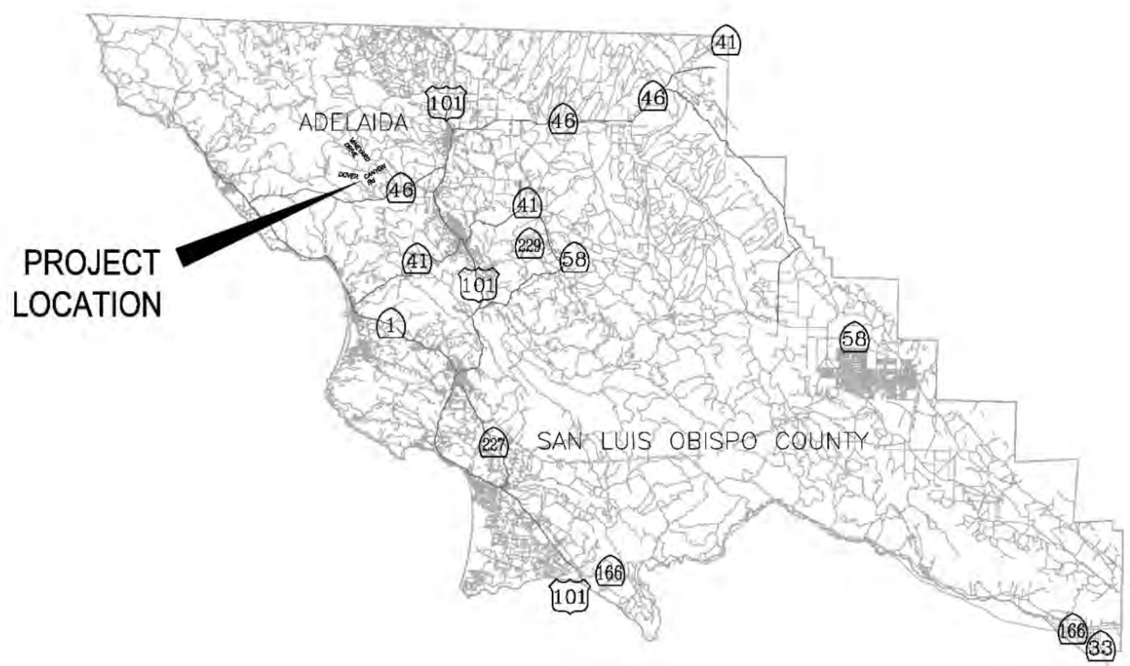
COUNTY OF SAN LUIS OBISPO, CALIFORNIA
PUBLIC WORKS DEPARTMENT
DESIGN DIVISION

PLANS FOR THE CONSTRUCTION OF
DOVER CANYON ROAD AT JACK CREEK BRIDGE REPLACEMENT PROJECT
Bridge No. 49C-0037
SAN LUIS OBISPO COUNTY, CALIFORNIA
COUNTY CONTRACT #300XXX
FEDERAL AID BRIDGE REPLACEMENT PROJECT No. BRLO-5949(152)

To Be Supplemented By State Standard and Specifications Plans Dated 2015.

APPROVED: ______________ ,20 ______

DIRECTOR OF PUBLIC WORKS, R.C.E. 64745

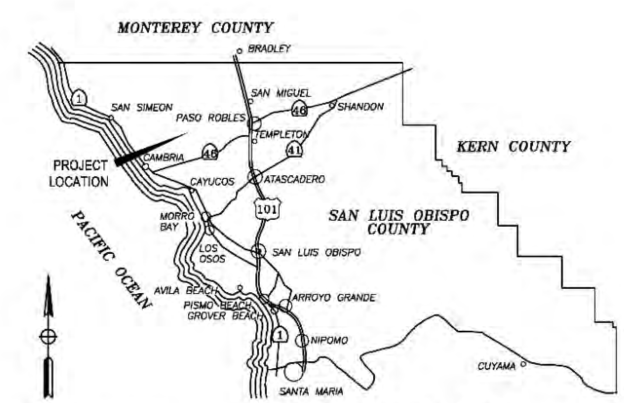


LOCATION MAP

NO SCALE

LICENSE REQUIREMENTS:

THE SUCCESSFUL BIDDER SHALL POSSESS A CLASS A GENERAL ENGINEERING CONTRACTOR'S LICENSE AT THE TIME THIS CONTRACT IS AWARDED. IN THE ALTERNATIVE, THE SUCCESSFUL BIDDER SHALL POSSESS A SPECIALITY CONTRACTOR'S LICENSE AT THE TIME THIS CONTRACT IS AWARDED THAT PERMITS THE SUCCESSFUL BIDDER TO PERFORM WITH HIS OR HER OWN ORGANIZATION CONTRACT WORK AMOUNTING TO NOT LESS THAN 30% OF THE ORIGINAL TOTAL CONTRACT PRICE AND TO SUBCONTRACT THE REMAINING WORK IN ACCORDANCE WITH SECTION 8-1.01, "SUBCONTRACTING," OF THE STANDARD SPECIFICATIONS.



VICINITY MAP

CALL BEFORE YOU DIG
1-800-227-2600

65% (NOT FOR CONSTRUCTION)

T-1

PREPARED FOR THE
SAN LUIS OBISPO COUNTY
PUBLIC WORKS DEPARTMENT
976 OSOS STREET, ROOM 206, SAN LUIS OBISPO, CALIFORNIA 93408

DOVER CANYON ROAD AT JACK CREEK BRIDGE REPLACEMENT PROJECT

TITLE SHEET

Designer	Date	Drawn By	Date	Project Manager	Date
R.USEDOM	06/2018	RLU	06/2018	Z.SIVIGLIA	06/2018

J:\SAN LUIS OBISPO-SA-16157-DOVER CANYON-JACK CREEK BRIDGE\CADD\SHEETS\DCB_T-1.DWG, 7/2/2018 4:22 PM, MTCo.ctb, RACHEL USEDOM

Dist	COUNTY	ROAD NO.	JOB NO.	SHEET No.	TOTAL SHEETS
05	SLO	5154	XXX	XXX	XXX

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER ZACHARY JAMES SIVIGLIA No. 73128 Exp. 12/31/18 CIVIL STATE OF CALIFORNIA

MARK THOMAS
16795 VON KARMAN AVE, SUITE 240
IRVINE, CA 92606

GENERAL NOTES:

1. NO CONSTRUCTION SHALL BE STARTED WITHOUT PLANS APPROVED BY THE COUNTY DEPARTMENT OF PUBLIC WORKS. THE DEPARTMENT OF PUBLIC WORKS SHALL BE NOTIFIED AT LEAST 24 HOURS PRIOR TO STARTING OF CONSTRUCTION AND OF THE TIME LOCATION OF THE PRECONSTRUCTION CONFERENCE. ANY CONSTRUCTION PERFORMED WITHOUT APPROVED PLANS OR PRIOR NOTIFICATION TO THE DEPARTMENT OF PUBLIC WORKS WILL BE REJECTED AND WILL BE AT THE CONTRACTOR'S AND/OR OWNER'S RISK.
2. FOR ANY CONSTRUCTION PERFORMED THAT IS NOT IN COMPLIANCE WITH PLANS OR PERMITS APPROVED FOR THE PROJECT THE PUBLIC WORKS DEPARTMENT MAY REVOKE ALL ACTIVE PERMITS AND RECOMMEND THAT COUNTY CODE ENFORCEMENT PROVIDE A WRITTEN NOTICE OR STOP WORK ORDER IN ACCORDANCE WITH SECTION 22.52.140 [23.10] OF THE LAND USE ORDINANCE.
3. ALL CONSTRUCTION WORK AND INSTALLATIONS SHALL CONFORM TO THE MOST CURRENT COUNTY OF SAN LUIS OBISPO PUBLIC IMPROVEMENT STANDARDS AND ALL WORK SHALL BE SUBJECT TO THE APPROVAL OF THE DEPARTMENT OF PUBLIC WORKS.
4. THE PROJECT OWNER AND CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING AND/OR MAINTAINING ALL WEATHER ACCESS AT ALL TIMES TO EXISTING PROPERTIES LOCATED IN THE VICINITY OF WORK. ADDITIONALLY, THEY SHALL BE RESPONSIBLE FOR MAINTAINING ALL EXISTING SERVICES, INCLUDING UTILITY, GARBAGE COLLECTION, MAIL DISTRIBUTION, ETC., TO ALL EXISTING PROPERTIES LOCATED IN THE VICINITY OF WORK.
5. ON-SITE HAZARDS TO PUBLIC SAFETY SHALL BE SHIELDED BY CONSTRUCTION FENCING. FENCING SHALL BE MAINTAINED BY THE PROJECT OWNER AND CONTRACTOR UNTIL SUCH TIME THAT THE PROJECT IS COMPLETED AND OCCUPIED, POTENTIAL HAZARDS HAVE BEEN MITIGATED, OR ALTERNATIVE PROTECTIVE MEASURES HAVE BEEN INSTALLED.
6. SOILS TESTS SHALL BE DONE IN ACCORDANCE WITH THE COUNTY PUBLIC IMPROVEMENT STANDARDS, SECTION 3.2.3. ALL TESTS MUST BE MADE WITHIN 15 DAYS PRIOR TO THE PLACING MATERIAL. THE TEST RESULTS SHALL CLEARLY INDICATE THE LOCATION AND SOURCE OF THE MATERIAL.
7. ROADWAY COMPACTION TESTS SHALL BE MADE ON SUBGRADE MATERIAL, AGGREGATE BASE MATERIAL, AND MATERIAL AS SPECIFIED BY THE SOILS ENGINEER. SAID TESTS SHALL BE MADE PRIOR TO THE PLACEMENT OF THE NEXT MATERIAL LIFT.
8. SUBGRADE MATERIAL SHALL BE COMPACTED TO A RELATIVE COMPACTION OF 95% IN THE ZONE BETWEEN FINISHED SUBGRADE ELEVATION AND A MINIMUM OF 1-FOOT BELOW. ALL MATERIAL IN FILL SECTIONS BELOW THE ZONE MENTIONED ABOVE SHALL BE COMPACTED TO 90% RELATIVE COMPACTION.
9. A REGISTERED CIVIL ENGINEER SHALL CERTIFY THAT THE IMPROVEMENTS WHEN COMPLETED ARE IN ACCORDANCE WITH THE PLANS PRIOR TO THE REQUEST FOR A FINAL INSPECTION. RECORD DRAWINGS SHALL BE PREPARED AFTER CONSTRUCTION IS COMPLETED. THE CIVIL ENGINEER CERTIFYING THE IMPROVEMENTS AND PREPARING AS-BUILT PLANS MAY BE PRESENT WHEN THE FINAL INSPECTION IS MADE BY THE COUNTY.
10. AN ENGINEER OF WORK AGREEMENT AND AN ENGINEER CHECKING AND INSPECTION AGREEMENT ARE REQUIRED PRIOR TO THE START OF CONSTRUCTION. THE PUBLIC WORKS DEPARTMENT SHALL BE NOTIFIED IN WRITING OF ANY CHANGES TO THE ENGINEER OF WORK AGREEMENT. CONSTRUCTION SHALL NOT PROCEED WITHOUT AN ENGINEER OR WORK.
11. ALL UTILITY COMPANIES SHALL BE NOTIFIED PRIOR TO THE START OF CONSTRUCTION.
12. A COUNTY ENCROACHMENT PERMIT IS REQUIRED FOR ALL WORK DONE WITHIN THE COUNTY RIGHT-OFWAY. THE ENCROACHMENT PERMIT MAY ESTABLISH ADDITIONAL CONSTRUCTION, UTILITY AND TRAFFIC CONTROL REQUIREMENTS.
13. THE COUNTY INSPECTOR ACTING ON BEHALF OF THE COUNTY DEPARTMENT OF PUBLIC WORKS MAY REQUIRE REVISIONS IN THE PLANS TO SOLVE UNFORESEEN PROBLEMS THAT MAY ARISE IN THE FIELD. ALL REVISIONS SHALL BE SUBJECT TO THE APPROVAL OF THE DEVELOPER'S ENGINEER OF WORK.
14. THE STRUCTURAL SECTION SHALL BE BASED ON SOILS TESTS TAKEN AT THE TIME OF CONSTRUCTION AND USING A TRAFFIC INDEX OF FOR DOVER CANYON ROAD. THE STRUCTURAL SECTION SHALL BE APPROVED BY THE PUBLIC WORKS DEPARTMENT PRIOR TO ROAD CONSTRUCTION.
15. HYDRO-SEEDING OR OTHER PERMANENT EROSION CONTROL SHALL BE PLACED AND ESTABLISHED WITH 90% COVERAGE ON ALL DISTURBED SURFACES (OTHER THAN PAVED OR GRAVEL SURFACES) PRIOR TO THE FINAL INSPECTION.
16. FOR ANY PUBLIC IMPROVEMENTS TO BE MAINTAINED BY THE COUNTY, IF ENVIRONMENTAL PERMITS FROM THE U.S. ARMY CORPS OF ENGINEERS, THE CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD/STATE WATER RESOURCES CONTROL BOARD, OR THE CALIFORNIA DEPARTMENT OF FISH & GAME ARE REQUIRED, THE DEVELOPER SHALL: A. SUBMIT A COPY OF ALL SUCH COMPLETED PERMITS TO THE COUNTY DEPARTMENT OF PUBLIC WORKS OR, B. DOCUMENT THAT THE REGULATORY AGENCIES DETERMINED THAT SAID PERMIT IS NOT REQUIRED; PRIOR TO ACCEPTANCE OF THE COMPLETED IMPROVEMENTS FOR COUNTY MAINTENANCE AND RELEASE OF IMPROVEMENT SECURITY. ANY MITIGATION MONITORING REQUIRED BY SAID PERMITS WILL REMAIN THE RESPONSIBILITY OF THE DEVELOPER.
17. WHEN THE PROJECT SITE EARTHWORK IS NOT INTENDED TO BALANCE THEN A SEPARATE GRADING PERMIT FOR THE SENDING OR RECEIVING PROPERTY MAY BE REQUIRED. A COPY OF THE PERMIT/S OR EVIDENCE THAT NO PERMITS ARE REQUIRED SHALL BE SUBMITTED TO THE DEPARTMENT PRIOR TO COMMENCING PROJECT EARTHWORK.

EROSION CONTROL NOTES:

1. EROSION CONTROL MEASURES FOR WIND, WATER, MATERIAL STOCKPILES, AND TRACKING SHALL BE IMPLEMENTED ON ALL PROJECTS AT ALL TIMES AND SHALL INCLUDE SOURCE CONTROL, INCLUDING PROTECTION OF STOCKPILES, PROTECTION OF SLOPES, PROTECTION OF ALL DISTURBED AREAS, PROTECTION OF ACCESSES, AND PERIMETER CONTAINMENT MEASURES. EROSION CONTROL SHALL BE PLACED PRIOR TO THE COMMENCEMENT OF GRADING AND SITE DISTURBANCE ACTIVITIES UNLESS THE PUBLIC WORKS DEPARTMENT DETERMINES TEMPORARY MEASURES TO BE UNNECESSARY BASED UPON LOCATION, SITE CHARACTERISTICS OR TIME OF YEAR. THE INTENT OF EROSION CONTROL MEASURES SHALL BE TO KEEP ALL GENERATED SEDIMENTS FROM ENTERING A SWALE, DRAINAGE WAY, WATERCOURSE, ATMOSPHERE, OR MIGRATE ONTO ADJACENT PROPERTIES OR ONTO THE PUBLIC RIGHT-OF-WAY.
2. SITE INSPECTIONS AND APPROPRIATE MAINTENANCE OF ALL EROSION CONTROL MEASURES/DEVICES SHALL BE CONDUCTED AND DOCUMENTED AT ALL TIMES DURING CONSTRUCTION AND ESPECIALLY PRIOR TO, DURING, AND AFTER RAIN EVENTS.
3. THE DEVELOPER SHALL BE RESPONSIBLE FOR THE PLACEMENT AND MAINTENANCE OF ALL EROSION CONTROL MEASURES/DEVICES AS SPECIFIED BY THE APPROVED PLAN UNTIL SUCH TIME THAT THE PROJECT IS ACCEPTED AS COMPLETE BY THE PUBLIC WORKS DEPARTMENT OR UNTIL RELEASED FROM THE CONDITIONS OF APPROVAL OF THEIR GENERAL PERMIT. EROSION CONTROL MEASURES/DEVICES MAY BE RELOCATED, DELETED OR ADDITIONAL MEASURES/DEVICES MAY BE REQUIRED DEPENDING ON THE ACTUAL CONDITIONS ENCOUNTERED DURING CONSTRUCTION. ADDITIONAL EROSION CONTROL MEASURES/DEVICES SHALL BE PLACED AT THE DISCRETION OF THE ENGINEER OF WORK, COUNTY INSPECTOR, SWPPP MONITOR, OR RWQCB INSPECTOR. GUIDELINES FOR DETERMINING APPROPRIATE EROSION CONTROL DEVICES SHALL BE INCLUDED IN THE PLANS WITH ADDITIONAL MEASURES/DEVICES NOTED FROM THE APPENDIX OF THE PUBLIC IMPROVEMENT STANDARDS.
4. WET WEATHER EROSION CONTROL MEASURES/DEVICES SHALL BE AVAILABLE, INSTALLED, AND/OR APPLIED BETWEEN OCTOBER 15 AND APRIL 15 OR ANYTIME WHEN THE RAIN PROBABILITY EXCEEDS 30%.
5. THE CONTRACTOR, DEVELOPER, AND ENGINEER OF WORK SHALL BE RESPONSIBLE TO REVIEW THE PROJECT SITE PRIOR TO OCTOBER 15 (RAINY SEASON) AND TO COORDINATE AN IMPLEMENTATION PLAN FOR WET WEATHER EROSION CONTROL DEVICES. A LOCALLY BASED STANDBY CREW FOR EMERGENCY WORK SHALL BE AVAILABLE AT ALL TIMES DURING THE RAINY SEASON (OCTOBER 15 THROUGH APRIL 15). NECESSARY MATERIALS SHALL BE AVAILABLE AND STOCK PILED AT CONVENIENT LOCATIONS TO FACILITATE RAPID CONSTRUCTION OR MAINTENANCE OF TEMPORARY DEVICES WHEN RAIN IS IMMINENT.
6. IN THE EVENT OF A FAILURE, THE DEVELOPER AND/OR HIS REPRESENTATIVE SHALL BE RESPONSIBLE FOR CLEANUP AND ALL ASSOCIATED COSTS OR DAMAGE. IN THE EVENT THAT DAMAGE OCCURS WITHIN THE RIGHT-OF-WAY AND THE COUNTY IS REQUIRED TO PERFORM CLEANUP, THE OWNER SHALL BE RESPONSIBLE FOR COUNTY REIMBURSEMENT OF ALL ASSOCIATED COSTS OR DAMAGE.
7. IN THE EVENT OF FAILURE AND/OR LACK OF PERFORMANCE BY THE OWNER AND/OR CONTRACTOR TO CORRECT EROSION CONTROL RELATED PROBLEMS THE PUBLIC WORKS DEPARTMENT MAY REVOKE ALL ACTIVE PERMITS AND RECOMMEND THAT COUNTY CODE ENFORCEMENT PROVIDE A WRITTEN NOTICE OR STOP WORK ORDER IN ACCORDANCE WITH SECTION 22.52.140 [23.10] OF THE LAND USE ORDINANCE.
8. PERMANENT EROSION CONTROL SHALL BE PLACED AND ESTABLISHED WITH 90% COVERAGE ON ALL DISTURBED SURFACES OTHER THAN PAVED OR GRAVEL SURFACES, PRIOR TO FINAL INSPECTION. PERMANENT EROSION CONTROL SHALL BE FULLY ESTABLISHED PRIOR TO FINAL ACCEPTANCE. TEMPORARY EROSION CONTROL MEASURES SHALL REMAIN IN PLACE UNTIL PERMANENT MEASURES ARE ESTABLISHED. SAN LUIS OBISPO COUNTY DEPARTMENT OF PUBLIC WORKS – 2011 PUBLIC IMPROVEMENT STANDARDS APPENDIX: A-4
9. THE COUNTY AIR POLLUTION CONTROL DISTRICT (APCD) MAY HAVE ADDITIONAL PROJECT SPECIFIC EROSION CONTROL REQUIREMENTS. THE CONTRACTOR, DEVELOPER, AND ENGINEER OF WORK SHALL BE RESPONSIBLE FOR MAINTAINING SELF-REGULATION OF THESE REQUIREMENTS.
10. ALL PROJECTS INVOLVING SITE DISTURBANCE OF ONE ACRE OR GREATER SHALL COMPLY WITH THE REQUIREMENTS OF THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES). THE DEVELOPER SHALL SUBMIT A NOTICE OF INTENT (NOI) TO COMPLY WITH THE GENERAL PERMIT FOR CONSTRUCTION ACTIVITY WITH THE REGIONAL WATER QUALITY CONTROL BOARD (RWQCB). THE DEVELOPER SHALL PROVIDE THE COUNTY WITH THE WASTE DISCHARGE IDENTIFICATION NUMBER (WDID #) OR WITH VERIFICATION THAT AN EXEMPTION HAS BEEN GRANTED BY RWQCB. WDID NO.: . PERSON TO CONTACT 24 HOURS DAY IN THE EVENT THERE IS AN EROSION CONTROL/SEDIMENTATION PROBLEM (STORM WATER COMPLIANCE OFFICER): NAME LOCAL PHONE NO:

TRAFFIC CONTROL NOTES:

1. THE ENCROACHMENT PERMIT APPLICANT SHALL BE RESPONSIBLE TO ASSURE THAT THE APPROPRIATE EXISTING TRAFFIC CONTROLS REMAIN IN PLACE AND FUNCTIONAL DURING ALL CONSTRUCTION PHASES. THE CONTRACTOR SHALL COVER ANY CONFLICTING SIGNS THAT EXIST ALONG THE ROADWAY.
2. NO WORK SHALL COMMENCE WITHOUT THE CONSTRUCTION SIGNS INSTALLED AND OTHER NECESSARY TRAFFIC CONTROL DEVICES ON SITE. STATIONARY MOUNTED CONSTRUCTION AREA SIGNS SHALL BE FLUORESCENT ORANGE, USING MATERIALS FROM THE CALTRANS "PREQUALIFIED PRODUCTS LISTϕ FOR SIGNING AND DELINEATION MATERIALS. THE LIST IS AVAILABLE AT THE WEBSITE OF THE CALTRANS OFFICE ENGINEER: WWW.DOT.CA.GOV/HQ/ESC/APPROVED_PRODUCTS_LIST/
3. NO LANE CLOSURES ARE PERMITTED ON THE ROADS AND BETWEEN THE TIMES LISTED IN THE DEPARTMENT'S "LANE CLOSURE RESTRICTION LIST.ϕ NO LANE CLOSURE SHALL BE PERMITTED ON FRIDAY AFTERNOON BEFORE WEEKENDS WITH FEDERAL LEGAL HOLIDAYS, ON THE ROADS LISTED. AFFECTED STREETS WILL BE SHOWN IN THE ENCROACHMENT PERMIT. [THE "COUNTY LANE CLOSURE RESTRICTION LISTϕ IS PROVIDED IN APPENDIX E3.]
4. NO CONSTRUCTION EQUIPMENT OR MATERIALS SHALL BE PARKED OR STORED WITHIN SIX (6) FEET OF THE EDGE OF THE TRAVELED WAY. WHEN CONSTRUCTION EQUIPMENT OR MATERIALS ARE STORED WITHIN THE RIGHT-OF-WAY, FURTHER THAN SIX (6) FEET FROM THE EDGE OF THE TRAVELED WAY, THE SHOULDER AREA SHALL BE SIGNED AS CLOSED, AND PORTABLE DELINEATORS SHALL BE USED TO MARK A TAPER IN ADVANCE OF THE MATERIAL OR EQUIPMENT.
5. ALL PRIVATE DRIVEWAYS AND SIDE STREETS SHALL BE KEPT OPEN AT ALL TIMES, EXCEPT WHEN CONSTRUCTION TAKES PLACE IMMEDIATELY IN FRONT OF THE DRIVEWAY OR SIDE STREET.
6. THE OPERATOR OF ANY TRANSIT OPERATION AFFECTED BY THE WORK SHALL BE NOTIFIED TWO (2) WORKING DAYS PRIOR TO WORK COMMENCING.
7. ALL FLAGGERS SHALL HOLD CURRENT CERTIFICATIONS. AS DEFINED UNDER CAL OSHA CONSTRUCTION SAFETY ORDER SECTION 1599, ALL FLAGGERS ON THE ROADWAY SHALL BE TRAINED BY QUALIFIED AND EXPERIENCED PERSONNEL TO THE ASPECTS NOTED IN SECTION 1599. THE DEVELOPER OR PROJECT ENGINEER SHALL BE RESPONSIBLE TO ENSURE THAT THE CONTRACTOR OR OTHER AGENTS UTILIZE TRAINED PERSONNEL ONLY. ALL WORKERS WITHIN THE ROADWAY SHALL WEAR TYPE 2 CAL-OSHA HIGH-VISIBILITY VESTS.

CALL BEFORE YOU DIG
1-800-227-2600

T-2

PREPARED FOR THE
SAN LUIS OBISPO COUNTY
PUBLIC WORKS DEPARTMENT
976 OSOS STREET, ROOM 206, SAN LUIS OBISPO, CALIFORNIA 93408

DOVER CANYON ROAD AT JACK CREEK BRIDGE
REPLACEMENT PROJECT

Designer	Date	Drawn By	Date	Project Manager	Date
R.USEDOM	06/2018	RLU	06/2018	Z.SIVIGLIA	06/2018

J:\SAN LUIS OBISPO-SA-16157- DOVER CANYON-JACK CREEK BRIDGE\CADD\SHEETS\DCR_T-1.DWG, 7/2/2018 4:22 PM, MTDo.ctb, RACHEL USEDOM

NOTES:

1. FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.
2. FOR SUPERELEVATION DIAGRAMS, SEE SHEET PS-1.
3. DIMENSIONS OF THE PAVEMENT STRUCTURES (STRUCTURAL SECTIONS) ARE SUBJECT TO TOLERANCES SPECIFIED IN THE STANDARD SPECIFICATIONS.

DESIGN CRITERIA:

DESIGN SPEED: 25MPH
PRESENT ADT (2015): 60
DESIGN ADT (2025 TO 2030): 70
ROAD CLASSIFICATION: LOCAL

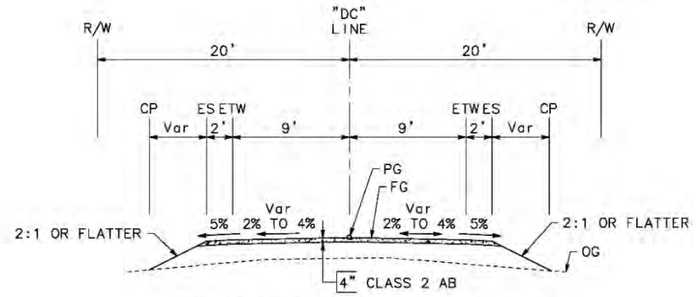
Dist	COUNTY	ROAD NO.	JOB NO.	SHEET No.	TOTAL SHEETS
05	SLO	5154	XXX	XXX	XXX

REGISTERED CIVIL ENGINEER DATE

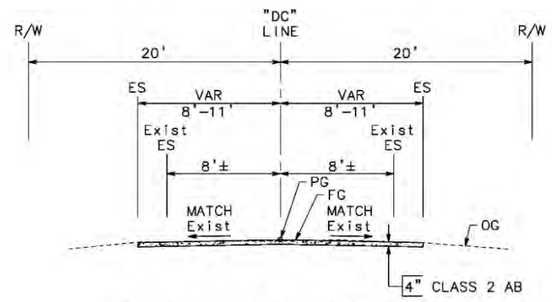
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER ZACHARY JAMES SIVIGLIA No. 73128 Exp. 12/31/18 CIVIL STATE OF CALIFORNIA

MARK THOMAS
16795 VON KARMAN AVE, SUITE 240
IRVINE, CA 92606



"DC" 15+50.00 TO "DC" 19+71.00 BB
"DC" 20+48.00 EB TO "DC" 23+50.00
DOVER CANYON Rd



"DC" 15+00.00 TO "DC" 15+50.00
"DC" 23+50.00 TO "DC" 24+00.00
DOVER CANYON Rd

CALL BEFORE YOU DIG
1-800-227-2600

X-1

NO SCALE

PREPARED FOR THE
SAN LUIS OBISPO COUNTY
PUBLIC WORKS DEPARTMENT
976 OSOS STREET, ROOM 206, SAN LUIS OBISPO, CALIFORNIA 93408

DOVER CANYON ROAD AT JACK CREEK BRIDGE REPLACEMENT PROJECT

TYPICAL CROSS SECTIONS

Designer	Date	Drawn By	Date	Project Manager	Date
R.USEDOM	06/2018	RLU	06/2018	Z.SIVIGLIA	06/2018

J:\SAN LUIS OBISPO-SA-16157-DOVER CANYON-JACK CREEK BRIDGE\CADD\SHEETS\DCBL_X-1.DWG, 7/2/2018 4:23 PM, MTCo.ctb, RACHEL USEDOM

NOTES:

1. CONTRACTOR SHALL COMPLY WITH BUSINESS AND PROFESSIONS CODE SECTION 8771(b) REGARDING REFERENCING, PRESERVING AND RECONSTRUCTING MONUMENTS, WHETHER OR NOT MONUMENTS ARE SHOWN IN THESE PLANS.
2. CONTRACTOR SHALL PROVIDE THE ENGINEER A MINIMUM OF TWO (2) WEEKS NOTICE PRIOR TO COMMENCING ANY WORK THAT COULD DAMAGE OR DESTROY ANY SURVEY MONUMENTS.

BASIS OF BEARING AND COORDINATES:

1. THE BASIS OF BEARINGS FOR THIS SURVEY IS THE CALIFORNIA COORDINATE SYSTEM 1983 (CCS83), ZONE 5, EPOCH 2010, BASED UPON STATIC OPUS SOLUTION WITH 2+ HOUR OBSERVATIONS OF CONTROL POINT #1000 AND #2112.
2. POINT #1000 OPUS SOLUTION USED NGS PID'S: DG7411, DG8341, DM7509, AND FV1022.
3. POINT #2112 OPUS SOLUTION USED NGS PID'S: DG8341, DG8359, DH3622, AND FV1022.

BASIS OF ELEVATION:

1. THIS PROJECT IS BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88)

Dist	COUNTY	ROAD NO.	JOB NO.	SHEET No.	TOTAL SHEETS
05	SLO	5154	XXX	XXX	XXX

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

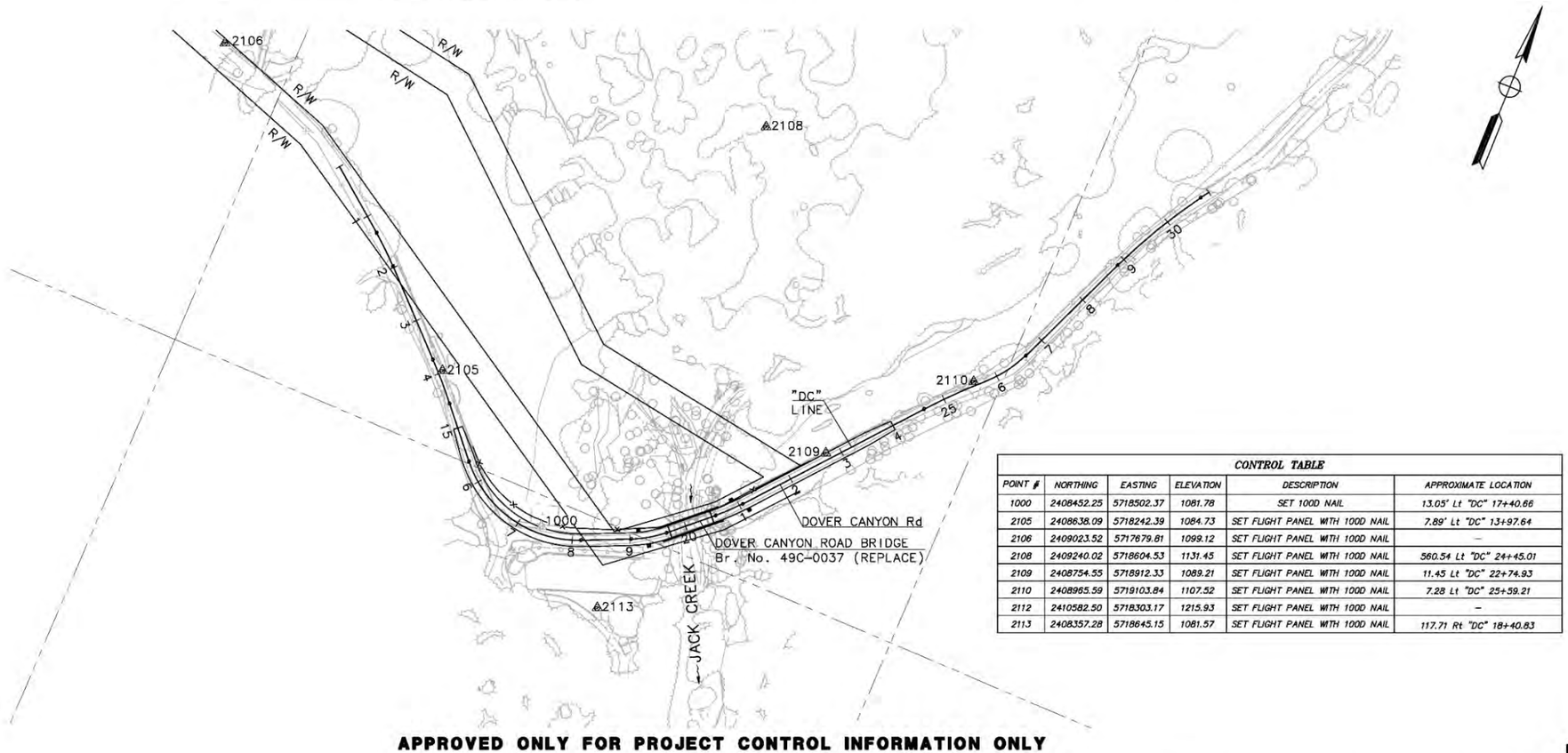
REGISTERED PROFESSIONAL ENGINEER ZACHARY JAMES SIVIGLIA No. 73128 Exp. 12/31/18 CIVIL STATE OF CALIFORNIA

MARK THOMAS
16795 VON KARMAN AVE, SUITE 240
IRVINE, CA 92606

LEGEND:

▲ PROJECT CONTROL

APPROXIMATE SECTION LINES



CONTROL TABLE

POINT #	NORTHING	EASTING	ELEVATION	DESCRIPTION	APPROXIMATE LOCATION
1000	2408452.25	5718502.37	1081.78	SET 100D NAIL	13.05' Lt "DC" 17+40.66
2105	2408638.09	5718242.39	1084.73	SET FLIGHT PANEL WITH 100D NAIL	7.89' Lt "DC" 13+97.64
2106	2409023.52	5717679.81	1099.12	SET FLIGHT PANEL WITH 100D NAIL	–
2108	2409240.02	5718604.53	1131.45	SET FLIGHT PANEL WITH 100D NAIL	560.54 Lt "DC" 24+45.01
2109	2408754.55	5718912.33	1089.21	SET FLIGHT PANEL WITH 100D NAIL	11.45 Lt "DC" 22+74.93
2110	2408965.59	5719103.84	1107.52	SET FLIGHT PANEL WITH 100D NAIL	7.28 Lt "DC" 25+59.21
2112	2410582.50	5718303.17	1215.93	SET FLIGHT PANEL WITH 100D NAIL	–
2113	2408357.28	5718645.15	1081.57	SET FLIGHT PANEL WITH 100D NAIL	117.71 Rt "DC" 18+40.83

CALL BEFORE YOU DIG
1-800-227-2600

APPROVED ONLY FOR PROJECT CONTROL INFORMATION ONLY

PC-1

SCALE: 1" = 100'

PREPARED FOR THE
SAN LUIS OBISPO COUNTY
PUBLIC WORKS DEPARTMENT
976 OSOS STREET, ROOM 206, SAN LUIS OBISPO, CALIFORNIA 93408

DOVER CANYON ROAD AT JACK CREEK BRIDGE
REPLACEMENT PROJECT

PROJECT CONTROL

Designer	Date	Drawn By	Date	Project Manager	Date
R.USEDOM	06/2018	RLU	06/2018	Z.SIVIGLIA	06/2018

J:\SAN LUIS OBISPO-SA-16157- DOVER CANYON-JACK CREEK BRIDGE\CADD\SHEETS\DCB_PC-1.DWG, 7/2/2018 4:24 PM, MTCo.stb, RACHEL USEDOM

NOTES:

1. FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.
2. ALL STATION/OFFSETS REFER TO THE "DC" LINE UNLESS OTHERWISE NOTED.
3. FOR PROFILE AND SUPERELEVATION, SEE SHEET PS-1.
4. FOR GRADING DETAILS, SEE CONTOUR GRADING SHEET G-1.
5. FOR NARROW ROADWAY INSTALLATION OF MGS, SEE CALTRANS Std PLAN RSP A77N3.
6. RIGHT OF WAY IS APPROXIMATE; ROAD RIGHT OF WAY IS ANTICIPATED TO BE PARTIALLY PRESCRIPTIVE.

LEGEND:

- —— —C— —— CUT LINE
- —— —F— —— FILL LINE
- ——×—— FENCED (BARBED WIRE)
- ——■■■—— MIDWEST GUARDRAIL SYSTEM

CURVE DATA				
No.	R	Δ	T	L
1	1000.00'	4°41'35"	40.98'	81.91'
2	200.00'	72°47'32"	147.43'	254.09'
3	200.00'	17°57'49"	31.61'	62.71'
4	350.00'	8°22'20"	25.62'	51.14'
5	1000.00'	6°45'15"	59.01'	117.88'
6	200.00'	23°38'20"	41.85'	82.52'

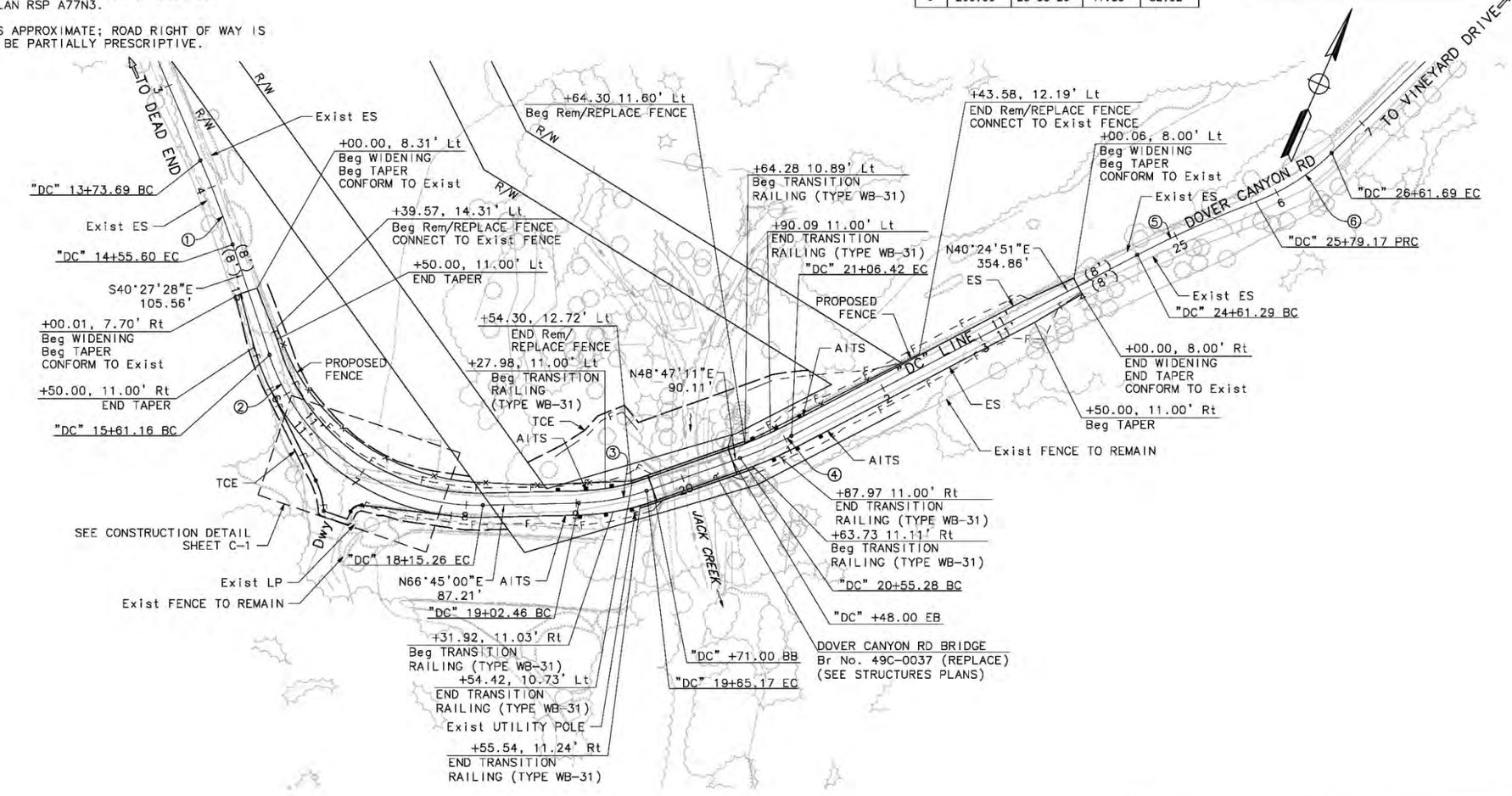
Dist	COUNTY	ROAD NO.	JOB NO.	SHEET No.	TOTAL SHEETS
05	SLO	5154	XXX	XXX	XXX

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER ZACHARY JAMES SIVIGLIA No. 73128 Exp. 12/31/18 CIVIL STATE OF CALIFORNIA

MARK THOMAS
16795 VON KARMAN AVE, SUITE 240
IRVINE, CA 92606



CALL BEFORE YOU DIG
1-800-227-2600

SCALE: 1" = 50'

L-1

PREPARED FOR THE
SAN LUIS OBISPO COUNTY
PUBLIC WORKS DEPARTMENT
976 OSOS STREET, ROOM 206, SAN LUIS OBISPO, CALIFORNIA 93408

DOVER CANYON ROAD AT JACK CREEK BRIDGE REPLACEMENT PROJECT

LAYOUT

Designer	Date	Drawn By	Date	Project Manager	Date
R.USEDOM	06/2018	RLU	06/2018	Z.SIVIGLIA	06/2018

J:\SAN LUIS OBISPO-SA-16157-DOVER CANYON-JACK CREEK BRIDGE\CADD\SHEETS\DCBL1-1.DWG, 7/2/2018 4:24 PM, MTGo.stb, RACHEL USEDOM

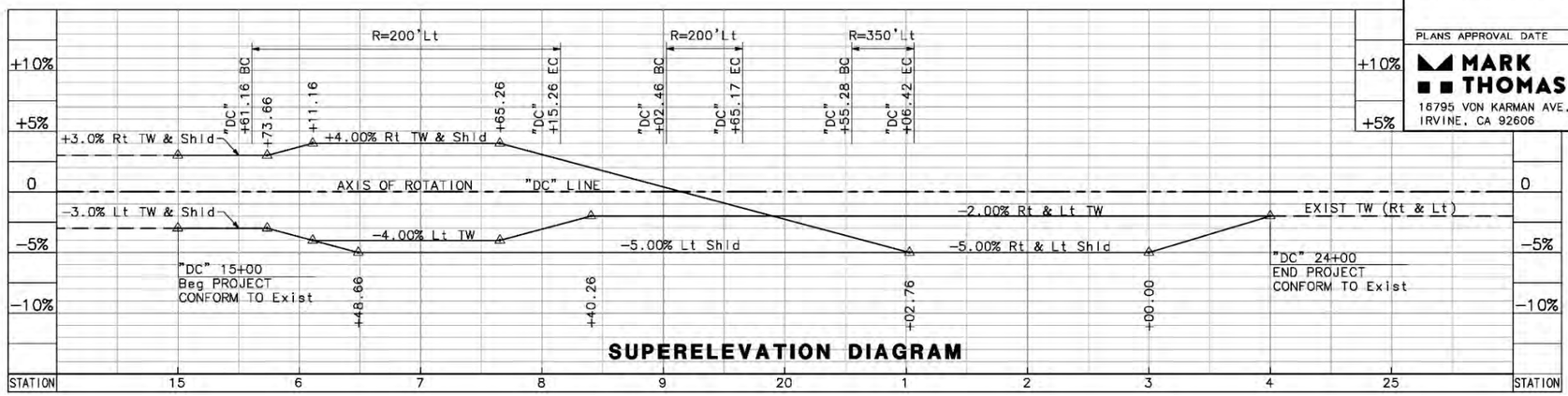
Dist	COUNTY	ROAD NO.	JOB NO.	SHEET No.	TOTAL SHEETS
05	SLO	5154	XXX	XXX	XXX

REGISTERED CIVIL ENGINEER DATE

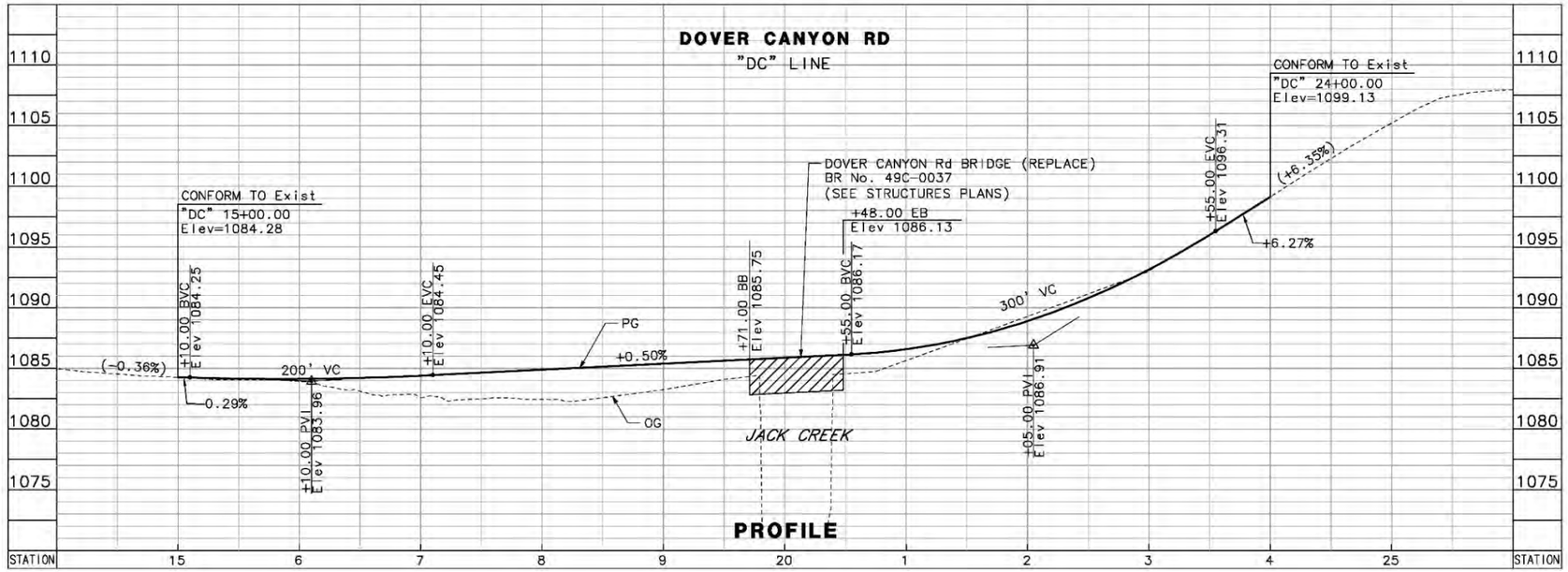
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER ZACHARY JAMES SIVIGLIA No. 73128 Exp. 12/31/18 CIVIL STATE OF CALIFORNIA

MARK THOMAS
16795 VON KARMAN AVE, SUITE 240
IRVINE, CA 92606



SUPERELEVATION DIAGRAM



PROFILE

CALL BEFORE YOU DIG
1-800-227-2600

PS-1

Horiz SCALE: 1" = 50'
Vert SCALE: 1" = 5'

PREPARED FOR THE
SAN LUIS OBISPO COUNTY
PUBLIC WORKS DEPARTMENT
976 OSOS STREET, ROOM 206, SAN LUIS OBISPO, CALIFORNIA 93408

DOVER CANYON ROAD AT JACK CREEK BRIDGE REPLACEMENT PROJECT

PROFILE AND SUPERELEVATION

Designer	Date	Drawn By	Date	Project Manager	Date
R.USEDOM	06/2018	RLU	06/2018	Z.SIVIGLIA	06/2018

J:\SAN LUIS OBISPO-SA-16157-DOVER CANYON-JACK CREEK BRIDGE\CADD\SHEETS\DCBL_PS-1.DWG, 7/2/2018 4:25 PM, MTDs.ctb, RACHEL USEDOM

NOTES:

1. FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.
2. FOR PROFILE AND SUPERELEVATION, SEE SHEET PS-1.

LEGEND:

4" CLASS 2 AB

Dist	COUNTY	ROAD NO.	JOB NO.	SHEET No.	TOTAL SHEETS
05	SLO	5154	XXX	XXX	XXX

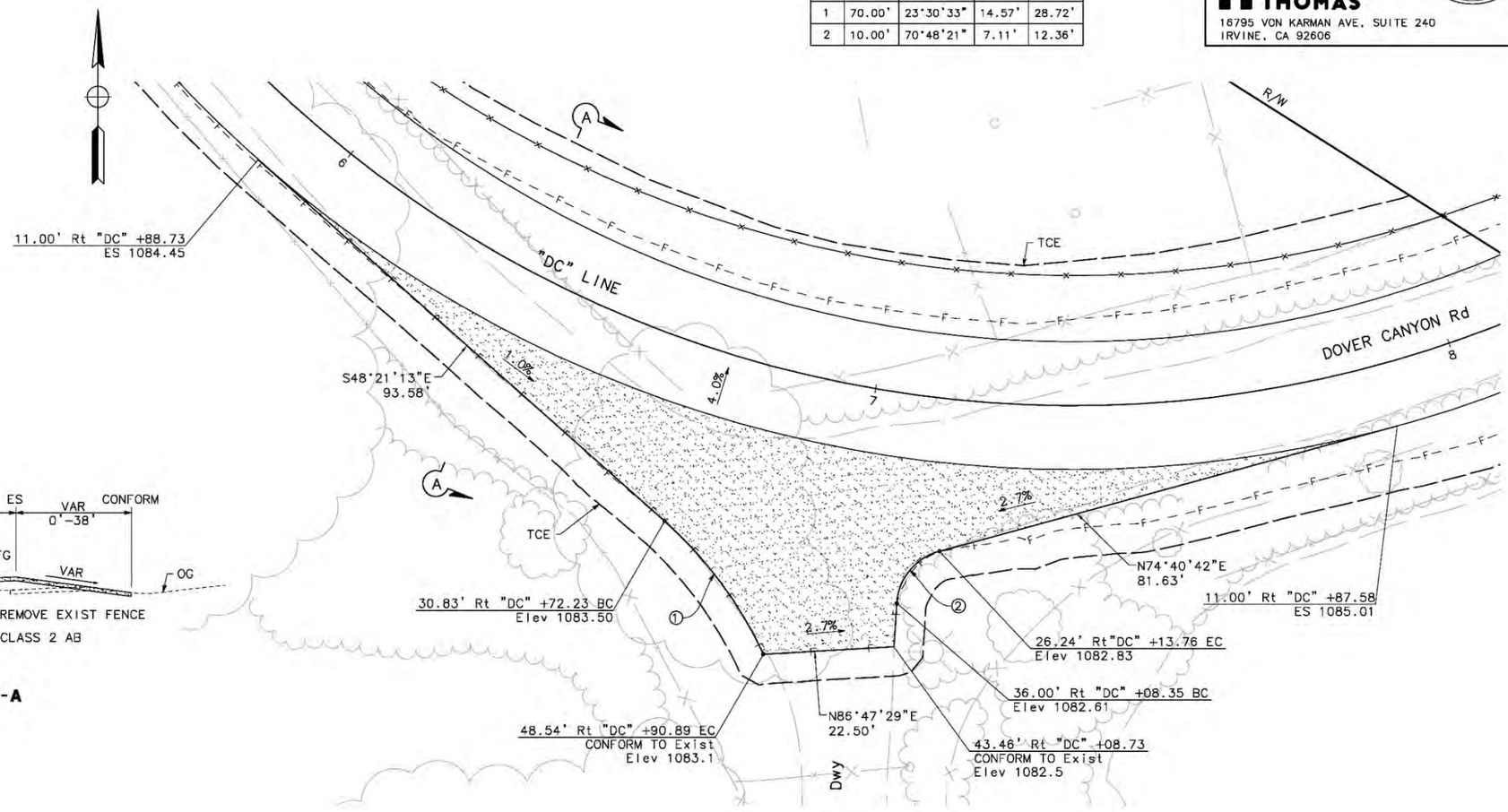
REGISTERED CIVIL ENGINEER DATE

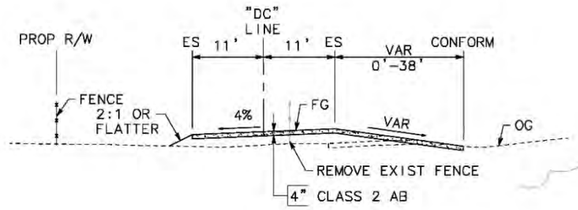
REGISTERED PROFESSIONAL ENGINEER ZACHARY JAMES SIVIGLIA No. 73128 Exp. 12/31/18 CIVIL STATE OF CALIFORNIA

PLANS APPROVAL DATE

MARK THOMAS
16795 VON KARMAN AVE, SUITE 240
IRVINE, CA 92606

CURVE DATA				
No.	R	Δ	T	L
1	70.00'	23°30'33"	14.57'	28.72'
2	10.00'	70°48'21"	7.11'	12.36'





SECTION A-A
NO SCALE

CALL BEFORE YOU DIG
1-800-227-2600

C-1

SCALE: 1" = 10'

PREPARED FOR THE
SAN LUIS OBISPO COUNTY
PUBLIC WORKS DEPARTMENT
976 OSOS STREET, ROOM 206, SAN LUIS OBISPO, CALIFORNIA 93408

DOVER CANYON ROAD AT JACK CREEK BRIDGE REPLACEMENT PROJECT

CONSTRUCTION DETAIL

Designer	Date	Drawn By	Date	Project Manager	Date
R.USEDOM	06/2018	RLU	06/2018	Z.SIVIGLIA	06/2018

J:\SAN LUIS OBISPO-SH-16157-DOVER CANYON-JACK CREEK BRIDGE\CADD\SHEETS\DCBL_C-1.DWG, 7/2/2018 4:26 PM, MTDoc.ctb, RACHEL USEDOM

NOTES:

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

LEGEND:

— — —C— CUT LINE
— — —F— FILL LINE

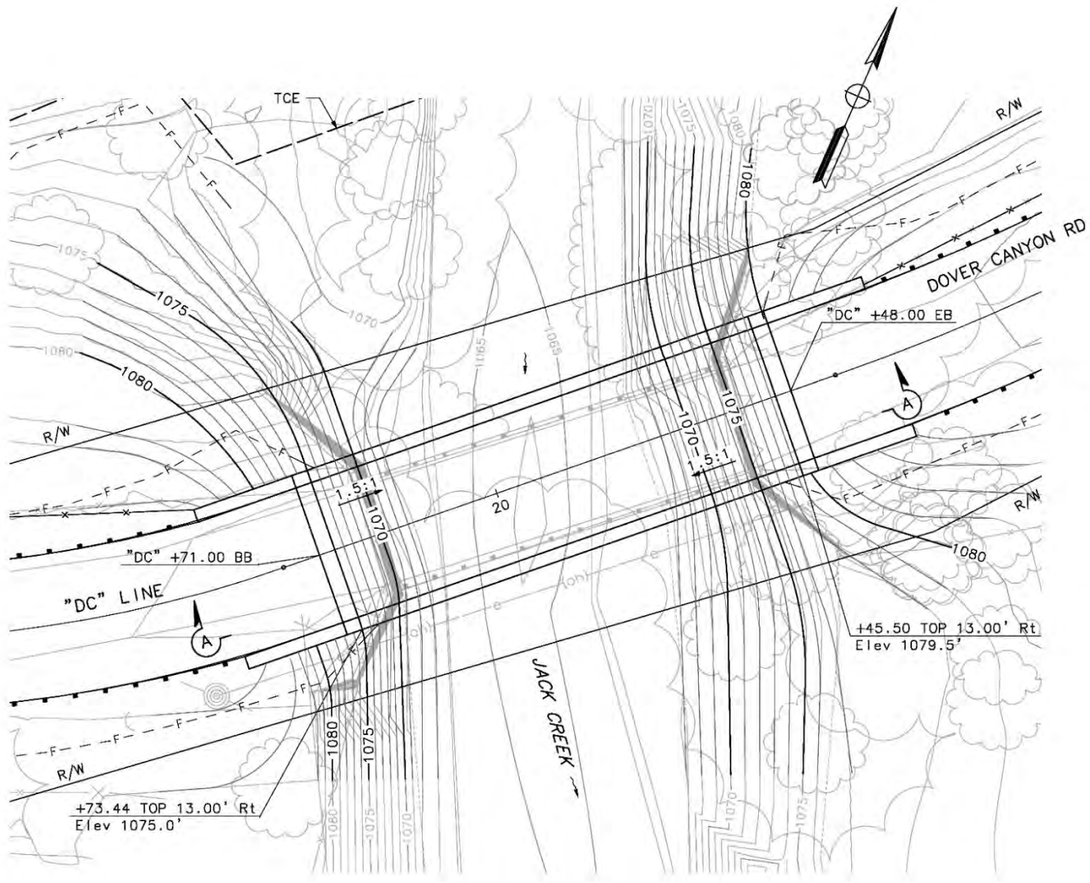
Dist	COUNTY	ROAD NO.	JOB NO.	SHEET No.	TOTAL SHEETS
05	SLO	5154	XXX	XXX	XXX

REGISTERED CIVIL ENGINEER DATE

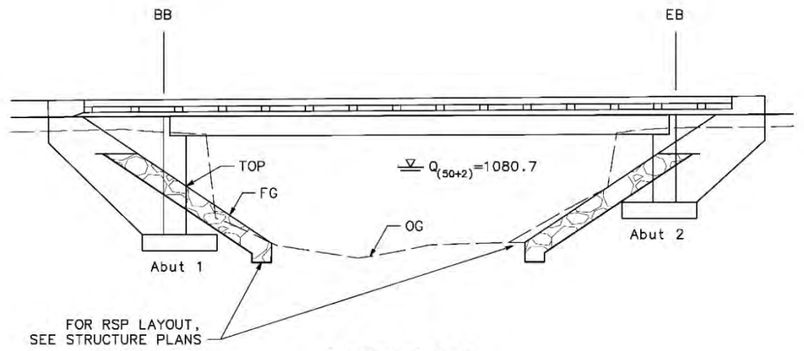
REGISTERED PROFESSIONAL ENGINEER ZACHARY JAMES SIVIGLIA No. 73128 Exp. 12/31/18 CIVIL STATE OF CALIFORNIA

PLANS APPROVAL DATE

MARK THOMAS
16795 VON KARMAN AVE, SUITE 240
IRVINE, CA 92606



GRADING DETAILS
SCALE: 1" = 10'



SECTION A-A
NO SCALE

CALL BEFORE YOU DIG
1-800-227-2600

G-1

PREPARED FOR THE
SAN LUIS OBISPO COUNTY
PUBLIC WORKS DEPARTMENT
976 OSOS STREET, ROOM 206, SAN LUIS OBISPO, CALIFORNIA 93408

DOVER CANYON ROAD AT JACK CREEK BRIDGE REPLACEMENT PROJECT

CONTOUR GRADING

Designer	Date	Drawn By	Date	Project Manager	Date
R.USEDOM	06/2018	RLU	06/2018	Z.SIVIGLIA	06/2018

J:\SAN LUIS OBISPO-SA-16157-DOVER CANYON-JACK CREEK BRIDGE\CADD\SHEETS\LOCB_G-1.DWG, 7/12/2018 4:27 PM, MTDo.ntb, RACHEL USEDOM

NOTES:

1. FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.
2. FOR GENERAL EROSION CONTROL NOTES, SEE SHEET T-2.
3. PROPER DUST CONTROL SHALL BE MAINTAINED AT ALL TIMES DURING CONSTRUCTION.
4. ALL DISTURBED SOIL AREAS OTHER THAN GRAVELED SURFACES SHALL BE HYDROSEEDED.
5. FIBER ROLLS TO BE INSTALLED AT THE TOE OF FILL SLOPES ON ROAD SECTION.

LEGEND:

- —— – –C—— CUT LINE
- —— – –F—— FILL SLOPE
- ——////TFR—— TEMPORARY FIBER ROLLS
- —xx— TSF —— TEMPORARY SILT FENCE
- HYDROSEED

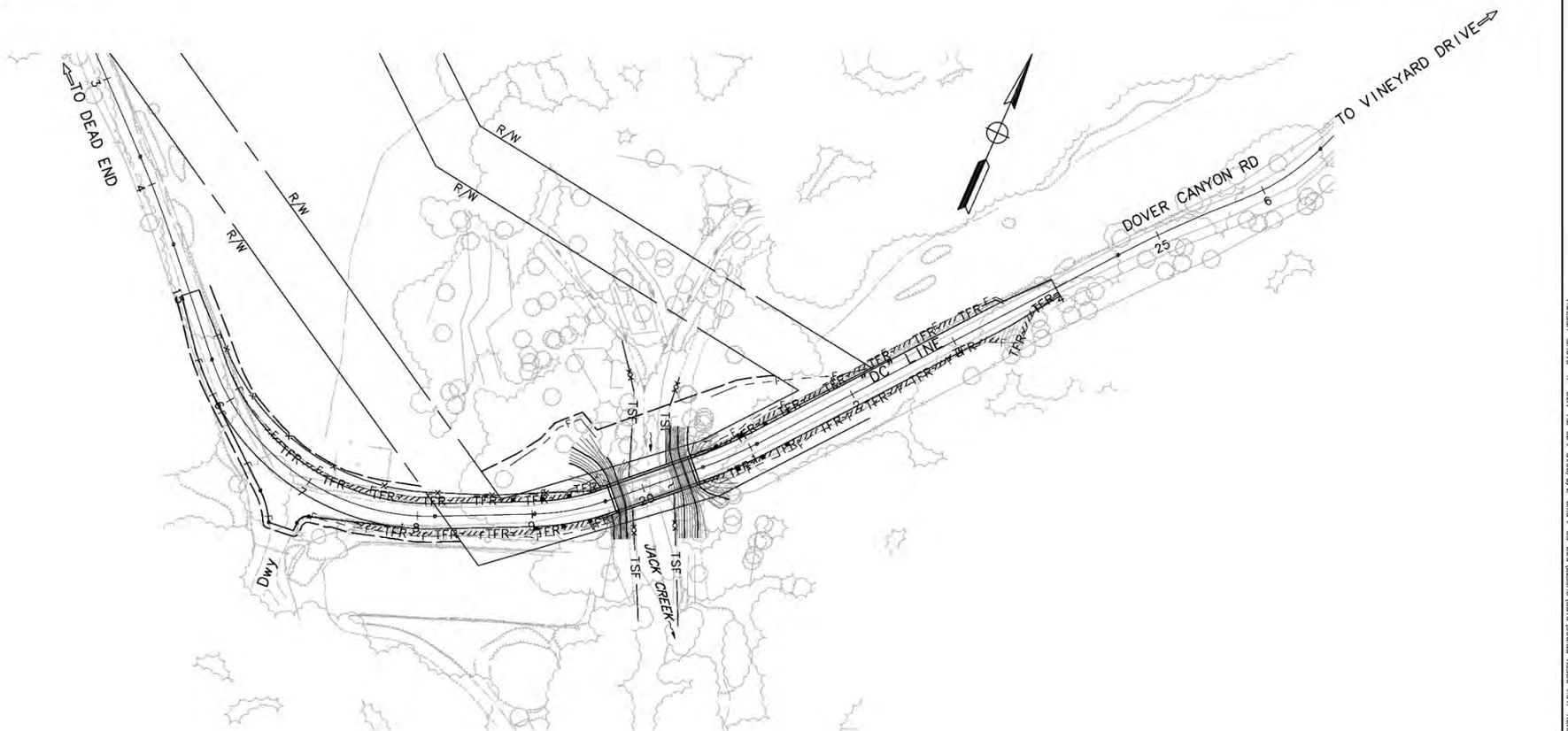
Dist	COUNTY	ROAD NO.	JOB NO.	SHEET No.	TOTAL SHEETS
05	SLO	5154	XXX	XXX	XXX

REGISTERED CIVIL ENGINEER DATE

REGISTERED PROFESSIONAL ENGINEER ZACHARY JAMES SIVIGLIA No. 73128 Exp. 12/31/18 CIVIL STATE OF CALIFORNIA

PLANS APPROVAL DATE

MARK THOMAS
16795 VON KARMAN AVE, SUITE 240
IRVINE, CA 92606



CALL BEFORE YOU DIG
1-800-227-2600

SCALE: 1" = 50'

PREPARED FOR THE
SAN LUIS OBISPO COUNTY
PUBLIC WORKS DEPARTMENT
976 OSOS STREET, ROOM 206, SAN LUIS OBISPO, CALIFORNIA 93408

DOVER CANYON ROAD AT JACK CREEK BRIDGE REPLACEMENT PROJECT

EROSION CONTROL

Designer	Date	Drawn By	Date	Project Manager	Date
R.USEDOM	06/2018	RLU	06/2018	Z.SIVIGLIA	06/2018

EC-1

J:\SAN LUIS OBISPO-SA-16157-DOVER CANYON-JACK CREEK BRIDGE\CADD\SHEETS\DCBL_EC-1.DWG, 7/2/2018 4:29 PM, MTGa.ctb, RACHEL USEDOM

Dist	COUNTY	ROAD NO.	JOB NO.	SHEET No.	TOTAL SHEETS
05	SLO	5154	XXX	XXX	XXX

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER ZACHARY JAMES SIVIGLIA No. 73128 Exp. 12/31/18 CIVIL STATE OF CALIFORNIA

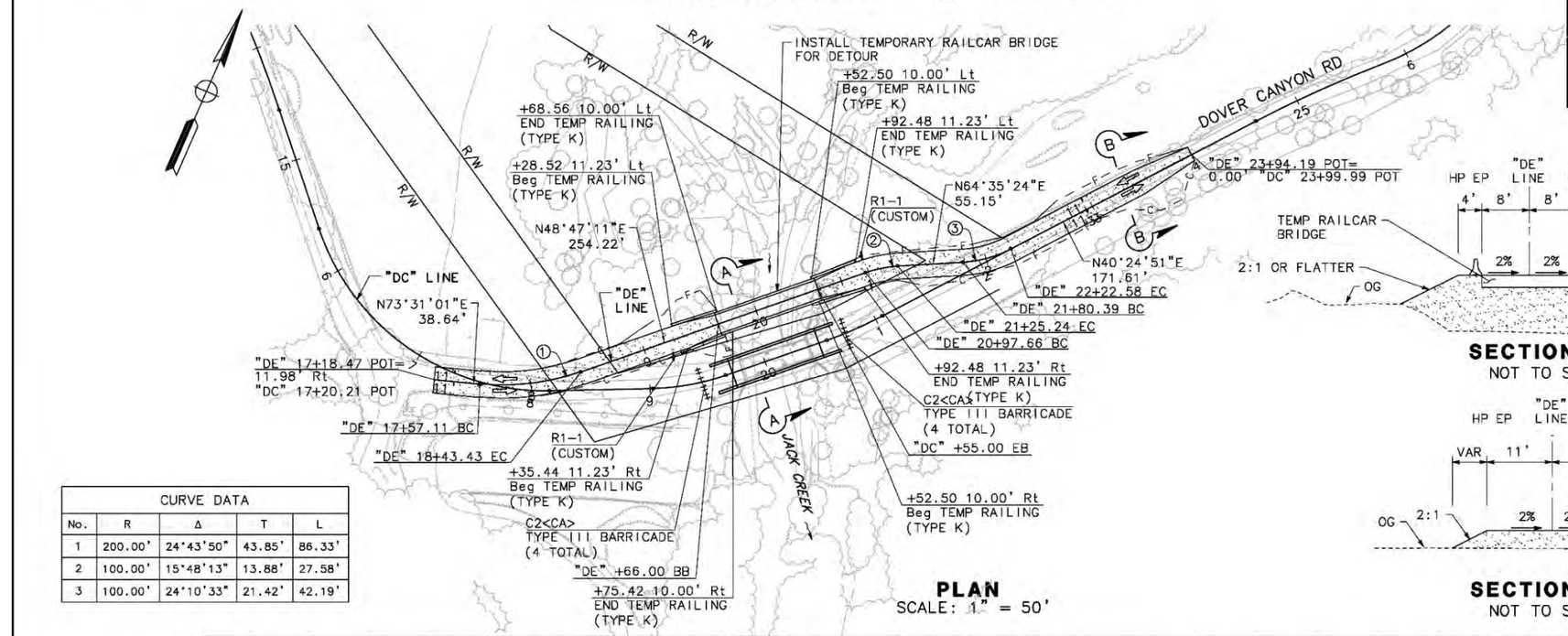
MARK THOMAS
16795 VON KARMAN AVE, SUITE 240
IRVINE, CA 92606

NOTES:

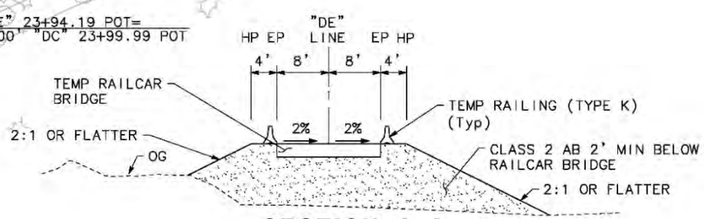
1. FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.

LEGEND:

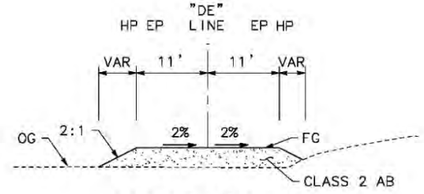
CLASS 2 AGGREGATE BASE
TEMPORARY RAILING (TYPE K)
CONSTRUCTION AREA SIGN (SINGLE POST)
TYPE III BARRICADE



PLAN
SCALE: 1" = 50'

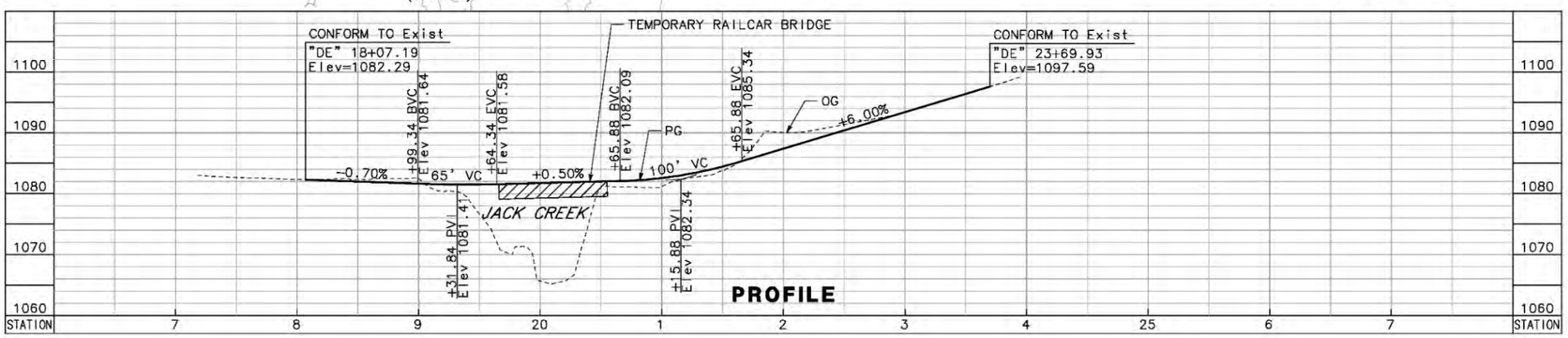


SECTION A-A
NOT TO SCALE



SECTION B-B
NOT TO SCALE

CURVE DATA				
No.	R	Δ	T	L
1	200.00'	24°43'50"	43.85'	86.33'
2	100.00'	15°48'13"	13.88'	27.58'
3	100.00'	24°10'33"	21.42'	42.19'



PROFILE

CALL BEFORE YOU DIG
1-800-227-2600

Horiz SCALE: 1" = 50'
Vert SCALE: 1" = 10'

PREPARED FOR THE
SAN LUIS OBISPO COUNTY
PUBLIC WORKS DEPARTMENT
976 OSOS STREET, ROOM 206, SAN LUIS OBISPO, CALIFORNIA 93408

DOVER CANYON ROAD AT JACK CREEK BRIDGE REPLACEMENT PROJECT

DETOUR PLAN AND PROFILE

Designer	Date	Drawn By	Date	Project Manager	Date
R.USEDOM	06/2018	RLU	06/2018	Z.SIVIGLIA	06/2018

DE-1

J:\SAN LUIS OBISPO-SA-16157-DOVER CANYON-JACK CREEK BRIDGE\CADD\SHEETS\DCB_DE-1.DWG, 7/2/2018 4:30 PM, MTGa.ctb, RACHEL USEDOM

NOTES:

1. FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.
2. FEDERAL SIGN CODES ARE SHOWN UNLESS DESIGNATED BY <CA> WHICH INDICATES A CALIFORNIA SIGN CODE.

LEGEND:

- ROADSIDE SIGN (ONE POST)
- (SX–X) ROADSIDE SIGN NUMBER

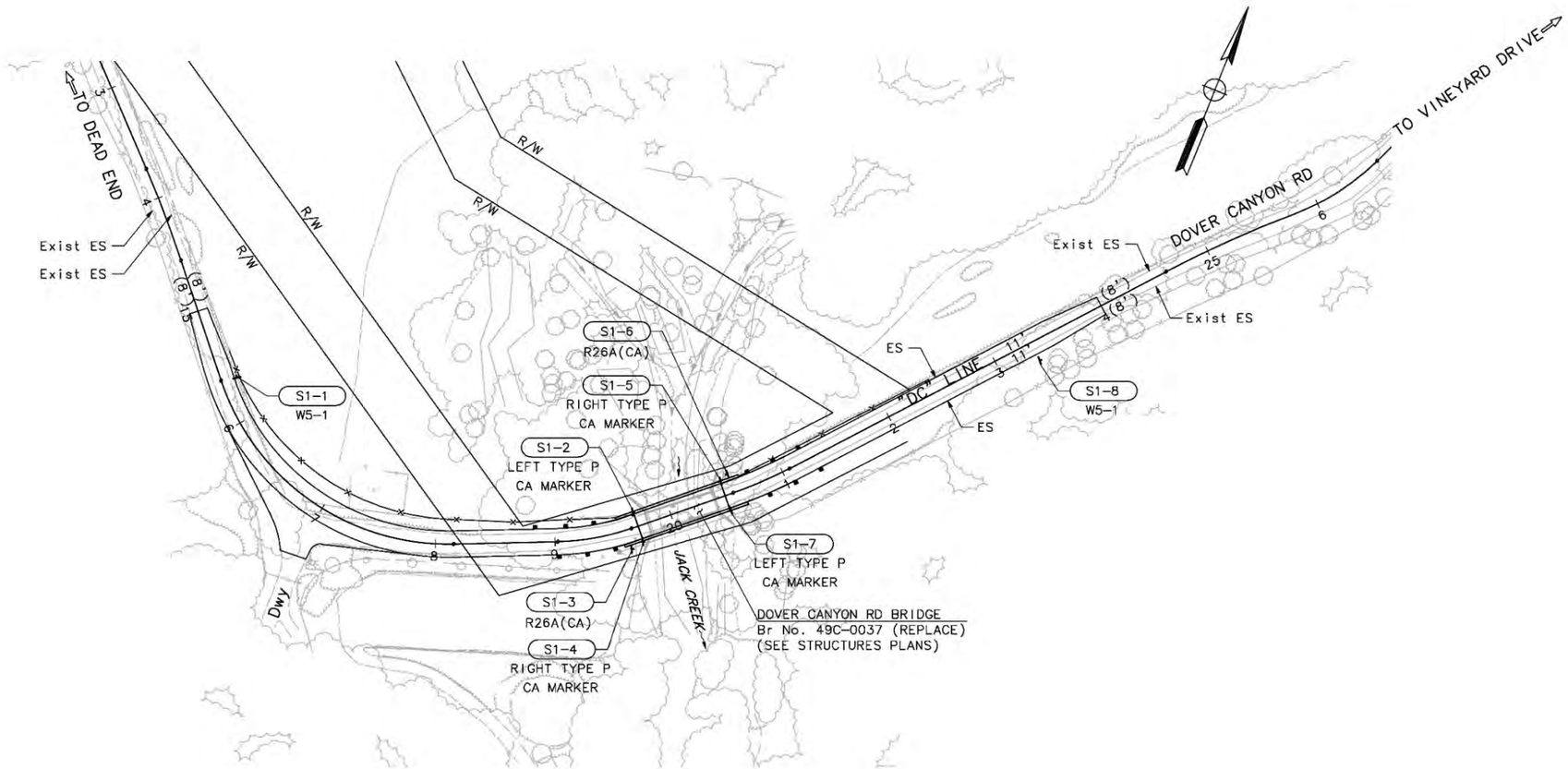
Dist	COUNTY	ROAD NO.	JOB NO.	SHEET No.	TOTAL SHEETS
05	SLO	5154	XXX	XXX	XXX

REGISTERED CIVIL ENGINEER DATE

REGISTERED PROFESSIONAL ENGINEER ZACHARY JAMES SIVIGLIA No. 73128 Exp. 12/31/18 CIVIL STATE OF CALIFORNIA

PLANS APPROVAL DATE

MARK THOMAS
16795 VON KARMAN AVE, SUITE 240
IRVINE, CA 92606



CALL BEFORE YOU DIG
1–800–227–2600

S-1

SCALE: 1" = 50'

PREPARED FOR THE
SAN LUIS OBISPO COUNTY
PUBLIC WORKS DEPARTMENT
976 OSOS STREET, ROOM 206, SAN LUIS OBISPO, CALIFORNIA 93408

DOVER CANYON ROAD AT JACK CREEK BRIDGE REPLACEMENT PROJECT

SIGN PLAN

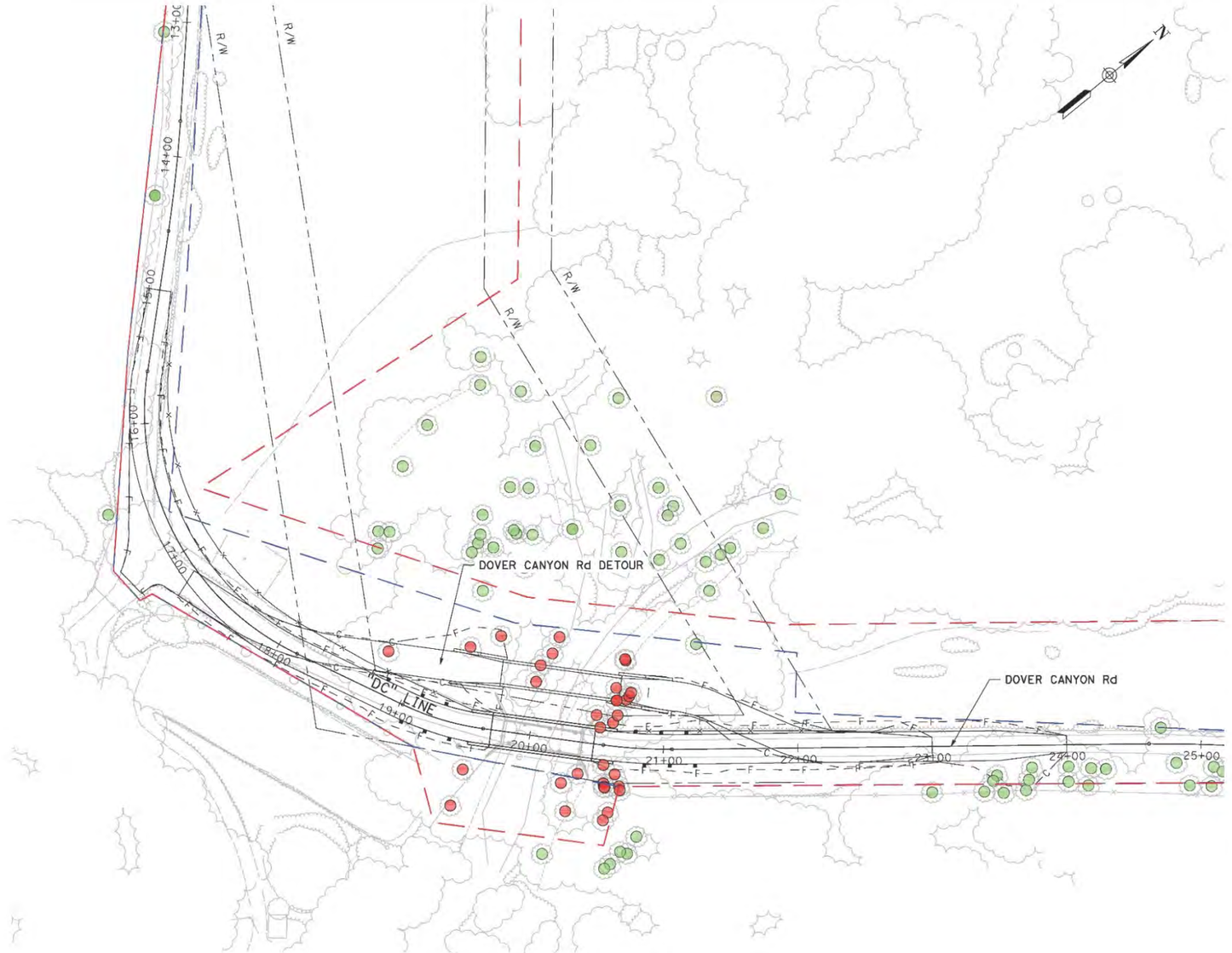
Designer	Date	Drawn By	Date	Project Manager	Date
R.USEDOM	06/2018	RLU	06/2018	Z.SIVIGLIA	06/2018

J:\SAN LUIS OBISPO-SA-16157-DOVER CANYON-JACK CREEK BRIDGE\CADD\SHEETS\DCBL_S-1.DWG, 7/2/2018 4:31 PM, MTCo.stb, RACHEL USEDOM

LEGEND:

- Exist TREE TO REMAIN
- Exist TREE TO BE REMOVED
- LIMIT OF WORK
- AREA OF POTENTIAL EFFECTS

TREE DATA: TO BE REMOVED			
Point #	Northing	Easting	Raw Description
2457052	2408574.45	5718798.02	TREE 18INOAK
2457060	2408598.79	5718768.14	TREE 10INOAK
2457054	2408569.53	5718809.33	TREE 6IN
2457062	2408617.60	5718761.99	TREE 12INOAK
2547060	2408552.06	5718815.94	TREE 6IN15D
2457056	2408562.46	5718799.74	TREE 12INOAK
2457064	2408623.48	5718760.19	TREE 20INOAK
2457065	2408636.24	5718739.52	TREE 30INOAK
2457053	2408571.06	5718806.81	TREE 8INOAK
2457055	2408563.62	5718797.60	TREE 6IN
2457058	2408572.78	5718787.22	TREE 18INSPLIT OAK
2547056	2408540.13	5718776.49	TREE 24INOAK
2457059	2408589.28	5718764.56	TREE 8IN
2547057	2408528.70	5718794.47	TREE 24INOAK
2457061	2408605.00	5718766.36	TREE 10INOAK
2547059	2408562.35	5718800.30	TREE 12IN30D OAK
2457063	2408620.68	5718761.33	TREE 8INOAK
2547061	2408545.43	5718818.05	TREE 8IN15D
2457066	2408617.70	5718750.34	TREE 8INOAK
2457067	2408611.65	5718757.56	TREE 15INOAK
2457068	2408611.64	5718757.69	TREE 15INOAK
2547006	2408491.66	5718720.90	TREE 48INOAK BWF ATTACHED
2547012	2408507.76	5718618.62	TREE 36INOAK
2547036	2408467.11	5718735.24	TREE 60INOAK
2547055	2408554.02	5718779.60	TREE 15INOAK
2547079	2408593.22	5718756.01	TREE 10IN15D OAK
2547089	2408555.78	5718656.25	TREE 10IN30D OAK
2547090	2408578.44	5718664.99	TREE 20IN15D OAK
2547101	2408575.67	5718707.74	TREE 36INCLUSTER
2547102	2408586.23	5718700.70	TREE 10IN20D
2547103	2408598.68	5718699.88	TREE 30INCLUSTER
2547104	2408610.51	5718694.17	TREE 36INCLUSTER
2547111	2408636.55	5718738.57	TREE 36IN40D OAK



BRIDGE No.: 49C-0037
FEDERAL PROJECT No.: BRLO-5949(152)

PLAN VIEW
SCALE: 1" = 40'

DRAWN BY: R.USEDOM
CKD. BY: Z.SIVIGLIA
DATE: 07/23/2018
SCALE: AS SHOWN

DOVER CANYON AT JACK CREEK BRIDGE REPLACEMENT PROJECT

POTENTIAL TREE IMPACTS

MARK THOMAS
16795 VON KARMAN AVE
SUITE 240
IRVINE, CA 92608

Appendix B 2017 OHWM Datasheets

This page intentionally left blank.

OHWM Delineation Cover Sheet Page 1 of 2

Project: Dover Canyon Bridge **Date:** 5/13/17

Location: San Luis Obispo County **Investigator(s):** Bassett Holland

Project Description: Bridge replacement and/or installation

Describe the river or stream's condition (disturbances, in-stream structures, etc.):
Scour beneath bridges & some disturbances from cattle just above the OHWM. Water turbidity clear.

Off-site Information

Remotely sensed image(s) acquired? ☐ **Yes** ☑ **No** [If yes, attach image(s) to datasheet(s) and indicate approx. locations of transects, OHWM, and any other features of interest on the image(s); describe below] Description:

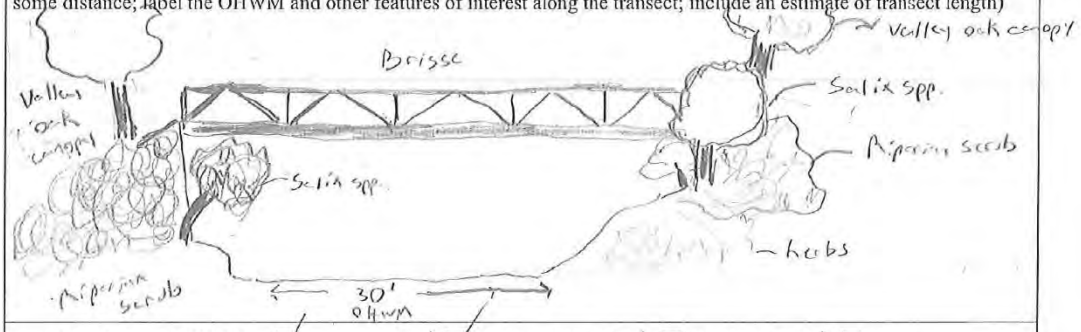
Hydrologic/hydraulic information acquired? ☐ **Yes** ☑ **No** [If yes, attach information to datasheet(s) and describe below.] Description:

List and describe any other supporting information received/acquired:

Instructions: Complete one cover sheet and one or more datasheets for each project site. Each datasheet should capture the dominant characteristics of the OHWM along some length of a given stream. Complete enough datasheets to adequately document up- and/or downstream variability in OHWM indicators, stream conditions, etc. Transect locations can be marked on a recent aerial image or their GPS coordinates noted on the datasheet.

Datasheet # 1 **OHWM Delineation Datasheet** Page 2 of 2

Transect (cross-section) drawing: (choose a location that is representative of the dominant stream characteristics over some distance; label the OHWM and other features of interest along the transect; include an estimate of transect length)



Break in Slope at OHWM: ☑ Sharp (> 60°) | ☑ Moderate (30–60°) | ☐ Gentle (< 30°) | ☐ None

Notes/Description: Streamside right sharp (>60°); streamside left sharp to moderate. Transect looking upstream towards bridge. Areas upstream consisted of a dense willow canopy & a narrower stream channel

Sediment Texture: Estimate percentages to describe the general sediment texture above and below the OHWM

	Clay/Silt <0.05mm	Sand 0.05 – 2mm	Gravel 2mm – 1cm	Cobbles 1 – 10cm	Boulders >10cm	Developed Soil Horizons (Y/N)
Above OHWM	85		10	5		
Below OHWM	10		10	70	10	

Notes/Description: Area below OHWM predominately cobbles & gravel w/ few boulders. Some cobbles & gravel observed above OHWM; however, predominately clay.

Vegetation: Estimate absolute percent cover to describe general vegetation characteristics above and below the OHWM

	Tree (%)	Shrub (%)	Herb (%)	Bare (%)
Above OHWM	47	35	15	10
Below OHWM	10	5	10	cobbles

Notes/Description:

Other Evidence: List/describe any additional field evidence and/or lines of reasoning used to support your delineation

Distinct difference in sediment texture between areas above & below OHWM. Channel dominated by cobbles & areas above OHWM were clay.

Appendix C Photo Documentation

This page intentionally left blank.

Photo C-1. View of Dover Canyon Road Bridge over Jack Creek, facing north, depicting the riparian canopy at the bridge crossing. Photo taken June 1, 2016.

Photo C-2. View of Jack Creek from Dover Canyon Road Bridge, facing upstream. Photo taken June 1, 2016.

Photo C-3. View of Jack Creek facing upstream (toward the bridge) from the OHWM Determination Transect. Photo taken May 12, 2017.

Photo C-4. View of Jack Creek facing downstream from the OHWM Determination Transect. Photo taken May 12, 2017.

Appendix D List of Plant Species Observed in BSA

This page intentionally left blank.

Plant Species Observed at Dover Canyon Road at Jack Creek Bridge

Scientific Name	Common Name	Native	Notes-WIS/Cal-IPC*
Nomenclature follows The Jepson Online Interchange for California Floristics http://ucjeps.berkeley.edu/interchange/.			
Ferns			
Dryopteris arguta	wood fern	Yes	
Equisetum sp.	horsetail	Yes	FAC (or wetter)
Adiantum jordanii	California maidenhair	Yes	FAC
Gymnosperms			
Pinaceae	**Pine Family**		
Pinus sabiana	gray pine	Yes	
Angiosperms			
Adoxocaceae			
Sambucus nigra ssp. *caerulea*	black elderberry	Yes	FACU
Anacardiaceae	**Sumac Family**		
Toxicodendron diversilobum	Poison oak	Yes	FACU
Apiaceae	**Carrot Family**		
Conium maculatum	poison hemlock	No	FACW, Cal-IPC moderate
Daucus pusillus	wild carrot	Yes	
Osmorhiza berteroi	sweet cicely	Yes	
Sanicula crassicaulis	sanicula	Yes	
Sanicula hoffmannii	Hoffmann's sanicle	Yes	CRPR 4.2
Torilis arvensis	hedge parsley	No	FAC, Cal-IPC moderate
Apocynaceae	**Milkweed Family**		
Asclepias fascicularis	narrow leaf milkweed	Yes	
Asteraceae	**Sunflower Family**		
Ambrosia psilostachya	western ragweed	Yes	FACU
Artemisia douglasiana	mugwort	Yes	FAC
Baccharis pilularis	coyote brush	Yes	
Baccharis salicifolia	mulefat	Yes	FAC
Carduus pycnocephalus	Italian thistle	No	Cal-IPC moderate
Erigeron canadensis	Canada horseweed	Yes	FACU
Senecio vulgaris	common groundsel	No	
Silybum marianum	milk thistle	No	Cal-IPC limited
Boraginaceae	**Borage Family**		
Amsinckia spectablilis	seaside fiddleneck	Yes	

Scientific Name	Common Name	Native	Notes-WIS/Cal-IPC*
Brassicaceae	**Mustard Family**		
Brassica sp.	mustard	No	
Cardamine californica	milk maids	Yes	
Cardamine oligosperma	little western bittercress	Yes	FAC
Caprifoliaceae	**Honeysuckle Family**		
Lonicera interrupta	chaparral honeysuckle	Yes	
Symphorocarpus albus	common snowberry	Yes	FACU
Caryophyllaceae	**Pink Family**		
Cerastium glomeratum	chickweed	No	UPL
Stellaria media	chickweed	No	FACU
Convolvulaceae	**Morning-glory Family**		
Convolvulus arvensis	bindweed	No	
Fabaceae	**Pea Family**		
Lotus corniculatus	bird's-foot trefoil	No	FAC
Lupinus nanus	sky lupine	Yes	
Lupinus succulentus	Succulent lupine	Yes	
Melilotus albus	white sweetclover	No	
Melilotus indicus	annual yellow sweetclover	No	FACU
Melilotus oficinalis	yellow sweetclover	No	FACU
Trifolium sp.	clover	No	
Vicia americana	American vetch	Yes	
Fagaceae	**Oak Family**		
Quercus agrifolia	coast live oak	Yes	
Quecus lobata	blue oak	Yes	FACU
Geraniaceae	**Geranium Family**		
Geranium molle	storkbill	No	
Lamiaceae	**Mint Family**		
Clinopodium douglasii	yerba buena	Yes	
Marrubium vulgare	white horehound	No	FACU, Cal-IPC limited
Mentha spicata	spearmint	No	FACW
Mentha sp.	mint	Yes	
Stachys ajugoides	hedge-nettle	Yes	OBL
Lauraceae	**Laurel family**		
Umbellularia californica	California bay	Yes	FAC
Montiaceae	**Miner's Lettuce Family**		
Claytonia perfoliata	Miner's lettuce	Yes	FAC
Onagraceae	**Evening Primrose Family**		
Epilobium ciliatum	willowherb	Yes	FACW

Scientific Name	Common Name	Native	Notes-WIS/Cal-IPC*
Plantangenaceae	**Plantain Family**		
Plantago lanceolata	narrow leaf plantain	No	FAC, Cal-IPC limited
Plantago major	common plantain	No	FAC
Platanaceae	**Sycamore Family**		
Platanus racemosa	California sycamore	Yes	FAC
Polygonaceae	**Buckwheat Family**		
Rumex crispus	curly dock	No	FAC, Cal-IPC limited
Ranunculaceae	**Buttercup Family**		
Clematis ligusticifolia	western virgin's bower	Yes	FAC
Rhamnaceae	**Buckthorn Family**		
Frangula californica	California coffeeberry	Yes	
Rosacea	**Rose Family**		
Fragaria vesca	wild strawberry	Yes	UPL
Rosa californica	California wild rose	Yes	FAC
Rubus armeniacus	Himalayan blackberry	No	FAC, Cal-IPC high
Rubus ursinus	California blackberry	Yes	FAC
Rubiaceae	**Madder Family**		
Galium aparine	bedstraw	Yes	FACU
Galium andrewsii	phlox-leaved bedstraw	Yes	
Salicaceae	**Willow Family**		
Salix lasiolepis	arroyo willow	Yes	FACW
Salix laevigata	red willow	Yes	FACW
Scropulariaceae	**Figwort Family**		
Scrophularia californica	California figwort	Yes	**FAC**
Verbascum thapsus	woolly mullein	No	FACU, Cal-IPC limited
Urticacacea	**Nettle Family**		
Urtica dioica	stinging nettle	Yes	FAC
Verbenaceae	**Verbena Family**		
Verbena lasiostachys	western vervain	Yes	FAC
Monocots			
Cyperaceae	**Sedge Family**		
Carex spp.	sedges	Yes	FAC (or wetter)
Scirpus pungens	common threesquare	Yes	FACW
Juncaceae	**Rush Family**		
Juncus effussus	common bog rush	Yes	FACW
Juncus xiphioides (or *J. phaeocephalus*)	iris-leaved rush (or brown-headed rush)	Yes	OBL or FACW

Scientific Name	Common Name	Native	Notes-WIS/Cal-IPC*
Poaceae	**Grass Family**		
Avena spp.	wild oats	No	Cal-IPC moderate
Brachypodium sp.	false brome	No	
Bromus catharticus	rescue grass	No	
Bromus diandrus	rip-gut brome	No	Cal-IPC moderate
Bromus hordeaceus	soft chess brome	No	FACU, Cal-IPC limited
Cynosurus echinatus	dogtail grass	No	Cal-IPC moderate
Elymus triticoides	beardless wild rye	Yes	FAC
Festuca bromoides	brome fescue	No	
Festuca perennis	Italian rye grass	No	Cal-IPC moderate
Gastridium phleoides	nit grass	No	FACU
Hordeum murinum	foxtail barley	No	FACU, Cal-IPC moderate
Muhlenbergia rigens	deer grass	Yes	FAC
Poa annua	annual blue grass	No	FAC
Poa bulbosa	bulbous blue grass	No	FACU
Polypogon monspeliensis	rabbit'sfoot grass	No	FACW, Cal-IPC limited
Stipa miliacea var. *miliacea*	smilo grass	No	Cal-IPC limited

Source: Surveys conducted on March 24, 2017 (County biologists) and May 13, 2017 (SWCA biologist).
*WIS = Wetland Indicator Status
OBL (Obligate Wetland) = almost always occur in wetlands
FACW (Facultative Wetland) = usually occur in wetlands, but may occur in non-wetlands
FAC (Facultative) = occur in wetlands and non-wetlands
FACU (Facultative Upland) = usually occur in non-wetlands, but may occur in wetlands
UPL (Obligate Upland) = almost never occur in wetlands
CalIPC = California Invasive Plant Council, species included on the Inventory of Invasive Species
CRPR = California Rare Plant Rank, Species included on the CDFW/CNPS rare plant inventory – List 4.2 (a watch list)

Appendix F - Photo Documentation

This page intentionally left blank.

Photo F-1. Jack Creek Bridge on Dover Canyon Road, facing north. Photo taken June 1, 2016.

Photo F-2. Annual brome grassland adjacent to valley oak woodland. Photo taken May 13, 2017.

Photo F-3. The bridge over Jack Creek, with arroyo willow thicket on the banks of the creek and overlapping oak canopy. Photo taken May 13, 2017.

Photo F-4. Jack Creek Stream channel. Photo taken May 13, 2017.