County of San Mateo
Planning and Building Department

INITIAL STUDY
ENVIRONMENTAL EVALUATION CHECKLIST
(To Be Completed by Planning Department)

1. **Project Title:** Peter's Creek Bridges

2. **County File Number:** PLN2022-00068

3. **Lead Agency Name and Address:** County of San Mateo, Planning and Building Department, 455 County Center, 2nd Floor, Redwood City, CA 94063

4. **Contact Person and Phone Number:** Summer Burlison, Project Planner, 650/363-1815

5. **Project Location:** Slate Creek Road (Peter's Creek), South Skyline area

6. **Assessor's Parcel Number and Size of Parcel:** 085-070-070 and 085-070-050; 86 acres total

7. **Project Sponsor's Name and Address:** Save the Redwoods League, 111 Sutter Street, 11th Floor, San Francisco, CA 94104

8. **Name of Person Undertaking the Project or Receiving the Project Approval (if different from Project Sponsor):** N/A

9. **General Plan Designation:** Timber Production and Open Space, respectively

10. **Zoning:** Timberland Preserve Zone (TPZ) and Resource Management (RM), respectively

11. **Description of the Project:**

    The applicant is seeking a Timberland Preserve Permit, a Resource Management Permit, and a Grading Permit to allow for the removal and reconstruction of an existing bridge (Bridge 1) and for the construction of a new bridge (Bridge 2) crossing Peter's Creek. The bridges will be clear span structures that are 50 feet by 11.5 feet (Bridge 1) and 100 feet by 8.7 feet (Bridge 2) in span. Replacement Bridge 1 will replace an existing old railroad flat car bridge and will be fire truck rated. New Bridge 2 will be located between two high banks about 800 feet upstream of Bridge 1. A short area of the roadway to the location of Bridge 2 will be temporarily expanded to provide a minimum width of 12 feet for equipment and material. Additionally, a large stump in the access road to Bridge 2 will be removed and the access way re-graded.

    The project proposes a total of 1,563 cubic yards (c.y.) of grading (1,048 c.y. cut and 515 c.y. fill) and the removal of 18 trees, including 16 trees ranging in size from 5" diameter to 10" diameter, one 35" diameter Douglas fir and one 28" diameter redwood.

    The bridges will serve maintenance and recreation users. Footings/foundations for the bridges will be outward of top-of-bank and above the ordinary high water line. However, temporary water diversions within the creek bed will be necessary for construction access and for

equipment to work at the sites. Construction will occur during the dry season and is expected to take 2-3 months for each bridge, with the bridges to be constructed sequentially as improvement to Bridge 1 is needed in order for construction vehicles and equipment to access the site for Bridge 2. See the project plans and project description, Attachments B and C for further details. Additionally, some minor realignment of trail segments around these bridges is proposed.

12. **Surrounding Land Uses and Setting:** The project parcels are part of four parcels totaling approximately 162 acres of forestland supporting trails and access to adjacent state park lands and trails. Portola Redwoods State Park is located east, west and south of the project parcels. Privately owned and developed rural parcels are located to the adjacent north and south of the project parcels. The area is densely forested.

13. **Other Public Agencies Whose Approval is Required:** California Department of Fish and Wildlife, Regional Water Quality Control Board, US Army Corps of Engineers.

14. **Have California Native American tribes traditionally and culturally affiliated with the project area requested consultation pursuant to Public Resources Code Section 21080.3.1? If so, is there a plan for consultation that includes, for example, the determination of significance of impacts to tribal cultural resources, procedures regarding confidentiality, etc.?:** No California Native American tribes have requested consultation for the project pursuant to Public Resources Code Section 21080.3.1. Furthermore, the result of a Sacred Lands File check by the Native American Heritage Commission was negative.

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a “Potentially Significant Impact” or “Significant Unless Mitigated” as indicated by the checklist on the following pages.

	Aesthetics		Energy		Public Services
	Agricultural and Forest Resources		Hazards and Hazardous Materials		Recreation
X	Air Quality		Hydrology/Water Quality		Transportation
X	Biological Resources		Land Use/Planning	X	Tribal Cultural Resources
	Climate Change		Mineral Resources		Utilities/Service Systems
X	Cultural Resources		Noise		Wildfire
	Geology/Soils		Population/Housing		Mandatory Findings of Significance

EVALUATION OF ENVIRONMENTAL IMPACTS

1. A brief explanation is required for all answers except “No Impact” answers that are adequately supported by the information sources a lead agency cites. A “No Impact” answer is adequately

supported if the referenced information sources show that the impact simply does not apply to projects like the one involved (e.g., the project falls outside a fault rupture zone). A "No Impact" answer should be explained where it is based on project-specific factors as well as general standards (e.g., the project will not expose sensitive receptors to pollutants, based on a project-specific screening analysis).

2. All answers must take account of the whole action involved, including off-site as well as on-site, cumulative as well as project-level, indirect as well as direct, and construction as well as operational impacts.

3. Once the lead agency has determined that a particular physical impact may occur, then the checklist answers must indicate whether the impact is potentially significant, less than significant with mitigation, or less than significant. "Potentially Significant Impact" is appropriate if there is substantial evidence that an effect may be significant. If there are one or more "Potentially Significant Impact" entries when the determination is made, an Environmental Impact Report (EIR) is required.

4. "Negative Declaration: Less Than Significant with Mitigation Incorporated" applies where the incorporation of mitigation measures has reduced an effect from "Potentially Significant Impact" to a "Less Than Significant Impact." The lead agency must describe the mitigation measures, and briefly explain how they reduce the effect to a less than significant level (mitigation measures from "Earlier Analyses," as described in 5. below, may be cross-referenced).

5. Earlier analyses may be used where, pursuant to the tiering, program EIR, or other California Environmental Quality Act (CEQA) process, an effect has been adequately analyzed in an earlier EIR or negative declaration (Section 15063(c)(3)(D)). In this case, a brief discussion should identify the following:

    a. Earlier Analysis Used. Identify and state where they are available for review.

    b. Impacts Adequately Addressed. Identify which effects from the above checklist were within the scope of and adequately analyzed in an earlier document pursuant to applicable legal standards, and state whether such effects were addressed by mitigation measures based on the earlier analysis.

    c. Mitigation Measures. For effects that are "Less Than Significant with Mitigation Measures Incorporated," describe the mitigation measures which were incorporated or refined from the earlier document and the extent to which they address site-specific conditions for the project.

6. Lead agencies are encouraged to incorporate into the checklist references to information sources for potential impacts (e.g., general plans, zoning ordinances). Reference to a previously prepared or outside document should, where appropriate, include a reference to the page or pages where the statement is substantiated.

7. Supporting Information Sources. Sources used or individuals contacted should be cited in the discussion.

1.	**AESTHETICS**. Except as provided in Public Resources Code Section 21099, would the project:				
		Potentially Significant Impacts	***Significant Unless Mitigated***	***Less Than Significant Impact***	***No Impact***
1.a.	Have a substantial adverse effect on a scenic vista, views from existing residential areas, public lands, water bodies, or roads?				X
Discussion: The project site consists of two locations along Peter's Creek, approximately 0.63 acres of disturbance proposed, surrounded by forestland owned and managed by Save the Redwoods League. The project parcels consist of heavily forested steep canyon terrain. The project includes reconstructing an existing bridge crossing (Bridge 1) and constructing a new bridge crossing (Bridge 2) approximately 800 ft. upstream. Construction staging will be in the immediate vicinities of the bridge crossing sites. A number of trees in the immediate project area will be removed, mostly of smaller size (less than 10-inches diameter-at-breast height) and not regulated by the County; however, two significant trees (greater than 17.5-inch diameter-at-breast height) will be removed to accommodate construction access and staging. The two significant trees are a Douglas fir (35-inch diameter) and a redwood tree (28-inch diameter). Given the topography of the project areas and dense forestland, the project will not have any substantial adverse impact on any views in the area. **Source:** Project location; Project description; Biological Resource Assessment, prepared by Environmental Collaborative, dated December 2021.					
1.b.	Substantially damage or destroy scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?				X
Discussion: The project site is not within a state scenic highway area and would not damage or destroy any scenic resources. **Source:** Project location; Project description.					
1.c.	In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings, such as significant change in topography or ground surface relief features, and/or development on a ridgeline? (Public views are those that are experienced from publicly accessible vantage point.) If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?				X

Discussion: The project parcels consist of heavily forested steep canyon terrain. The project will have minimal adverse impacts to the visual character or quality of the area and does not propose significant changes to topographic or ground surface relief features. **Source:** Project location; Project description.					
1.d.	Create a new source of substantial light or glare that would adversely affect day or nighttime views in the area?				X
Discussion: The project consists of replacing an existing bridge crossing and constructing a new bridge crossing over Peter's Creek. No new permanent lighting is proposed. New light sources from construction vehicles and equipment may be introduced but only temporarily for the duration of construction which is expected to be 2-3 months for each bridge. Furthermore, construction will be completed prior to Oct 1, thus occurring while daylight hours are longer which will minimize contrast between construction light impacts and natural daylight in the immediate project areas. Therefore, no mitigation is necessary. **Source:** Project location; Project description.					
1.e.	Be adjacent to a designated Scenic Highway or within a State or County Scenic Corridor?				X
Discussion: The project site is not comprised of a designated Scenic Highway or within a State or County Scenic Corridor. **Source:** Project location; County of San Mateo GIS, Scenic Corridors map (accessed 2022).					
1.f.	If within a Design Review District, conflict with applicable General Plan or Zoning Ordinance provisions?				X
Discussion: The project site is not in a Design Review District. **Source:** Project location; County of San Mateo GIS, Zoning map (accessed 2022).					
1.g.	Visually intrude into an area having natural scenic qualities?				X
Discussion: See staff's responses in Sections 1.a. – 1.d., above. **Source:** See sources in Sections 1.a. – 1.d.					

2.	**AGRICULTURAL AND FOREST RESOURCES**. In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. Would the project:				
		Potentially Significant Impacts	***Significant Unless Mitigated***	***Less Than Significant Impact***	***No Impact***
2.a.	For lands outside the Coastal Zone, convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland) as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?				X
Discussion: The project site is located outside of the Coastal Zone and designated as "Other Lands" on the State's Important Farmland Map. The project site consists of forestland and does not contain farmlands or agriculturally designated lands. **Source:** Project location; State of California, San Mateo County Important Farmland 2018, published September 2019.					
2.b.	Conflict with existing zoning for agricultural use, an existing Open Space Easement, or a Williamson Act contract?				X
Discussion: The project site is zoned Resource Management and Timber Preserve Zone. There is no conflict with zoning for agricultural use and the project parcels are not encumbered by an open space easement or Williamson Act contract. **Source:** County of San Mateo GIS, Zoning map (accessed 2022); County of San Mateo GIS, Williamson Act contract map (accessed 2022); County of San Mateo Accela permit tracking system (accessed 2022).					
2.c.	Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to non-agricultural use or conversion of forestland to non-forest use?				X
Discussion: The project will not involve changes in the existing environment that could result in conversion of forestland to non-forest use. The project consists of replacing an existing bridge and					

building a new bridge crossing over Peter's Creek as part of an access improvement program throughout the property owned and managed by Save the Redwoods League. **Source:** Project plans and description.					
2.d.	For lands within the Coastal Zone, convert or divide lands identified as Class I or Class II Agriculture Soils and Class III Soils rated good or very good for artichokes or Brussels sprouts?				X
Discussion: The project is not located within the Coastal Zone and does not contain Class I, Class II, or Class III prime soils. **Source:** Project location; County of San Mateo GIS, Prime Agricultural Lands map (accessed 2022).					
2.e.	Result in damage to soil capability or loss of agricultural land?				X
Discussion: The project includes limited grading within forestland area; therefore, will not result in damage to soil capability or loss of agricultural lands. **Source:** Project location; Project plans and description.					
2.f.	Conflict with existing zoning for, or cause rezoning of, forestland (as defined in Public Resources Code Section 12220(g)), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))? *Note to reader: This question seeks to address the economic impact of converting forestland to a non-timber harvesting use.*				X
Discussion: The project consists of replacing an existing bridge crossing and constructing a new bridge crossing over Peter's Creek within forestland area zoned Resource Management and Timberland Preserve. The project parcels are owned by a non-profit organization who manages the land for forestland preservation and low-impact recreational use. The proposed project supports existing use of the land by improving access for land management and trail use purposes; both of which are compatible uses under the zoning. **Source:** Project plans and description; County of San Mateo Zoning Ordinance.					

3.	**AIR QUALITY**. Where available, the significance criteria established by the applicable air quality management district or air pollution control district may be relied upon to make the following determinations. Would the project:

		Potentially Significant Impacts	*Significant Unless Mitigated*	*Less Than Significant Impact*	*No Impact*
3.a.	Conflict with or obstruct implementation of the applicable air quality plan?		X		

Discussion: The Bay Area 2017 Clean Air Plan (CAP), developed by the Bay Area Air Quality Management District (BAAQMD), is the current regulating air quality plan for San Mateo County. The CAP was created to improve Bay Area air quality and to protect public health and the climate.

The project would not conflict with or obstruct the implementation of the BAAQMD's 2017 Clean Air Plan. During project implementation, air emissions would be generated from site grading, equipment, and work vehicles; however, any such grading-related emissions would be temporary and localized. Once constructed, structures would not have any impacts to the air quality standards set forth for the region by the BAAQMD.

The following construction best management practice is recommended to ensure any construction related emissions are appropriately managed and minimized:

Mitigation Measure 1: The applicant shall include the following measures on building permit plans submitted to the Building Division:

a. All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day.

b. All haul trucks transporting soil, sand, or other loose material off-site shall be covered.

c. All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited.

d. All vehicle speeds on unpaved roads shall be limited to 15 mph.

e. All roadways, driveways, or trails shall be completed as soon as possible.

f. All construction equipment shall be maintained and properly tuned in accordance with manufacturers' specifications. All equipment shall be checked by a certified mechanic and determined to be running in proper condition prior to operation.

g. Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes (as required by the California Airborne Toxics Control Measure Title 13, Section 2485, of the California Code of Regulations (CCR)). Clear signage shall be provided for construction workers at all access points.

h. Post a publicly visible sign with the appropriate telephone number and person to contact at the job site/representing the project applicant. This person shall respond and take corrective action within 48 hours. The Bay Area Air Quality District's phone number shall also be visible to ensure compliance with applicable regulations.

Source: Project plans; Bay Area Air Quality Management District, 2017 Clean Air Plan.

3.b.	Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable Federal or State ambient air quality standard?		X		

Discussion: The Bay Area is in non-attainment for PM-2.5 and will continue to be designated a "non-attainment" area for the national 24-hour PM-2.5 standard until the Bay Area Air Quality Management District (BAAQMD) submits a redesignation request and a maintenance plan to the Environmental Protection Agency (EPA) and the redesignation is approved by the EPA. A temporary increase in PM-2.5 (particulate matter) in the project area is anticipated during construction since these PM-2.5 particles are typical of vehicle emission. The temporary nature of the proposed construction and California Air Resources Board vehicle regulations reduce the potential effects to a less than significant impact. Additionally, Mitigation Measure 1 in Section 3.a. would minimize increases in non-attainment criteria pollutants generated from project construction to a less than significant level.

Source: Project plans; Bay Area Air Quality Management District, 2017 Clean Air Plan.

3.c.	Expose sensitive receptors to substantial pollutant concentrations, as defined by the Bay Area Air Quality Management District?			X	

Discussion: Any pollutant emissions generated from the proposed project would primarily be temporary in nature. The project site is in a densely forested, rural area of the County with nearby sensitive receptors limited to low intensity recreational use of the trails by visitors. Additionally, implementation of Mitigation Measure 1 would help in minimizing any potentially significant exposure to sensitive receptors; therefore, no additional mitigation is recommended.

Source: Project location; Project plans.

3.d.	Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?				X

Discussion: The project proposes bridge construction and minor trailwork in a densely forested, rural area. The project is not expected to generate odors that could affect a substantial number of people.

Source: Project location; Project plans.

4.	**BIOLOGICAL RESOURCES**. Would the project:				
		Potentially Significant Impacts	***Significant Unless Mitigated***	***Less Than Significant Impact***	***No Impact***
4.a.	Have a substantial adverse effect, either directly or through habitat modifications,		X		

on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service or National Marine Fisheries Service?				

Discussion: The project has the potential to adversely affect a number of special-status species that are within the project area, in particular marbled murrelet as a 2021 survey report confirmed nests in the project's biological study area vicinity. Other special-status animal species that could be present within the construction zone and/or could be injured or inadvertently taken during project implementation, although having more of a remote potential for presence, include but are not limited to, California red-legged frog, foothill yellow-legged frog, California giant salamander, Santa Cruz black salamander, wester pond turtle, red-bellied newt, and steelhead.

Marbled Murrelet:

None of the trees are large enough in size to serve as important roosting or potential nesting locations for marbled murrelet, and due to the density and extent of redwood forest and old growth redwood forest stands in the study area vicinity, their removal would not substantially degrade the habitat value of the forest for murrelet. However, vegetation removal, grading equipment operation and increased human disturbance could contribute to visual or auditory harassment of occupied nests, which could have a significant impact on occupied murrelet nesting habitat. Additionally, the project could generate indirect impacts on murrelet habitat in the study area unless carefully managed and controlled.

Other Nesting Birds:

Field reconnaissance survey detected no signs of active nests; however, there is a possibility that nests of other native bird species protected under the Migratory Bird Treaty Act (MBTA) and State Fish and Game code could be established in advance of construction and therefore be inadervtently disturbed or lost while eggs or young are present.

Special-status Plant Species:

There is a remote potential that several special-status plant species may be present in the study area and could be affected by vegetation removal, grading and other disturbance associated with the project, including minute pocket moss, Dudley's lousewort, and white-flowered rein orchid. No populations were observed within the limits of disturbance during late summer field reconnaissance in 2019, however this field reconnaissance was conducted outside the flowering period for these species so they could have been undetectable. Therefore, Mitigation Measure 3 below requires preconstruction surveys and appropriate avoidance or mitigation if these species are present in the project vicinity.

The following mitigation measures are recommended to reduce any potentially significant project impacts on special-status species to less than significant levels.

Mitigation Measure 2 [BIO-1a]: ***Marbled Murrelet (MAMU) Nesting Habitat Avoidance.*** Appropriate measures shall be taken to mitigate potential adverse impacts on MAMU nesting in proximity to the Project improvements. This shall be accomplished through implementation of the following measures:

Restrictions on Tree Removal:

1. Tree removal and trimming required by the Project shall occur outside of the MAMU breeding season (April 1 to September 15) to minimize disturbance to MAMU nesting.

2. Trees identified for removal under the Project shall first be assessed for suitability as MAMU nesting trees by a qualified wildlife biologist. Typical credentials for a qualified biologist include a minimum of four years of academic training and professional experience in biological sciences and related resource management activities, and a minimum of two years of experience conducting surveys for MAMU.

3. Trees determined to have suitable elements for nesting by MAMU will be retained under the Project, if feasible. If a suitable nest tree(s) cannot be retained as part of the Project, the qualified biologist shall coordinate with the USFWS removal of a potential MAMU nest tree from occupied habitat and shall identify additional measures to address this loss. This may include follow-up monitoring of nest activity in the area to provide additional data on MAMU use of the Study Area, or other measures considered appropriate by the USFWS.

Preconstruction Surveys

4. Prior to initiation of construction during the MAMU nesting season, the qualified biologist shall conduct a preconstruction survey to determine whether any active MAMU nests are located within line-of-sight of proposed Project construction activities. This preconstruction survey may be conducted as part of the larger preconstruction survey for active nests of other bird species called for in Mitigation Measure 4 [BIO-4].

5. If active MAMU nests are discovered where visual disturbance from Project construction activities may result in harassment or take, the qualified biologist shall monitor the nest location and identify any additional construction control measures in consultation with the USFWS as part of the MAMU Nest Avoidance Program called for below. These may include restrictions on the timing of disruptive construction activities within line-of-sight of the active nest until the nest is no longer in use as determined by the qualified biologist, at which time construction may proceed at this location without additional MAMU restrictions. Nest monitoring frequency shall be determined by the qualified biologist on a nest-by-nest basis considering the particular construction activity, duration, and proximity to the nest.

6. The qualified biologist may revise their construction-restriction determinations at any time during the nesting season, including applying additional restrictions if considered necessary to prevent harassment or take.

Project Construction Activities:

7. The qualified biologist shall evaluate the schedule of Project construction, identify any activities associated with the Project that could affect active MAMU nests, and develop a MAMU Nest Avoidance Program (NAP) in consultation with the USFWS that addresses any potential harassment or take.

8. An artificial noise deterrent system shall be developed and implemented as appropriate to acclimate individual MAMU that could be establishing new nests in the Project vicinity to construction activities. The artificial noise deterrent system shall be operating starting one hour before sunset and continuing until one hour after sunset from March through May, or until Project construction activities generating high noise levels have been initiated, whichever is later in the year.

9. Project activities which produce noise levels between 70 dB and 90 dB shall be restricted to between two-hours after sunrise and two-hours before sunset during the MAMU breeding season. Project activities which produce noise levels of 91 dB or greater shall be prohibited

during MAMU breeding season.

10. Construction control measures determined necessary during the preconstruction surveys shall also be implemented as part of the MAMU NAP.

11. Construction practices called for in Mitigation Measure 8 [BIO-5] *Construction Restrictions to Protect Wildlife* shall be implemented to minimize disturbance to MAMU habitat and avoid attracting additional predators.

Post Construction Monitoring and Management:

12. Appropriate management practices shall be implemented as part of future trail use to minimize any adverse effects on MAMU habitat in the Study Area. This shall include installation of interpretive signage defining restrictions on visitor behavior during the MAMU breeding season, packing out all trash to avoid attracting additional MAMU predators, and a prohibition of pets on the trail system.

13. Conduct follow-up monitoring of MAMU nest activity in the Study Area by a qualified biologist for a minimum of five years to provide additional data on MAMU use.

Mitigation Measure 3 [BIO-3]: ***Avoidance of Special-Status Species.*** Appropriate measures shall be taken to prevent inadvertent take of California red-legged frog (CRLF), foothill yellow-legged frog (FYLF), California giant salamander (CGS), Santa Cruz black salamander (SCBS), western pond turtle (WPT), red-bellied newt (RBN), steelhead, nesting birds and other wildlife during construction. In addition to the avoidance of active nests called for in Mitigation Measure 4 [BIO 4], *Avoidance of Bird Nests in Active Use,* this shall include the following:

1. A qualified biologist shall be retained to oversee construction and ensure that no inadvertent take of special-status species occurs as a result of construction and other habitat modifications to the Study Area.

2. The qualified biologist shall oversee construction, conduct preconstruction clearance surveys for nesting birds and focused species, and train workers over the regulations related to wetlands and special-status species, and the possible risk of inadvertent take in advance of construction.

3. The worker training shall be conducted prior to starting work on the Project and upon the arrival of any new worker. The training program shall include a brief review of locations of sensitive areas, possible fines for violations, Project Controls to be implemented, and summary of environmental permits and regulatory compliance requirements. In addition, a record of all personnel trained during the project shall be maintained for compliance verification.

4. All construction workers shall be instructed that focal special-status are to be avoided, that the foreman must be notified if a suspected species of concern is seen, and that construction shall be halted until the qualified biologist arrives and makes a determination on possible presence. If any special-status species are encountered within the excluded work zone, construction shall be halted until the individual(s) disperse naturally for State and federally-listed species unless explicitly authorized by the USFWS and CDFW through issuance of an Incidental Take Permit (ITP) or are relocated outside the construction zone for non-listed species. Construction shall not proceed until adequate measures are taken to prevent dispersal of any individuals into the construction zone, as directed by the USFWS and CDFW. The specific methods for handling amphibians or reptiles and decontamination shall follow latest protocols from the USFWS. These protocols describe field equipment maintenance, disinfection, and field hygiene

procedures designed to minimize potential spread of pathogens when handling amphibians or reptiles.

5. Once preconstruction surveys have been conducted, the qualified biologist shall train the on-site monitor (such as the construction foreman) in how to identify target special-status species and procedures to follow as part of construction monitoring for the duration of construction. The qualified biologist shall visit the site at least once a week during construction and confer with the trained on-site monitor.

6. Project work areas will be monitored by a qualified biologist during exclusion fence installation and ground disturbing activities to identify, capture, and relocate non-listed sensitive amphibians (CGS, SCBS, WPT, or RBN) if found, and halt or observe work in the vicinity of CRLF and FYLF if encountered onsite. The qualified biologist shall have the authority to stop construction activities and develop alternative work practices, in consultation with construction personnel and resource agencies (as appropriate), if construction activities are likely to affect special-status species or other sensitive biological resources.

7. Temporary exclusion fencing shall be installed around key project boundaries, including areas where ground disturbance will occur adjacent to Peters Creek, segments of the access road to be modified, and around all project staging and laydown areas. Fencing shall be installed immediately prior to the start of construction activities under the supervision of a qualified biologist who will perform monitoring on a daily basis for the first week of construction. After the first week of construction and following training by the qualified biologist, the on-site monitor shall ensure that the temporary exclusion fencing is continuously maintained until all construction activities are completed. The on-site monitor shall perform daily visual inspections of the fence for any amphibians or reptiles that may get stuck by the fence. The fencing shall be of a material that meets CDFW standards for species exclusion, a minimum height of 3 feet above ground surface, with an additional 4 to 6 inches of fence material buried such that species cannot crawl under the fence and shall include escape funnels to allow species to exit the work areas.

8. Dewatering of construction reaches within the Peters Creek channel shall be overseen by the qualified biologist and aquatic life within the dewatered areas shall be relocated to nearby suitable habitat. A second preconstruction survey shall be performed by the qualified biologist before construction equipment is allowed to enter the dewatered reaches of Peters Creek, to confirm absence of any special-status species of concern and other aquatic wildlife.

9. All excavations of a depth of 8 inches or greater shall be either backfilled at the end of each workday, covered with heavy metal plates, or escape ramps shall be installed at a 3:1 grade to allow wildlife that fall in a means to escape.

10. Use of monofilament plastic for erosion control or other practices shall be prohibited on the site to prevent possible entrainment.

11. The contractor shall provide wildlife-proof (closed) garbage containers for the disposal of all food-related trash items. All food waste shall be removed daily from the site to avoid attracting predators. Construction personnel shall not feed or otherwise attract fish or wildlife to the Study Area.

12. Subsequent recommendations made by the USFWS and CDFW shall be followed. Only an agency-approved biologist is allowed to handle or otherwise direct movement of listed special-status species, including CRLF, FYLF, and all others shall not handle or otherwise harass the animals. The qualified biologist and the on-site monitor shall be aware of all terms and

conditions set by USFWS and CDFW for the Project.

Mitigation Measure 4 [BIO-4]: ***Avoidance of Bird Nests in Active Use.*** Adequate measures shall be taken to avoid inadvertent take of bird nests protected under the federal Migratory Bird Treaty Act and State Fish and Game Code when in active use. This shall be accomplished by taking the following steps.

1. If initial grubbing and tree removal is proposed during the nesting season (February 1 to August 31), a focused survey for nesting raptors and other migratory birds shall be conducted by a qualified biologist within 7 days prior to the onset of construction in order to determine whether any active nests are present in the Study Area and surrounding area within 300 feet of proposed construction. The survey shall be reconducted any time construction has been delayed or curtailed for more than 7 days during the nesting season.

2. Typical credentials for a qualified biologist include a minimum of four years of academic training and professional experience in biological sciences and related resource management activities, and a minimum of two years of experience conducting surveys for each species that may be present within the Study Area.

3. If no active nests are identified during the construction survey period, or construction is initiated during the non-breeding season (September 1 to January 31), then construction may proceed with no restrictions.

4. If it is determined that construction may affect an active nest, the qualified biologist shall establish a no-disturbance buffer around the nest(s) and all construction activities restricted within the buffer until a qualified biologist determines the nest is no longer in use. Required setback distances for the no-disturbance buffer zone shall be based on input received from the CDFW, and the setback may vary depending on species and sensitivity to disturbance. As necessary, the no-disturbance zone shall be fenced with temporary orange construction fencing if construction is to be initiated elsewhere in the Study Area. Typically, these buffer distances are 250 feet for passerines and 500 feet for raptors; however, the buffers may be adjusted if topography or other obstructions block the line-of-sight between the nest and the construction area. For bird species that are federally and/or State-listed sensitive species (i.e., fully protected, endangered, threatened, species of special concern), the qualified biologist shall coordinate with CDFW (and USFWS for FESA–protected species nests such as marbled murrelet) regarding modifying nest buffers, prohibiting construction within the buffer, and modifying construction activities.

5. Modifying nest buffer distances, allowing certain construction activities within the buffer, and/or modifying construction methods in proximity to active nests for non-listed species shall be done at the discretion of the qualified biologist. Any work that must occur within established no-disturbance buffers around active nests shall be monitored by a qualified biologist. If adverse effects in response to construction activities within the buffer are observed and could compromise the nest viability, work within the no-disturbance buffer(s) shall be modified as directed by the qualified biologist or halt until the nest occupants have fledged if monitoring indicates continued disturbance to the active nest.

6. Any birds that begin nesting within the Project site and survey buffers amid construction activities shall be assumed to be habituated to construction-related or similar noise and disturbance levels and no work exclusion zones shall be established around active nests in these cases; however, should birds nesting nearby begin to show signs of disturbance associated with construction

activities, then no-disturbance buffers shall be established as determined by the qualified wildlife biologist.

7. A report of findings shall be prepared by the qualified biologist and submitted to the County for review and approval prior to initiation of construction during the nesting season (February 1 to August 31). The report shall either confirm absence of any active nests or should confirm that any young are located within a designated no-disturbance zone and construction can proceed. No report of findings is required if construction is initiated during the non-nesting season (September 1 to January 31) and continues uninterrupted according to the above criteria.

Mitigation Measure 5 [BIO-6]: ***Obtaining Agency Authorizations.*** The applicant shall obtain required authorizations from the US Army Corps of Engineers, Regional Water Quality Control Boad (RWQCB) and California Department of Fish and Wildlife (CDFW) for modifications to regulated waters associated with the Study Area. This includes a Section 404 Permit from the Corps, a Section 401 Certification from the RWQCB, and a Streambed Alteration Agreement from the CDFW. The applicant shall obtain all legally required permits or other authorizations from the US Fish and Wildlife Services (USFWS) and CDFW for the potential "take" of species protected under the Endangered Species Acts, if required. All conditions and measures contained in the regulatory agency authorizations shall be implemented as part of the Project.

Mitigation Measure 6 [BIO-1b]: ***Rare Plant Avoidance Measures.*** Appropriate measures shall be undertaken to ensure avoidance of any special-status plant species or provide for mitigation where avoidance is not possible. A qualified botanist with a minimum of four years of academic training and professional experience in botanical sciences and a minimum of two years of experience conducting rare plant surveys shall conduct appropriately timed surveys for special-status plant species with a moderate or high potential to occur in the Study Area (i.e., minute pocket moss, Dudley's lousewort, and white-flowered rein orchid) in all suitable habitat that would be potentially disturbed by the Project (i.e., where vegetation removal may occur). Surveys shall be conducted following the most recent CDFW guidelines for rare plant surveys. If no special-status plants are found during focused surveys, the botanist shall document the negative survey results in a report of findings and no further mitigation will be required. If special-status plants are found during focused surveys, the following measures shall be implemented:

1. Information regarding the special-status plant populations shall be reported to the CNDDB, mapped, and documented in a technical memorandum provided to the County.

2. If any population can be avoided during project implementation, it shall be clearly marked in the field by a qualified botanist, workers shall be trained to avoid the area(s) and avoided during construction activities. Before vegetation removal, ground clearing or ground disturbance, all on-site construction personnel shall be instructed as to the presence of this special-status species and the importance of avoiding impacts to this species and its habitat as part of the worker training called for in Mitigation Measure 3 [BIO-3] *Avoidance of Special-Status Species.*

3. If special-status plant populations cannot be avoided, the qualified botanist shall coordinate with CDFW on relocation of special-status plants or alternative measures. To the extent feasible, special-status plants that would be impacted by the Project shall be relocated within local suitable habitat nearby. This can be done either through salvage and transplanting or by collection and propagation of seeds or other vegetative material. Any plant relocation shall be done under the supervision of a qualified botanist or restoration ecologist and shall include a monitoring and maintenance program to verify success.

Source: Project plans; Project location; Biological Resource Assessment prepared by Environmental Collaborative, dated December 2021.					
4.b.	Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service or National Marine Fisheries Service?		X		
Discussion: See staff's discussion in Section 4.a. and 4.c. – e. **Source:** Project plans; Project location; Biological Resource Assessment prepared by Environmental Collaborative, dated December 2021.					
4.c.	Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?		X		

Discussion: The project involves the temporary installation of coffer dams and dewatering of the creek to allow equipment in the channel to construct the two new bridges and reinforce the bank in one location along the access road. The existing crossing of the ephemeral drainage would also be modified as part of the access road improvements to Bridge 2. Collectively, an estimated 3,000 sq. ft. of regulated waters below the Ordinary High Water Mark (OHWM) would be temporarily disturbed to accommodate the access road, coffer dams, and construction activities within federally regulated waters. Both bridges will be constructed to avoid disrupting plant growth and aquatic habitat within the active channel; bridge abutments would be located above the OHWM. Thus, impacts to regulated waters would mostly be temporary and involve a relatively small area.

Appropriate measures will be implemented for the project to prevent erosion and sedimentation, degradation of downgradient waters as a result of construction activities, controls to minimize disturbance to regulated waters, and successful implementation of habitat enhancements. Nonetheless, authorizations would be necessary from the US Army Corps of Engineers (Corps), Regional Water Quality Control Board (RWQCB), and California Department of Fish and Wildlife (CDFW). The following mitigation measures are recommended to ensure impacts are reduced to less-than-significant levels:

Mitigation Measure 7 [BIO-1]: ***Minimize Disturbance to Regulated Waters and Restore Areas Disturbed by the Project.*** Appropriate measures shall be taken to minimize impacts on regulated waters and provide for restoration of disturbed areas as part of the Project. This shall include the following:

1. In-channel construction activities shall be scheduled to minimize disturbance to surface waters and seasonal aquatic habitat. No work shall be performed within 24 hours of projected rainfall events.

2. A worker training shall be conducted by a qualified biologist prior to starting work on the Project to explain the presence of regulated waters, the need to limit construction-related disturbance,

and explain repercussions for violations. A record of all personnel trained during the project shall be maintained for compliance verification.

3. Once the preconstruction clearance surveys have been performed as called for in Mitigation Measure 3 [BIO-3] *Avoidance of Special-Status Species*, the qualified biologist shall train the on-site monitor (such as the construction foreman) in procedures to follow as part of construction monitoring, including supervising the construction crew to ensure compliance. The qualified biologist shall visit the site at least once a week during construction and confer with the trained on-site monitor that the project is in compliance.

4. Areas disturbed by construction access into the Peters Creek channel shall be restored to predisturbance conditions. All material used as part of the temporary coffer dam system for dewatering shall be removed, cobble reinstalled, and banks seeded with indigenous native grasses and forbs to the Study Area to control erosion.

5. The qualified biologist or other specialist shall provide post-construction monitoring to confirm that improvements have been successfully installed and maintained, consistent with any conditions specified in the regulatory agency authorizations described in Mitigation Measure 5 [BIO-6] *Obtaining Agency Authorizations.*

Source: Project plans; Project location; Biological Resource Assessment prepared by Environmental Collaborative, dated December 2021.

4.d.	Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident migratory wildlife corridors, or impede the use of native wildlife nursery sites?		X		

Discussion: The project is not expected to have any significant permanent adverse impacts on wildlife movement or native wildlife nursery sites. Wildlife in the vicinity is already acclimated to human activity along the existing trail and construction-related disturbance would not cause any significant impacts on the existing wildlife habitat values. Construction activities will occur during the dry season to minimize disturbance to the active creek channel when surface flows and water are present and provide seasonal habitat to amphibians and other aquatic-dependent species. The following mitigation measures are recommended to avoid the possibility of adverse effects of construction on wildlife, in addition to Mitigation Measure 4.

Mitigation Measure 8 [BIO-5]: ***Construction Restrictions to Protect Wildlife.*** The following restrictions shall be implemented to avoid adversely affecting sensitive habitats and harm or harassment to wildlife during construction:

1. A speed limit of 5 miles per hour (mph) in the Study Area shall be followed by all construction equipment and vehicles.

2. Access routes and the number and size of staging and work areas shall be limited to the minimum necessary to construct the proposed project. Routes and boundaries of staging areas and access shall be clearly marked prior to initiating construction or installation.

3. All food and food-related trash items shall be enclosed in sealed trash containers and removed completely from the Study Area at the end of each day.

4. No pets from project personnel shall be allowed anywhere in the Study Area during construction.

5. All equipment shall be maintained such that there will be no leaks of automotive fluids such as gasoline, oils or solvents and a Spill Response Plan shall be prepared. Hazardous materials such as fuels, oils, solvents, etc. shall be stored in sealable containers in a designated location that is at least 100 ft. from wetlands and aquatic habitats.

6. Servicing of vehicles and construction equipment including fueling, cleaning, and maintenance shall occur at designated locations away from regulated waters and other sensitive habitats. Staging areas may occur closer to the project activities as required.

7. The spread of invasive non-native plant species and plant pathogens shall be avoided or minimized. Construction equipment shall arrive at the Project site clean and free of soil, seed, and plant parts to reduce the likelihood of introducing new weed species. Any imported fill material, soil amendments, gravel, or other materials required for construction and/or restoration activities that will be placed within the upper 12 inches of the ground surface shall be free of vegetation and plant material. Certified weed-free imported erosion control materials (or rice straw in upland areas) shall be used exclusively, if possible.

Source: Project plans; Project location; Biological Resource Assessment prepared by Environmental Collaborative, dated December 2021.

4.e.	Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance (including the County Heritage and Significant Tree Ordinances)?		X		

Discussion: The project involves the removal of 18 trees, including 16 trees (tan oak, redwood, California laurel, big leaf maple) ranging in size from 5" diameter to 10" diameter, one 35" diameter Douglas fir and one 28" diameter redwood. None of the trees proposed for removal are considered heritage pursuant to the County's Heritage Tree Ordinance.

Mitigation Measure 9 [BIO-2]: ***Minimize Damage and Loss to Trees.*** Appropriate measures shall be taken to minimize tree removal, protect trees to be retained from construction-related damage, and provide for replacement where avoidance is not feasible. This shall include the following:

1. A certified arborist shall determine appropriate protective measures to be implemented during construction. This shall include accurately mapping root protection zones and identifying other specific measures that would limit potential indirect impacts on trees to be retained such as installation of protective fencing consistent with the County's tree protection measures. Tree protection measures shall be maintained throughout the duration of Project construction.

2. Construction drawings shall depict areas to be avoided such as tree trunks and root protection zones and shall indicate the location of protective fencing recommended by the certified arborist.

3. If any large roots or large masses of roots need to be cut, the roots shall be inspected by the certified arborist or forester prior to cutting. Any root cutting shall be undertaken by the arborist or forester and documented. Roots to be cut shall be severed cleanly with a saw or toppers.

4. If pruning is necessary, pruning should be overseen by the certified arborist or forester to clean and raise the canopy per International Society of Arboriculture pruning standards.

5. If trimming or removal of significant or heritage trees cannot be avoided, a permit shall be secured from the County to trim or remove qualifying trees that are not approved as part of this project. The permit application process requires an Existing Tree Plan be prepared and an Arborists Report that assesses tree health and provides tree protection measures which may be incorporated into a Tree Protection Plan for trees that could be indirectly affected by work in their immediate vicinity.

6. Trees identified for removal measuring 17.5 inches DBH or greater shall be replaced at a 1:1 ratio (replacement trees to removed trees) with the same species removed within the immediate vicinity of the removal location using at least a 15-gallon stock. Replacement trees shall be monitored at least once a year for at least five years or longer, concurrent with restored areas of riparian habitat or wetlands, if applicable.

Source: Project plans; Project location; Biological Resource Assessment prepared by Environmental Collaborative, dated December 2021.

4.f. Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Conservation Community Plan, other approved local, regional, or state habitat conservation plan?				X

Discussion: The site is not located in an area with an adopted Habitat Conservation Plan or Natural Conservation Community Plan, or other known approved regional or State habitat conservation plan.

Source: Project location; California Department of Fish and Wildlife, California Natural Communities Conservation Plan map, April 2019.

4.g. Be located inside or within 200 feet of a marine or wildlife reserve?				X

Discussion: The project site is not located inside or within 200 feet of a marine or wildlife reserve.

Source: Project location; U.S. Fish and Wildlife Services, National Wildlife Refuge System Locator (accessed 2022).

4.h. Result in loss of oak woodlands or other non-timber woodlands?				X

Discussion: The project does not result in the loss of oak woodlands or other non-timber woodlands.

Source: Project plans.

5. CULTURAL RESOURCES. Would the project:				
	Potentially Significant Impacts	***Significant Unless Mitigated***	***Less Than Significant Impact***	***No Impact***

5.a.	Cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5?				X

Discussion: The project does not involve any identified historical resource.

Source: Project plans; Project location; CEQA Guidelines Section 15064.5.

5.b.	Cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Section 15064.5?		X		

Discussion: The project proposes minimal construction impacts to already non-disturbed areas. Ground disturbance and grading is limited to access road improvements, excavation for bridge foundations, and trail leveling. Nonetheless, if archaeological resources are encountered during the project, work in the immediate vicinity of the finds should be halted until a qualified archaeologist has evaluated the situation.

Mitigation Measure 10: In the event that cultural, paleontological, or archeological resources are encountered during site grading or other site work, such work shall immediately be halted in the area of discovery, County staff shall be notified, and the applicant shall be required to retain the services of a qualified professional for the purpose of recording, protecting, or curating the discovery as appropriate.

Source: Project plans; Project location.

5.c.	Disturb any human remains, including those interred outside of formal cemeteries?		X		

Discussion: The project parcels contain no known cemeteries. Nonetheless, the project may have the potential to disturb human remains interred outside of formal cemeteries. Therefore, the following mitigation measure is recommended to minimize any potential impact to unknown human remains within the project area during project grading and construction activities:

Mitigation Measure 11: Should any human remains be discovered during construction activities, all ground disturbing work shall cease and the County Coroner shall be immediately notified, pursuant to Section 7050.5 of the State of California Health and Safety Code. Work must stop until the County Coroner can make a determination of origin and disposition of the remains. If the County Coroner determines the remains to be Native American, the Native American Heritage Commission shall be contacted within 24 hours. A qualified archaeologist, in consultation with the Native American Heritage Commission, shall recommend subsequent measures for disposition of the remains.

Source: Project location.

6.	**ENERGY**. Would the project:				
		Potentially Significant Impacts	***Significant Unless Mitigated***	***Less Than Significant Impact***	***No Impact***

6.a.	Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?			X	
Discussion: The project replaces one access bridge and constructs a new access bridge connecting existing trails and maintenance roads within the forestland area used for low-impact recreation. No utilities are proposed that would use or require energy resources post-construction. The construction of the project will require use of nonrenewable energy resources, primarily in the form of fossil fuels for construction vehicles and equipment. Portable generators will be used to supply electrical power on site during construction. Total construction duration is expected to be 2-3 months for each bridge; the two bridges will be constructed sequentially over a period of two construction seasons. Therefore, impacts will be local and limited for each bridge location, which will help to minimize any potentially significant impacts. No mitigation is necessary. **Source:** Project plans and description; Project location.					
6.b.	Conflict with or obstruct a state or local plan for renewable energy or energy efficiency.				X
Discussion: The project does conflict with or obstruct any plan for renewable energy or energy efficiency. See staff's response to Section 6.a. **Source:** Project plans and description; Project location.					

7.	**GEOLOGY AND SOILS**. Would the project:				
		Potentially Significant Impacts	***Significant Unless Mitigated***	***Less Than Significant Impact***	***No Impact***
7.a.	Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving the following, or create a situation that results in:				
	i. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? *Note: Refer to Division of Mines and Geology Special Publication 42 and the County Geotechnical Hazards Synthesis Map.*			X	

Discussion: According to the Geotechnical Report prepared by Questa Engineering Corporation, the project site does not lie within an Alquist-Priolo Earthquake Fault Zone Boundary. The nearest known active fault is the San Andreas fault, located approximately 3.4 miles to the northeast of the project site. Therefore, the potential for fault rupture at the project site is considered very low. **Source:** Project location; Geotechnical Investigation Report, prepared by Questa Engineering Corporation, dated November 22, 2019.				
ii. Strong seismic ground shaking?			X	
Discussion: The Peak Ground Acceleration (PGA) that is expected at the site is 74.1% of the force of gravity; thus, violent ground shaking can be expected at the site if a major earthquake occurs on the San Andreas fault. Design recommendations from the Geotechnical Investigation will be adhered to for the project. Additionally, the project does not introduce any uses or structures that would pose a substantial risk to loss, injury or death. **Source:** Project plans; Project location; Geotechnical Investigation Report, prepared by Questa Engineering Corporation, dated November 22, 2019.				
iii. Seismic-related ground failure, including liquefaction and differential settling?			X	
Discussion: Seisimic-related ground failure hazards include liquefaction and differential settlement and could result in landslide. No active landslides were noted at the project site but there is a possibility of lager deep seated or bedrock slides to impact the project site. Based on the potential for bank instability along Peter's Creek, the abutments for the bridges must be evaluated for active scour and shallow bank instabilities. Additionally, following removal of the existing bridge, the disturbed stream banks shall be protected to prevent erosion and should be planted with appropriate native vegetation to provide long-term stability. The recommendations from the Geotechnical Investigation shall be adhered to for the project. No further mitigation is necessary. **Source:** Project plans; Project location; Geotechnical Investigation Report, prepared by Questa Engineering Corporation, dated November 22, 2019.				
iv. Landslides?			X	
Discussion: See staff's discussion in Section 7.a.iii. **Source:** Project plans; Project location; Geotechnical Investigation Report, prepared by Questa Engineering Corporation, dated November 22, 2019.				
v. Coastal cliff/bluff instability or erosion? *Note to reader: This question is looking at instability under current conditions. Future, potential instability is looked at in Section 7 (Climate Change).*				X
Discussion: The project site is not located near a coastal cliff or bluff. **Source:** Project location.				

7.b.	Result in substantial soil erosion or the loss of topsoil?			X	
Discussion: The project involves 1,563 cubic yards (c.y.) of grading (1,048 c.y. cut and 515 c.y. fill) and the removal of 18 trees, including 16 ranging in size from 5" diameter to 10" diameter, one 35" diameter Douglas fir and one 28" diameter redwood. Erosion and sediment control measures are proposed to minimize soil erosion and sedimentation impacts to the area. No further mitigation is necessary. **Source:** Project plans.					
7.c.	Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, severe erosion, liquefaction or collapse?			X	
Discussion: See staff's responses to Section 7.a., 7.b., and 7.d. **Source:** Project plans; Project location; Geotechnical Investigation Report, prepared by Questa Engineering Corporation, dated November 22, 2019.					
7.d.	Be located on expansive soil, as defined in Table 18-1-B of Uniform Building Code, creating substantial direct or indirect risks to life or property?			X	
Discussion: The site is generally susceptible to low to moderate soil expansion due to soil moisture fluctuations. Within the redwood forest environment, seasonal moisture fluctuations are not as extreme as in open, non-coastal areas. Improvements should be designed to resist the effects of soil heave and settlement in response to seasonal moisture fluctuations in underlying soils, in areas where moisture fluctuations are expected. Design recommendations from the Geotechnical Investigation will be adhered to for the project. No further mitigation is necessary. **Source:** Project plans; Project location; Geotechnical Investigation Report, prepared by Questa Engineering Corporation, dated November 22, 2019.					
7.e.	Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?				X
Discussion: N/A; the project does not involve use of a septic tank or alternative wastewater disposal system. **Source:** Project plans and description.					

7.f.	Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?		X		

Discussion: Based on the project parcel's existing surrounding environment and topography, it is not likely that the project parcel would host any paleontological resource or site or unique geologic feature. However, Mitigation Measure 10 is provided to minimize impacts to a less than significant level if any resources are encountered.

Source: Project location; Project plans.

8. CLIMATE CHANGE. Would the project:

		Potentially Significant Impacts	*Significant Unless Mitigated*	*Less Than Significant Impact*	*No Impact*
8.a.	Generate greenhouse gas (GHG) emissions (including methane), either directly or indirectly, that may have a significant impact on the environment?			X	

Discussion: Project related grading and construction activities may result in the temporary generation of GHG emissions along travel routes and at the project site. In general, construction involves GHG emissions mainly from exhaust from vehicles (e.g., construction equipment and vehicles). Due to the site's rural location, temporary nature of construction, and no emissions generated by the bridges themselves once in operation, the potential project GHG emission levels from construction are limited, localizes and temporary. Furthermore, Mitigation Measure 1 includes Best Management Practices for reducing construction vehicle and equipment emissions. No further mitigation is necessary.

Source: Project plans and description.

8.b.	Conflict with an applicable plan (including a local climate action plan), policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?		X		

Discussion: The San Mateo County Energy Efficiency Climate Action Plan (EECAP) identifies implementation measures for the reduction of GHG emissions resulting from development consistent with state legislation, including construction idling. GHG emissions resulting from the project are expected to occur during the construction phase, primarily from vehicle exhaust. Although the emissions are temporary in nature, Mitigation Measure 1 (f-g) in Section 3.a. will help ensure any such temporary emissions are minimized.

Source: San Mateo County Energy Efficiency Climate Action Plan (EECAP); Project plans and description.

8.c.	Result in the loss of forestland or conversion of forestland to non-forest			X	

	use, such that it would release significant amounts of GHG emissions, or significantly reduce GHG sequestering?				
Discussion: The project will not result in the loss of forestland or conversion of forestland. The project consists of constructing two bridges for crossing of Peter's Creek. The project proposes the removal of a number of smaller trees and two larger regulated significant trees; however, the project site is located on forestland properties (under common ownership) that total over 160 acres. Furthermore, the two regulated trees proposed for removal will be required to be replaced. **Source:** Project plans; Project location.					
8.d.	Expose new or existing structures and/or infrastructure (e.g., leach fields) to accelerated coastal cliff/bluff erosion due to rising sea levels?				X
Discussion: The project is located in the rural South Skyline area of the County and not near any coastal cliffs or bluffs. **Source:** Project location.					
8.e.	Expose people or structures to a significant risk of loss, injury or death involving sea level rise?				X
Discussion: The project is located in the rural South Skyline area of the County and not near any coastal cliffs or bluffs. **Source:** Project location.					
8.f.	Place structures within an anticipated 100-year flood hazard area as mapped on a Federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?				X
Discussion: The project site is not located in a 100-year flood hazard area. **Source:** Federal Emergency Management Agency, Flood Insurance Rate Map, Community Panel 06081C0415E, effective October 16, 2012.					
8.g.	Place within an anticipated 100-year flood hazard area structures that would impede or redirect flood flows?				X
Discussion: The project site is not located in a 100-year flood hazard area. **Source:** Federal Emergency Management Agency, Flood Insurance Rate Map, Community Panel 06081C0415E, effective October 16, 2012.					

9.	**HAZARDS AND HAZARDOUS MATERIALS**. Would the project:

		Potentially Significant Impacts	*Significant Unless Mitigated*	*Less Than Significant Impact*	*No Impact*
9.a.	Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials (e.g., pesticides, herbicides, other toxic substances, or radioactive material)?				X
Discussion: The project involves typical construction activities and does not involve the use, transport, or disposal of hazardous materials. **Source:** Project plans and description.					
9.b.	Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?				X
Discussion: The project involves typical construction activities and is not expected to cause release of any hazardous materials into the environment. **Source:** Project plans and description.					
9.c.	Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?				X
Discussion: The project does not involve the emittance or handling of hazardous emissions or material. Furthermore, the project site is not within one-quarter mile of any schools. **Source:** Project plans and description; Project location.					
9.d.	Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?				X
Discussion: The project site is not listed on a hazardous materials site list. **Source:** California Department of Toxic Substances Control, Hazardous Waste and Substances Site List (accessed 2022).					

9.e.	For a project located within an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, result in a safety hazard or excessive noise for people residing or working in the project area?				X
Discussion: The project site is not located within an airport land use plan or within 2 miles of a public airport. **Source:** Project location.					
9.f.	Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?				X
Discussion: The project will not impair or interfere with an emergency response plan or evacuation plan as the project includes the replacement and construction of bridges within forestland area used for low-impact recreation as part of an access improvement program to provide safe and low-impact access throughout forestland trails managed by a non-profit organization as well as adjacent forestland recreation areas such as Portola Redwoods State Park. The replacement bridge will be upgraded to be fire truck rated. **Source:** Project plans and description.					
9.g.	Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?				X
Discussion: The project site is in a High Fire Hazard Severity Zone (State Responsibility Area). The project is part of an access improvement program to provide safe and low-impact access throughout the forestland trails. The bridges will help to facilitate improved access for recreational users and property management. **Source:** Project plans and description; County of San Mateo GIS, California State Fire Severity Zones maps.					
9.h.	Place housing within an existing 100-year flood hazard area as mapped on a Federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?				X
Discussion: The project does not involve housing. Furthermore, the site is not located in a 100-year flood hazard area. **Source:** Federal Emergency Management Agency, Flood Insurance Rate Map, Community Panel 06081C0415E, effective October 16, 2012.					

9.i.	Place within an existing 100-year flood hazard area structures that would impede or redirect flood flows?				X
Discussion: The project site is not located in a 100-year flood hazard area. Furthermore, the project will locate the bridge structures approximately 10 feet above the 100-year flood elevation. **Source:** Federal Emergency Management Agency, Flood Insurance Rate Map, Community Panel 06081C0415E, effective October 16, 2012.					
9.j.	Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?			X	
Discussion: The project involves up to three temporary coffer dam creek diversions to accommodate construction, including two for the Bridge 2 area (i.e., bridge abutment location and temporarily widened access) and one for the Bridge 1 area. The coffer dams will channel summer low flows into a diversion pipe that would be laid on the bed of the creek. Construction would be limited to the summer construction (dry) season. The project area is used for low-intensity recreation. Therefore, the project is not expected to expose people or structures to any significant impacts resulting from flooding. **Source:** Project location; County of San Mateo General Plan Hazards map.					
9.k.	Inundation by seiche, tsunami, or mudflow?				X
Discussion: The project site is not located within a San Mateo County General Plan mapped tsunami and seiche inundation area. **Source:** Project location; County of San Mateo General Plan Hazards map.					

10.	**HYDROLOGY AND WATER QUALITY**. Would the project:	***Potentially Significant Impacts***	***Significant Unless Mitigated***	***Less Than Significant Impact***	***No Impact***
10.a.	Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality (consider water quality parameters such as temperature, dissolved oxygen, turbidity and other typical stormwater pollutants (e.g., heavy metals, pathogens, petroleum derivatives, synthetic organics, sediment, nutrients, oxygen-demanding substances, and trash))?			X	

Discussion: The project requires temporary flow diversion and flow isolation to provide necessary access to the creek channel for equipment crossing and construction. Therefore, several temporary coffer dams are proposed. The coffer dams will be constructed of sandbags filled with clean rock placed over plastic sheeting for water resistance and to facilitate clean, easy removal. Construction will occur during the dry season and will last approximately 2-3 months for each bridge. Additionally, erosion control will be installed around staging areas to avoid construction pollutants into the creek. The project must obtain all required authorizations for work in the creek channel, including but not limited to the Regional Water Quality Control Board and California Department of Fish and Wildlife. **Source:** Project plans and description; Biological Resource Assessment, prepared by Environmental Collaborative, dated December 2021.				
10.b. Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?			X	
Discussion: The project requires temporary surface flow diversion and flow isolation for the approximate 2-3 month (per bridge) construction duration. The project will occur during the dry season, when flows are lower. Aside from temporary diversion, the bridges will span the creek bed such that the footings will be outside of the creek channel. The project will not substantially impact groundwater supplies. **Source:** Project plans and description.				
10.c. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner that would:				
i. Result in substantial erosion or siltation on- or off-site;			X	
Discussion: The bridges will be constructed above the ordinary high water line of Peter's Creek. Erosion and sediment control measures, including silt fencing, and construction best management practices will be implemented throughout the duration of grading and construction activities to minimize erosion and sedimentation. The creek channel is dominated by bedrock which helps protect against scour. **Source:** Project plans and description; Hydrology and Hydraulics Report, prepared by Questa Engineering Corporation, dated December 2019.				
ii. Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site;			X	

Discussion: The project will add approximately 1,260 sq. ft. of new impervious surface to the site. Given the majority of the surrounding area is pervious surface and the bridges will span the creek channel to not result in any permanent alteration to the creek, the increase in impervious surface is not expected to result in flooding. **Source:** Project plans and description; Hydrology and Hydraulics Report, prepared by Questa Engineering Corporation, dated December 2019.				
iii. Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or				X
Discussion: The project site is located in a rural forested area with minimal development that supports recreational trail use. There are no existing or planned stormwater systems at the project site or in the area. The project has been conditionally approved by the County's Drainage Section to require drainage details be provided with the building permit application to ensure compliance with the County's drainage requirements. There is no evidence that the project, once implemented, will result in substantial additional polluted runoff. **Source:** Project plans and description; Project location; County of San Mateo Drainage Section.				
iv. Impede or redirect flood flows?			X	
Discussion: See staff's response in Section 10.a. **Source:** See sources in Section 10.a.				
10.d. In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?				X
Discussion: The project site is not located in a flood hazard, tsunami, or seiche zone. **Source:** Project location; County of San Mateo General Plan, Hazards map.				
10.e. Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?				X
Discussion: The project has been conditionally approved by the County's Drainage Section. Additionally, the project must be permitted by the Regional Water Quality Control Board. At present, there is no evidence to suggest the project is in conflict with any water quality control plan. The County does not have a groundwater management plan for this area. **Source:** Project location; Project plans.				
10.f. Significantly degrade surface or ground-water water quality?			X	
Discussion: See staff's responses in Sections 10.a. – 10.c.				

Source: See sources in Sections 10.a. – 10.c.				
10.g. Result in increased impervious surfaces and associated increased runoff?			X	
Discussion: See staff's response to Section 10.c.ii. and 10.c.iii. **Source:** See sources in Section 10.c.ii. and 10.c.iii.				

11. LAND USE AND PLANNING. Would the project:				
	Potentially Significant Impacts	***Significant Unless Mitigated***	***Less Than Significant Impact***	***No Impact***
11.a. Physically divide an established community?				X
Discussion: The project does not physically divide an established community. **Source:** Project location; Project plans.				
11.b. Cause a significant environmental impact due to a conflict with any land use plan, policy or regulation adopted for the purpose of avoiding or mitigating an environmental effect?				X
Discussion: The project does not conflict with any land use plan, policy or regulation adopted for the purpose of avoiding or mitigating an environmental effect. **Source:** Project plans and description.				
11.c. Serve to encourage off-site development of presently undeveloped areas or increase development intensity of already developed areas (examples include the introduction of new or expanded public utilities, new industry, commercial facilities or recreation activities)?				X
Discussion: The project does not introduce any new or expanded public utilities or development that would encourage off-site development of presently undeveloped areas or result in increased development intensity of already developed areas. **Source:** Project plans.				

12. MINERAL RESOURCES. Would the project:

	Potentially Significant Impacts	Significant Unless Mitigated	Less Than Significant Impact	No Impact
12.a. Result in the loss of availability of a known mineral resource that would be of value to the region or the residents of the State?				X
Discussion: The project site is not in any mapped mineral resources area. **Source:** County of San Mateo General Plan, Mineral Resources map.				
12.b. Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?				X
Discussion: See staff's response in Section 12.a. above. **Source:** San Mateo County General Plan, Mineral Resources map.				

13. NOISE. Would the project result in:	Potentially Significant Impacts	Significant Unless Mitigated	Less Than Significant Impact	No Impact
13.a. Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?			X	
Discussion: The project will generate short-term noise associated with grading and construction activities. However, such noises will be temporary and localized, where volume and hours are regulated by Section 4.88.360 (*Exemptions*) of the County Ordinance Code for Noise Control. Otherwise, the project will not generate any long-term noise impacts to the area. **Source:** Project plans and description; County of San Mateo Ordinance Code, Section 4.88.360 for Noise Control.				
13.b. Generation of excessive ground-borne vibration or ground-borne noise levels?			X	
Discussion: Some ground-borne vibration is expected during grading and construction; however, the vibration will be minimal and temporary. The project will not generate any long-term vibration or noise levels. **Source:** Project plans and description.				

13.c.	For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, exposure to people residing or working in the project area to excessive noise levels?				X

Discussion: The project site is not located within the vicinity of any identified public airports or within an airport land use plan area.

Source: Project location.

14. POPULATION AND HOUSING. Would the project:

		Potentially Significant Impacts	*Significant Unless Mitigated*	*Less Than Significant Impact*	*No Impact*
14.a.	Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?				X

Discussion: The project will not induce population growth in the area as the project is limited to constructing two bridges within forestland property owned and managed for preservation and low-impact recreational use.

Source: Project location; Project description.

14.b.	Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?				X

Discussion: The project does not propose to displace people or housing.

Source: Project plans and description.

15. PUBLIC SERVICES. Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered government facilities, the need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:

	Potentially Significant Impacts	Significant Unless Mitigated	Less Than Significant Impact	No Impact
15.a. Fire protection?				X
15.b. Police protection?				X
15.c. Schools?				X
15.d. Parks?				X
15.e. Other public facilities or utilities (e.g., hospitals, or electrical/natural gas supply systems)?				X

Discussion: The project will not introduce uses that would adversely impact public services. The bridges will provide will help to facilitate safe access within the property.

Source: Project plans and description.

16. RECREATION. Would the project:

	Potentially Significant Impacts	Significant Unless Mitigated	Less Than Significant Impact	No Impact
16.a. Increase the use of existing neighborhood or regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?				X

Discussion: The project includes replacing a bridge and constructing a new bridge crossing over Peter's Creek. The project site is located within over 160 acres of forestland owned by a non-profit organization and managed for preservation and low-impact recreational use. Minor trailwork for leveling and realignment will be completed in support of the bridges. The project would not increase use of the lands for recreation such that substantial physical deterioration would occur or be accelerated.

Source: Project plans; Project location.

16.b. Include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?				X

Discussion: The project includes replacing an existing bridge and constructing a new bridge crossing over Peter's Creek. The project will help to facilitate safe access for recreation and management users through improvements that consider environmental effects.

Source: Project plans and description.

17. TRANSPORTATION. Would the project:				
	Potentially Significant Impacts	***Significant Unless Mitigated***	***Less Than Significant Impact***	***No Impact***
17.a. Conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities, and parking?				X
Discussion: The project will not conflict with a program plan, ordinance or policy addressing circulation systems. The project involves the construction of two bridges to improve safe access for recreation and management users of the land. **Source:** Project plans and description.				
17.b. Would the project conflict or be inconsistent with CEQA Guidelines Section 15064.3, Subdivision (b) *Criteria for Analyzing Transportation Impacts*? *Note to reader: Section 15064.3 refers to land use and transportation projects, qualitative analysis, and methodology.*				X
Discussion: CEQA Guidelines Section 15064.3, Subdivision (b) Criteria for Analyzing Transportation Impacts, describes specific considerations for evaluating a project's transportation impacts. It states that, generally, vehicle miles traveled is the most appropriate measure of transportation impacts. "Vehicle miles traveled" refers to the amount and distance of automobile travel attributable to a project. Other relevant considerations may include the effects of the project on transit and non-motorized travel. The project involves the construction of access improvements through publicly owned land for management and recreation use. The magnitude of the project is relatively small and while it would result in a temporary increase in traffic levels during construction, there would be a negligible permanent increase in traffic levels after construction. Therefore, the project does not conflict with CEQA Guidelines Section 15064.3 **Source:** Project plans and description; Project location; CEQA Guidelines Section 15064.3.				
17.c. Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?				X
Discussion: The project will not alter any roadway design features or create an impediment/hazard. The project will improve access within the forested properties. **Source:** Project plans and description; Project location.				

17.d. Result in inadequate emergency access?				X
Discussion: The project will improve access within the project parcels by replacing and improving vehicle and recreation accessibility over Peter's Creek in two locations. **Source:** Project plans; Project location.				

18. TRIBAL CULTURAL RESOURCES. Would the project:				
	Potentially Significant Impacts	***Significant Unless Mitigated***	***Less Than Significant Impact***	***No Impact***
18.a. Cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Section 21074 as either a site, feature, place or cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:				
i. Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k)				X
Discussion: The project site is not listed or eligible for listing in the California Register of Historical Resources. Furthermore, the project is not listed in a local register of historical resources, pursuant to any local ordinance or resolution as defined in Public Resources Code Section 5020.1(k). **Source:** Project location; County GIS Maps; California Register of Historical Resources; County General Plan.				
ii. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in Subdivision (c) of Public Resources Code Section 5024.1. (In applying the criteria set forth in Subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the		X		

significance of the resource to a California Native American tribe.)				

Discussion: In compliance with Assembly Bill 52 for California Native American Tribal Consultation requirements, staff provided 30-day noticing to the Tamien Nation for consultation. No request for consultation was received by staff. Additionally, staff requested a Sacred Lands file search of the project vicinity, which was conducted by the Native American Heritage Council (NAHC), and resulted in no found records.

The following mitigation measures are recommended to minimize any potential significant impacts to unknown tribal cultural resources:

Mitigation Measure 12: In the event that tribal cultural resources are inadvertently discovered during project implementation, all work shall stop until a qualified professional can evaluate the find and recommend appropriate measures to avoid and preserve the resource in place, or minimize adverse impacts to the resource, and those measures shall be approved by the Current Planning Section prior to implementation and continuing any work associated with the project.

Mitigation Measure 13: Any inadvertently discovered tribal cultural resources shall be treated with culturally appropriate dignity taking into account the tribal cultural values and meaning of the resource, including, but not limited to, protecting the cultural character and integrity of the resource, protecting the traditional use of the resource, and protecting the confidentiality of the resource.

Source: Project location; County GIS Maps; Native American Heritage Commission; State Assembly Bill 52.

19. UTILITIES AND SERVICE SYSTEMS. Would the project:

		Potentially Significant Impacts	*Significant Unless Mitigated*	*Less Than Significant Impact*	*No Impact*
19.a.	Require or result in the relocation or construction of new or expanded water, wastewater treatment or stormwater drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?				X

Discussion: The project does not involve new or expanded utilities that could cause significant environmental effects.

Source: Project plans and description.

19.b.	Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?				X

Discussion: The project consists of the construction of two bridges over Peter's Creek, within forestland owned by a non-profit organization that manages the land for preservation and low-impact recreational use; therefore, the project does not require a water supply. **Source:** Project plans.				
19.c. Result in a determination by the waste-water treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?				X
Discussion: The project does not require a wastewater treatment system. **Source:** Project plans.				
19.d. Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?				X
Discussion: The permanent project will not generate solid waste. Demolition debris from the existing bridge will be required to be transported to appropriate off-site recycle/disposal facilities that are adequate to accept such materials. The project will be required to meet applicable waste recycling requirements set forth by the County of San Mateo Ordinance No. 04099 for salvage, reuse, or recycling of a minimum of 50% of construction and demolition debris. **Source:** Project plans; County of San Mateo Waste Management Plan Permit.				
19.e. Comply with Federal, State, and local management and reduction statutes and regulations related to solid waste?				X
Discussion: It is not expected that that solid waste materials resulting from demolition of the existing bridge would result in compliance issues with any Federal, State, or local statutes or regulations. **Source:** Project plans.				

20. **WILDFIRE**. If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:	***Potentially Significant Impacts***	***Significant Unless Mitigated***	***Less Than Significant Impact***	***No Impact***
20.a. Substantially impair an adopted emergency response plan or emergency evacuation plan?				X

Discussion: The project would not impair any emergency response plan or emergency evacuation plan. The project will provide safer, improved access at two locations within the forest land properties. **Source:** Project plans and description.				
20.b. Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?				X
Discussion: The project will not exacerbate wildfire risks. The bridges will be primarily constructed of precast material. **Source:** Project plans and description.				
20.c. Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?				X
Discussion: The project does not require the installation or maintenance of associated infrastructure that could exacerbate fire risk or result in environmental impacts. **Source:** Project plans and description.				
20.d. Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?				X
Discussion: The project will not increase runoff, slope instability or drainage alterations in a manner that would expose people or structures to significant risks from flooding or landslide. **Source:** Project plans and description; Project location.				

21. MANDATORY FINDINGS OF SIGNIFICANCE.				
	Potentially Significant Impacts	***Significant Unless Mitigated***	***Less Than Significant Impact***	***No Impact***
21.a. Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below		X		

self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?				
Discussion: Yes, as discussed in this document, the project has the potential to result in environmental impacts as discussed in this report. Implementation of mitigation measures included in this document would adequately reduce project impacts to a less than significant level. **Source:** Subject document.				
21.b. Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.)				X
Discussion: The project involves the construction of two bridges and minor access and trailwork within 162 acres of forestland supporting trails and access to adjacent state park lands and trails. The project is not likely to result in a cumulatively considerable impact when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects in the area. **Source:** Subject document.				
21.c. Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?		X		
Discussion: The project could result in environmental impacts that could either directly or indirectly cause impacts on human beings. However, implementation of mitigation measures included in this document would adequately reduce project impacts to less than significant levels. **Source:** Subject document.				

RESPONSIBLE AGENCIES. Check what agency has permit authority or other approval for the project.

AGENCY	YES	NO	TYPE OF APPROVAL
Bay Area Air Quality Management District		X	
Caltrans		X	

AGENCY	YES	NO	TYPE OF APPROVAL
City		X	
California Coastal Commission		X	
California Department of Food and Agriculture		X	
County Airport Land Use Commission (ALUC)		X	
Other: _____		X	
National Marine Fisheries Service		X	
Regional Water Quality Control Board	X		Section 401 Water Quality Certification
San Francisco Bay Conservation and Development Commission (BCDC)		X	
Sewer/Water District:		X	
State Department of Fish and Wildlife	X		Lake and Streambed Alteration Agreement
State Department of Public Health		X	
State Water Resources Control Board		X	
U.S. Army Corps of Engineers (CE)	X		Section 404 Permit
U.S. Environmental Protection Agency (EPA)		X	
U.S. Fish and Wildlife Service		X	

MITIGATION MEASURES

	Yes	No
Mitigation measures have been proposed in project application.	X	
Other mitigation measures are needed.	X	

The following measures are included in the project plans or proposals pursuant to Section 15070(b)(1) of the State CEQA Guidelines:

Mitigation Measure 1: The applicant shall include the following measures on building permit plans submitted to the Building Division:

a. All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day.

b. All haul trucks transporting soil, sand, or other loose material off-site shall be covered.

c. All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited.

d. All vehicle speeds on unpaved roads shall be limited to 15 mph.

e. All roadways, driveways, or trails shall be completed as soon as possible.

f. All construction equipment shall be maintained and properly tuned in accordance with manufacturers' specifications. All equipment shall be checked by a certified mechanic and determined to be running in proper condition prior to operation.

g. Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes (as required by the California Airborne Toxics Control Measure Title 13, Section 2485, of the California Code of Regulations (CCR)). Clear signage shall be provided for construction workers at all access points.

h. Post a publicly visible sign with the appropriate telephone number and person to contact at the job site/representing the project applicant. This person shall respond and take corrective action within 48 hours. The Bay Area Air Quality District's phone number shall also be visible to ensure compliance with applicable regulations.

Mitigation Measure 2 [BIO-1a]: ***Marbled Murrelet (MAMU) Nesting Habitat Avoidance.*** Appropriate measures shall be taken to mitigate potential adverse impacts on MAMU nesting in proximity to the Project improvements. This shall be accomplished through implementation of the following measures:

Restrictions on Tree Removal:

1. Tree removal and trimming required by the Project shall occur outside of the MAMU breeding season (April 1 to September 15) to minimize disturbance to MAMU nesting.
2. Trees identified for removal under the Project shall first be assessed for suitability as MAMU nesting trees by a qualified wildlife biologist. Typical credentials for a qualified biologist include a minimum of four years of academic training and professional experience in biological sciences and related resource management activities, and a minimum of two years of experience conducting surveys for MAMU.
3. Trees determined to have suitable elements for nesting by MAMU will be retained under the Project, if feasible. If a suitable nest tree(s) cannot be retained as part of the Project, the qualified biologist shall coordinate with the USFWS removal of a potential MAMU nest tree from occupied habitat and shall identify additional measures to address this loss. This may include follow-up monitoring of nest activity in the area to provide additional data on MAMU use of the Study Area, or other measures considered appropriate by the USFWS.

Preconstruction Surveys

4. Prior to initiation of construction during the MAMU nesting season, the qualified biologist shall conduct a preconstruction survey to determine whether any active MAMU nests are located within line-of-sight of proposed Project construction activities. This preconstruction survey may be conducted as part of the larger preconstruction survey for active nests of other bird species called for in Mitigation Measure 4 [BIO-4].

5. If active MAMU nests are discovered where visual disturbance from Project construction activities may result in harassment or take, the qualified biologist shall monitor the nest location and identify any additional construction control measures in consultation with the USFWS as part of the MAMU Nest Avoidance Program called for below. These may include restrictions on the timing of disruptive construction activities within line-of-sight of the active

nest until the nest is no longer in use as determined by the qualified biologist, at which time construction may proceed at this location without additional MAMU restrictions. Nest monitoring frequency shall be determined by the qualified biologist on a nest-by-nest basis considering the particular construction activity, duration, and proximity to the nest.

6. The qualified biologist may revise their construction-restriction determinations at any time during the nesting season, including applying additional restrictions if considered necessary to prevent harassment or take.

Project Construction Activities:

7. The qualified biologist shall evaluate the schedule of Project construction, identify any activities associated with the Project that could affect active MAMU nests, and develop a MAMU Nest Avoidance Program (NAP) in consultation with the USFWS that addresses any potential harassment or take.

8. An artificial noise deterrent system shall be developed and implemented as appropriate to acclimate individual MAMU that could be establishing new nests in the Project vicinity to construction activities. The artificial noise deterrent system shall be operating starting one hour before sunset and continuing until one hour after sunset from March through May, or until Project construction activities generating high noise levels have been initiated, whichever is later in the year.

9. Project activities which produce noise levels between 70 dB and 90 dB shall be restricted to between two-hours after sunrise and two-hours before sunset during the MAMU breeding season. Project activities which produce noise levels of 91 dB or greater shall be prohibited during MAMU breeding season.

10. Construction control measures determined necessary during the preconstruction surveys shall also be implemented as part of the MAMU NAP.

11. Construction practices called for in Mitigation Measure 8 [BIO-5] *Construction Restrictions to Protect Wildlife* shall be implemented to minimize disturbance to MAMU habitat and avoid attracting additional predators.

Post Construction Monitoring and Management:

12. Appropriate management practices shall be implemented as part of future trail use to minimize any adverse effects on MAMU habitat in the Study Area. This shall include installation of interpretive signage defining restrictions on visitor behavior during the MAMU breeding season, packing out all trash to avoid attracting additional MAMU predators, and a prohibition of pets on the trail system.

13. Conduct follow-up monitoring of MAMU nest activity in the Study Area by a qualified biologist for a minimum of five years to provide additional data on MAMU use.

Mitigation Measure 3 [BIO-3]: ***Avoidance of Special-Status Species.*** Appropriate measures shall be taken to prevent inadvertent take of California red-legged frog (CRLF), foothill yellow-legged frog (FYLF), California giant salamander (CGS), Santa Cruz black salamander (SCBS), western pond turtle (WPT), red-bellied newt (RBN), steelhead, nesting birds and other wildlife during construction. In addition to the avoidance of active nests called for in Mitigation Measure 4

[BIO 4], *Avoidance of Bird Nests in Active Use,* this shall include the following:

1. A qualified biologist shall be retained to oversee construction and ensure that no inadvertent take of special-status species occurs as a result of construction and other habitat modifications to the Study Area.

2. The qualified biologist shall oversee construction, conduct preconstruction clearance surveys for nesting birds and focused species, and train workers over the regulations related to wetlands and special-status species, and the possible risk of inadvertent take in advance of construction.

3. The worker training shall be conducted prior to starting work on the Project and upon the arrival of any new worker. The training program shall include a brief review of locations of sensitive areas, possible fines for violations, Project Controls to be implemented, and summary of environmental permits and regulatory compliance requirements. In addition, a record of all personnel trained during the project shall be maintained for compliance verification.

4. All construction workers shall be instructed that focal special-status are to be avoided, that the foreman must be notified if a suspected species of concern is seen, and that construction shall be halted until the qualified biologist arrives and makes a determination on possible presence. If any special-status species are encountered within the excluded work zone, construction shall be halted until the individual(s) disperse naturally for State and federally-listed species unless explicitly authorized by the USFWS and CDFW through issuance of an Incidental Take Permit (ITP) or are relocated outside the construction zone for non-listed species. Construction shall not proceed until adequate measures are taken to prevent dispersal of any individuals into the construction zone, as directed by the USFWS and CDFW. The specific methods for handling amphibians or reptiles and decontamination shall follow latest protocols from the USFWS. These protocols describe field equipment maintenance, disinfection, and field hygiene procedures designed to minimize potential spread of pathogens when handling amphibians or reptiles.

5. Once preconstruction surveys have been conducted, the qualified biologist shall train the on-site monitor (such as the construction foreman) in how to identify target special-status species and procedures to follow as part of construction monitoring for the duration of construction. The qualified biologist shall visit the site at least once a week during construction and confer with the trained on-site monitor.

6. Project work areas will be monitored by a qualified biologist during exclusion fence installation and ground disturbing activities to identify, capture, and relocate non-listed sensitive amphibians (CGS, SCBS, WPT, or RBN) if found, and halt or observe work in the vicinity of CRLF and FYLF if encountered onsite. The qualified biologist shall have the authority to stop construction activities and develop alternative work practices, in consultation with construction personnel and resource agencies (as appropriate), if construction activities are likely to affect special-status species or other sensitive biological resources.

7. Temporary exclusion fencing shall be installed around key project boundaries, including areas where ground disturbance will occur adjacent to Peters Creek, segments of the access road to be modified, and around all project staging and laydown areas. Fencing shall be installed immediately prior to the start of construction activities under the supervision of a qualified biologist who will perform monitoring on a daily basis for the first week of construction. After the first week of construction and following training by the qualified biologist, the on-site

monitor shall ensure that the temporary exclusion fencing is continuously maintained until all construction activities are completed. The on-site monitor shall perform daily visual inspections of the fence for any amphibians or reptiles that may get stuck by the fence. The fencing shall be of a material that meets CDFW standards for species exclusion, a minimum height of 3 feet above ground surface, with an additional 4 to 6 inches of fence material buried such that species cannot crawl under the fence and shall include escape funnels to allow species to exit the work areas.

8. Dewatering of construction reaches within the Peters Creek channel shall be overseen by the qualified biologist and aquatic life within the dewatered areas shall be relocated to nearby suitable habitat. A second preconstruction survey shall be performed by the qualified biologist before construction equipment is allowed to enter the dewatered reaches of Peters Creek, to confirm absence of any special-status species of concern and other aquatic wildlife.

9. All excavations of a depth of 8 inches or greater shall be either backfilled at the end of each workday, covered with heavy metal plates, or escape ramps shall be installed at a 3:1 grade to allow wildlife that fall in a means to escape.

10. Use of monofilament plastic for erosion control or other practices shall be prohibited on the site to prevent possible entrainment.

11. The contractor shall provide wildlife-proof (closed) garbage containers for the disposal of all food-related trash items. All food waste shall be removed daily from the site to avoid attracting predators. Construction personnel shall not feed or otherwise attract fish or wildlife to the Study Area.

12. Subsequent recommendations made by the USFWS and CDFW shall be followed. Only an agency-approved biologist is allowed to handle or otherwise direct movement of listed special-status species, including CRLF, FYLF, and all others shall not handle or otherwise harass the animals. The qualified biologist and the on-site monitor shall be aware of all terms and conditions set by USFWS and CDFW for the Project.

Mitigation Measure 4 [BIO-4]: ***Avoidance of Bird Nests in Active Use.*** Adequate measures shall be taken to avoid inadvertent take of bird nests protected under the federal Migratory Bird Treaty Act and State Fish and Game Code when in active use. This shall be accomplished by taking the following steps.

1. If initial grubbing and tree removal is proposed during the nesting season (February 1 to August 31), a focused survey for nesting raptors and other migratory birds shall be conducted by a qualified biologist within 7 days prior to the onset of construction in order to determine whether any active nests are present in the Study Area and surrounding area within 300 feet of proposed construction. The survey shall be reconducted any time construction has been delayed or curtailed for more than 7 days during the nesting season.

2. Typical credentials for a qualified biologist include a minimum of four years of academic training and professional experience in biological sciences and related resource management activities, and a minimum of two years of experience conducting surveys for each species that may be present within the Study Area.

3. If no active nests are identified during the construction survey period, or construction is initiated during the non-breeding season (September 1 to January 31), then construction may proceed with no restrictions.

4. If it is determined that construction may affect an active nest, the qualified biologist shall establish a no-disturbance buffer around the nest(s) and all construction activities restricted within the buffer until a qualified biologist determines the nest is no longer in use. Required setback distances for the no-disturbance buffer zone shall be based on input received from the CDFW, and the setback may vary depending on species and sensitivity to disturbance. As necessary, the no-disturbance zone shall be fenced with temporary orange construction fencing if construction is to be initiated elsewhere in the Study Area. Typically, these buffer distances are 250 feet for passerines and 500 feet for raptors; however, the buffers may be adjusted if topography or other obstructions block the line-of-sight between the nest and the construction area. For bird species that are federally and/or State-listed sensitive species (i.e., fully protected, endangered, threatened, species of special concern), the qualified biologist shall coordinate with CDFW (and USFWS for FESA–protected species nests such as marbled murrelet) regarding modifying nest buffers, prohibiting construction within the buffer, and modifying construction activities.

5. Modifying nest buffer distances, allowing certain construction activities within the buffer, and/or modifying construction methods in proximity to active nests for non-listed species shall be done at the discretion of the qualified biologist. Any work that must occur within established no-disturbance buffers around active nests shall be monitored by a qualified biologist. If adverse effects in response to construction activities within the buffer are observed and could compromise the nest viability, work within the no-disturbance buffer(s) shall be modified as directed by the qualified biologist or halt until the nest occupants have fledged if monitoring indicates continued disturbance to the active nest.

6. Any birds that begin nesting within the Project site and survey buffers amid construction activities shall be assumed to be habituated to construction-related or similar noise and disturbance levels and no work exclusion zones shall be established around active nests in these cases; however, should birds nesting nearby begin to show signs of disturbance associated with construction activities, then no-disturbance buffers shall be established as determined by the qualified wildlife biologist.

7. A report of findings shall be prepared by the qualified biologist and submitted to the County for review and approval prior to initiation of construction during the nesting season (February 1 to August 31). The report shall either confirm absence of any active nests or should confirm that any young are located within a designated no-disturbance zone and construction can proceed. No report of findings is required if construction is initiated during the non-nesting season (September 1 to January 31) and continues uninterrupted according to the above criteria.

Mitigation Measure 5 [BIO-6]: ***Obtaining Agency Authorizations.*** The applicant shall obtain required authorizations from the US Army Corps of Engineers, Regional Water Quality Control Boad (RWQCB) and California Department of Fish and Wildlife (CDFW) for modifications to regulated waters associated with the Study Area. This includes a Section 404 Permit from the Corps, a Section 401 Certification from the RWQCB, and a Streambed Alteration Agreement from the CDFW. The applicant shall obtain all legally required permits or other authorizations from the US Fish and Wildlife Services (USFWS) and CDFW for the potential "take" of species protected under the Endangered Species Acts, if required. All conditions and measures contained in the regulatory agency authorizations shall be implemented as part of the Project.

Mitigation Measure 6 [BIO-1b]: ***Rare Plant Avoidance Measures.*** Appropriate measures shall be undertaken to ensure avoidance of any special-status plant species or provide for mitigation where avoidance is not possible. A qualified botanist with a minimum of four years of academic training and professional experience in botanical sciences and a minimum of two years of

experience conducting rare plant surveys shall conduct appropriately timed surveys for special-status plant species with a moderate or high potential to occur in the Study Area (i.e., minute pocket moss, Dudley's lousewort, and white-flowered rein orchid) in all suitable habitat that would be potentially disturbed by the Project (i.e., where vegetation removal may occur). Surveys shall be conducted following the most recent CDFW guidelines for rare plant surveys. If no special-status plants are found during focused surveys, the botanist shall document the negative survey results in a report of findings and no further mitigation will be required. If special-status plants are found during focused surveys, the following measures shall be implemented:

1. Information regarding the special-status plant populations shall be reported to the CNDDB, mapped, and documented in a technical memorandum provided to the County.

2. If any population can be avoided during project implementation, it shall be clearly marked in the field by a qualified botanist, workers shall be trained to avoid the area(s) and avoided during construction activities. Before vegetation removal, ground clearing or ground disturbance, all on-site construction personnel shall be instructed as to the presence of this special-status species and the importance of avoiding impacts to this species and its habitat as part of the worker training called for in Mitigation Measure 3 [BIO-3] *Avoidance of Special-Status Species.*

3. If special-status plant populations cannot be avoided, the qualified botanist shall coordinate with CDFW on relocation of special-status plants or alternative measures. To the extent feasible, special-status plants that would be impacted by the Project shall be relocated within local suitable habitat nearby. This can be done either through salvage and transplanting or by collection and propagation of seeds or other vegetative material. Any plant relocation shall be done under the supervision of a qualified botanist or restoration ecologist and shall include a monitoring and maintenance program to verify success.

Mitigation Measure 7 [BIO-1]: ***Minimize Disturbance to Regulated Waters and Restore Areas Disturbed by the Project.*** Appropriate measures shall be taken to minimize impacts on regulated waters and provide for restoration of disturbed areas as part of the Project. This shall include the following:

1. In-channel construction activities shall be scheduled to minimize disturbance to surface waters and seasonal aquatic habitat. No work shall be performed within 24 hours of projected rainfall events.

2. A worker training shall be conducted by a qualified biologist prior to starting work on the Project to explain the presence of regulated waters, the need to limit construction-related disturbance, and explain repercussions for violations. A record of all personnel trained during the project shall be maintained for compliance verification.

3. Once the preconstruction clearance surveys have been performed as called for in Mitigation Measure 3 [BIO-3] *Avoidance of Special-Status Species*, the qualified biologist shall train the on-site monitor (such as the construction foreman) in procedures to follow as part of construction monitoring, including supervising the construction crew to ensure compliance. The qualified biologist shall visit the site at least once a week during construction and confer with the trained on-site monitor that the project is in compliance.

4. Areas disturbed by construction access into the Peters Creek channel shall be restored to predisturbance conditions. All material used as part of the temporary coffer dam system for

dewatering shall be removed, cobble reinstalled, and banks seeded with indigenous native grasses and forbs to the Study Area to control erosion.

5. The qualified biologist or other specialist shall provide post-construction monitoring to confirm that improvements have been successfully installed and maintained, consistent with any conditions specified in the regulatory agency authorizations described in Mitigation Measure 5 [BIO-6] *Obtaining Agency Authorizations.*

Mitigation Measure 8 [BIO-5]: ***Construction Restrictions to Protect Wildlife.*** The following restrictions shall be implemented to avoid adversely affecting sensitive habitats and harm or harassment to wildlife during construction:

1. A speed limit of 5 miles per hour (mph) in the Study Area shall be followed by all construction equipment and vehicles.

2. Access routes and the number and size of staging and work areas shall be limited to the minimum necessary to construct the proposed project. Routes and boundaries of staging areas and access shall be clearly marked prior to initiating construction or installation.

3. All food and food-related trash items shall be enclosed in sealed trash containers and removed completely from the Study Area at the end of each day.

4. No pets from project personnel shall be allowed anywhere in the Study Area during construction.

5. All equipment shall be maintained such that there will be no leaks of automotive fluids such as gasoline, oils or solvents and a Spill Response Plan shall be prepared. Hazardous materials such as fuels, oils, solvents, etc. shall be stored in sealable containers in a designated location that is at least 100 ft. from wetlands and aquatic habitats.

6. Servicing of vehicles and construction equipment including fueling, cleaning, and maintenance shall occur at designated locations away from regulated waters and other sensitive habitats. Staging areas may occur closer to the project activities as required.

7. The spread of invasive non-native plant species and plant pathogens shall be avoided or minimized. Construction equipment shall arrive at the Project site clean and free of soil, seed, and plant parts to reduce the likelihood of introducing new weed species. Any imported fill material, soil amendments, gravel, or other materials required for construction and/or restoration activities that will be placed within the upper 12 inches of the ground surface shall be free of vegetation and plant material. Certified weed-free imported erosion control materials (or rice straw in upland areas) shall be used exclusively, if possible.

Mitigation Measure 9 [BIO-2]: ***Minimize Damage and Loss to Trees.*** Appropriate measures shall be taken to minimize tree removal, protect trees to be retained from construction-related damage, and provide for replacement where avoidance is not feasible. This shall include the following:

1. A certified arborist shall determine appropriate protective measures to be implemented during construction. This shall include accurately mapping root protection zones and identifying other specific measures that would limit potential indirect impacts on trees to be retained such as installation of protective fencing consistent with the County's tree protection measures. Tree protection measures shall be maintained throughout the duration of Project construction.

2. Construction drawings shall depict areas to be avoided such as tree trunks and root protection zones and shall indicate the location of protective fencing recommended by the certified arborist.

3. If any large roots or large masses of roots need to be cut, the roots shall be inspected by the certified arborist or forester prior to cutting. Any root cutting shall be undertaken by the arborist or forester and documented. Roots to be cut shall be severed cleanly with a saw or toppers.

4. If pruning is necessary, pruning should be overseen by the certified arborist or forester to clean and raise the canopy per International Society of Arboriculture pruning standards.

5. If trimming or removal of significant or heritage trees cannot be avoided, a permit shall be secured from the County to trim or remove qualifying trees that are not approved as part of this project. The permit application process requires an Existing Tree Plan be prepared and an Arborists Report that assesses tree health and provides tree protection measures which may be incorporated into a Tree Protection Plan for trees that could be indirectly affected by work in their immediate vicinity.

6. Trees identified for removal measuring 17.5 inches DBH or greater shall be replaced at a 1:1 ratio (replacement trees to removed trees) with the same species removed within the immediate vicinity of the removal location using at least a 15-gallon stock. Replacement trees shall be monitored at least once a year for at least five years or longer, concurrent with restored areas of riparian habitat or wetlands, if applicable.

Mitigation Measure 10: In the event that cultural, paleontological, or archeological resources are encountered during site grading or other site work, such work shall immediately be halted in the area of discovery, County staff shall be notified, and the applicant shall be required to retain the services of a qualified professional for the purpose of recording, protecting, or curating the discovery as appropriate.

Mitigation Measure 11: Should any human remains be discovered during construction activities, all ground disturbing work shall cease and the County Coroner shall be immediately notified, pursuant to Section 7050.5 of the State of California Health and Safety Code. Work must stop until the County Coroner can make a determination of origin and disposition of the remains. If the County Coroner determines the remains to be Native American, the Native American Heritage Commission shall be contacted within 24 hours. A qualified archaeologist, in consultation with the Native American Heritage Commission, shall recommend subsequent measures for disposition of the remains.

Mitigation Measure 12: In the event that tribal cultural resources are inadvertently discovered during project implementation, all work shall stop until a qualified professional can evaluate the find and recommend appropriate measures to avoid and preserve the resource in place, or minimize adverse impacts to the resource, and those measures shall be approved by the Current Planning Section prior to implementation and continuing any work associated with the project.

Mitigation Measure 13: Any inadvertently discovered tribal cultural resources shall be treated with culturally appropriate dignity taking into account the tribal cultural values and meaning of the resource, including, but not limited to, protecting the cultural character and integrity of the resource, protecting the traditional use of the resource, and protecting the confidentiality of the resource.

DETERMINATION (to be completed by the Lead Agency).

On the basis of this initial evaluation:

	I find the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared by the Planning Department.
X	I find that although the proposed project could have a significant effect on the environment, there WILL NOT be a significant effect in this case because of the mitigation measures in the discussion have been included as part of the proposed project. A MITIGATED NEGATIVE DECLARATION will be prepared.
	I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

(Signature)

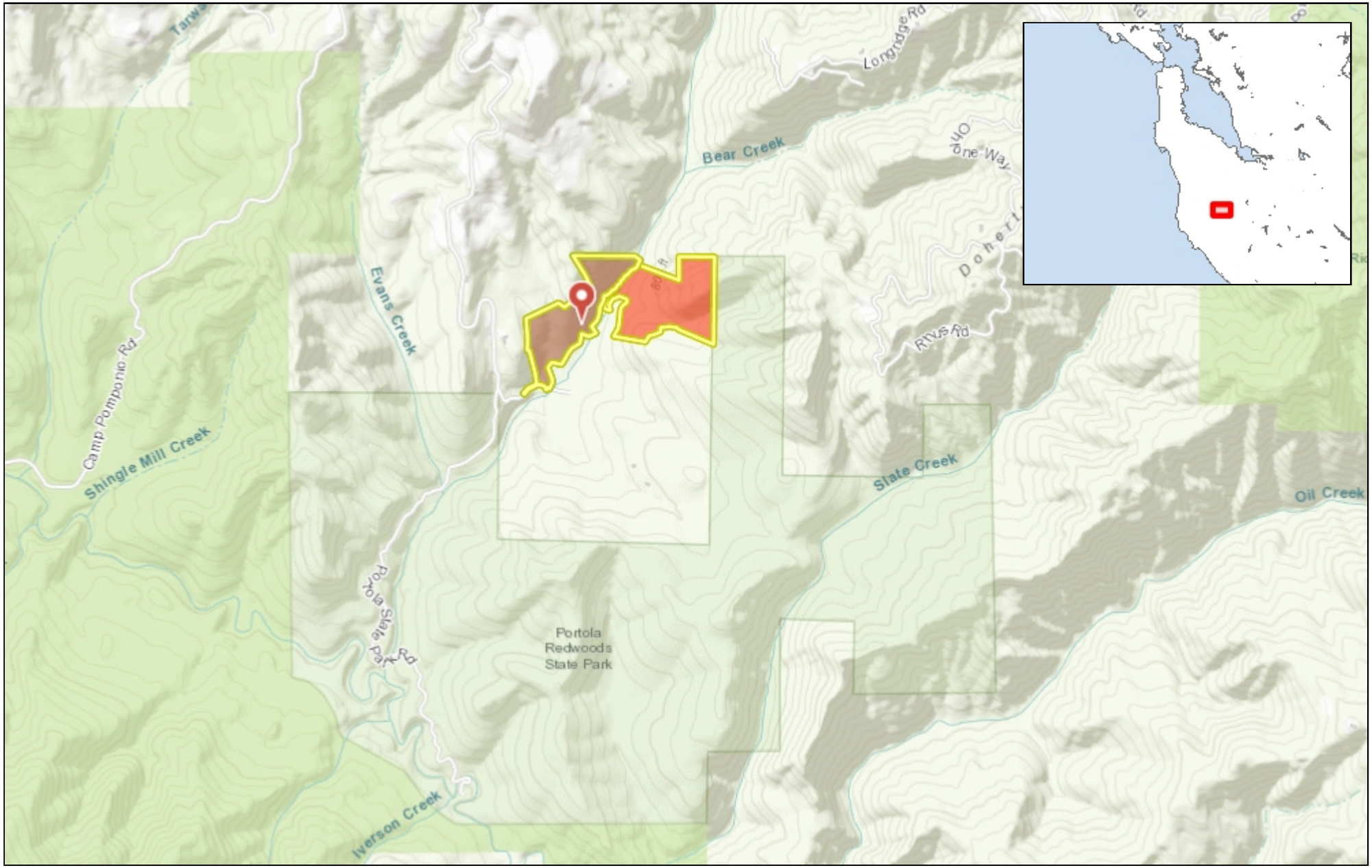
October 24, 2022	Senior Planner
Date	(Title)

ATTACHMENTS

A. Project Location Map
B. Project Description, dated June 1, 2022
C. Project Plans
D. Biological Resource Assessment, prepared by Environmental Collaborative, dated December 2021
E. Geotechnical Investigation, prepared by Questa Engineering Corporation, dated November 22, 2019

San Mateo County

Peters Creek Bridge Project



1.14 0 0.57 1.14 Miles

WGS_1984_Web_Mercator_Auxiliary_Sphere

1: 36,112

This map is a user generated static output from an Internet mapping site and is for reference only. Data layers that appear on this map may or may not be accurate, current, or otherwise reliable.

THIS MAP IS NOT TO BE USED FOR NAVIGATION

PETER'S CREEK PROJECT DESCRIPTION – REVISED JUNE 1, 2022

The goal of this project is to rebuild an existing bridge and construct a new bridge across Peter's Creek on property that is owned and managed by Save the Redwoods League. These bridges will be a part of an access improvement program that allows safe and low impact access to property as well as adjacent state park lands and trails. The project area is shown on **Figure 1**. The bridges will be clear span structures that are 50 feet and 100 feet in span. Bridge 1 is the shorter of the bridges and entails replacing what appears to be a rusting, old railroad flat car bridge. The existing bridge is not used for vehicles only for hiking because of its condition. The replacement bridge will be fire truck rated. Bridge 2 is a new bridge will be placed between two high banks about 800 feet upstream of the first bridge. The existing site plans and general project layout is shown in the attached plan set. The existing bridge provides the only possible construction access to the second bridge site. Currently, that bridge is unsafe to carry construction equipment and materials. The bridge will either need to be temporally reinforced or replaced prior to construction of the second bridge.

The access route to the second bridge is a historic road that was likely constructed in the early 1900's as part of logging operations in the area. The road is generally wider than 15 feet but slight improvements will need to be completed in specific areas to make it safe for construction access. Several large downed logs will need to be moved. A short area of the roadway has been narrowed by bank erosion. This area will need a temporary fix to provide a minimum width of 12 feet to allow safe equipment and material access. A second area of the road is narrowed by a very large stump. This stump will need to be removed and the access way re-graded.

Two separate staging areas will be developed at or near each bridge site. These staging areas will be separated from the surrounding area with silt fencing and/or exclusionary fencing. All trees in around active construction zones will be protected by exclusionary fencing or timber trunk wraps whichever is more suitable for the location and application. Vegetation will be cleared within the project area for grading, resulting in the loss of approximately 10 trees of diameters ranging from 6 to 10 inches.

General construction access is good at the first site but is more challenging at the second site. To reach the far bridge abutment location of Bridge 2, a portion of the existing creek bed will need to be used. Coffer dams will be constructed upstream of the proposed bridge to channel summer low flows into a diversion pipe which would be laid on the bed of creek. The coffer dam will be constructed of sand bags filled with clean rock fill. Plastic sheeting will be laid down prior to sandbags to make it water tight and to facilitate clean, easy removal. Where necessary, along the

creek bed access route clean fill material will be placed over the pipe to allow equipment and vehicle movement. A second flow diversion is proposed at the first bridge site as well. This diversion may or may not be necessary depending on how the contractor chooses to construct the first bridge. A third smaller creek diversion/exclusion dam is needed at the area where the access road is to be temporarily widened. The design for this feature will ultimately be the responsibility of the building contractor, but it is likely that some shoring will be needed along the toe of the creek bank within ordinary high water to support the road extension. This area will be isolated from the active creek flow to reduce impacts.

Cut and fills will be limited on the project. Cuts will occur for improvements to access roads and excavations for bridge foundations. The small amounts of fill may be placed to provide smooth trail grades. The largest fill area will be at the north side of the Bridge 2, where an existing depression creates an awkward transition from the bridge landing to the existing trail connection. All cuts and fills are expected to generally balance on the site, but small amounts of unsuitable material maybe off hauled.

AREAS OF IMPACT: **Figures 2** and **3** shown in the area of impact on the site. These areas are broken down into several categories.

Total Area of impact: 27,275 square feet or 0.63 acres

Area of Upland impact: 19,736 square feet or 0.45 acres

Area of temporary impacts below Ordinary High Water (OHW) as defined by modeled 2-year creek flow water surface profile: 7,535 square feet; 0.17 acres

The project will permanently affect 12,650 square feet or 0.29 acres.

The access trails will be generally un-impacted. The trails leading to and across bridge one are fire road width. The access trail to bridge 2 is approximately 6 to 10 feet wide. Some minor grading and clearing will be needed as shown on the plans. All trails will be left or returned to their existing condition.

CONSTRUCTION DURATION:

Construction may occur over two summer construction seasons. The first bridge needs to be able to carry equipment and supplies for the construction of the second bridge. Therefore, it is likely that the first bridge will be constructed and then, the following year the second bridge will be installed. Each bridge will take 2-3 months to complete. Construction should start no later than August 1 and will be completed and/or winterized by October 1 of that construction season.

CONSTRUCTION EQUIPMENT AND SEQUENCING:

The project is expected to utilize a variety of light trucks and heavy equipment. Workers will likely have ½ ton pickups or greater. On site heavy equipment may include a 130 excavator or larger, backhoe/skip loaders, small dozer (D3 or less), truck or track mounted drilling rigs, and small compact front end loaders. A small crane may be needed briefly. Portable generators will be used to supply electric power on the site.

First season, first bridge construction sequencing

1. Mobilization and staging: This is the start of the project construction. The staging area are established and the site is isolated from the surrounding area by install of silt fence and tree protection. As necessary a coffer dam and diversion will be installed beneath the bridge.

2. Clearing and grubbing: The new bridge foundation sites will be cleared of vegetation and any tree removals will occur.

3. Portions of the old bridge and log structure may be demolished and removed from the site.

4. Foundation installation: This will involve excavation, forming and steel placement and concrete pours

5. Bridge structure installation: This includes placement of steel stingers and lateral bracing that will make the structural supports of the bridge.

6. Bridge deck and railing installation. Installation of concrete deck (maybe precast off site) and safety rails on bridge.

7. Bridge approach grading: The final grading and establish of the bridge approaches will be completed this may involve minor amounts of fill road bed improvement

8. Erosion control: The temporary erosion control and winterization measures will be installed. This may include installation of temporary straw wattles and seeding and mulching for site winterization.

9. Closeout and demobilization.

10. Periodic site checks throughout the winter.

Second season, second bridge and trail construction

1. Mobilization and staging: This is the start of the project construction season. The staging area(s) are established and is isolated from the surrounding area. Silt fences and tree protection is installed as needed.

2. Site clearing grubbing: The new bridge foundation sites and permanent trail alignments will be cleared of vegetation and any tree removals will occur.

3. Water Management and access routes: Installation of the bridge site coffer dam and diversion pipe, also installation of exclusionary bank toe features at the trail width improvement site.

4. Installation of temporary trail width shoring

5. Rough Trail grading including removal of large stump and installation of creek bed access route and tree removal as needed.

6. Foundation preparation and cable anchor installation: This may include drilling or excavate counterweights for cable suspension.

7. Cable tower installation: Cable towers would be installed on appropriate foundations. Towers may be prefabricated offsite and assembled and erected on site.

8. Cable bridge deck and railing installation

9. Bridge approach trail grading and filling

10. Coffer Dam Removal and Streambed restoration

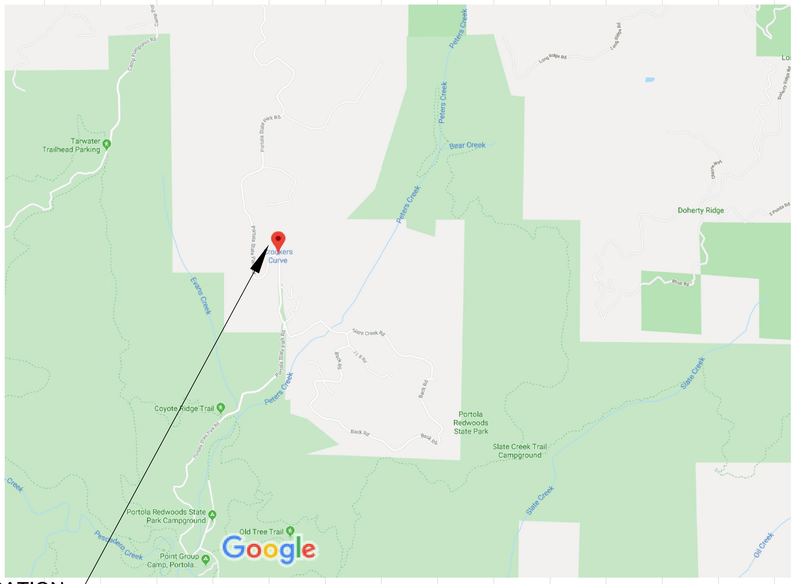
11. Erosion control installation of temporary straw wattles and seeding and mulching for site winterization

12. Closeout and site clean up

13. Periodic site checks throughout the winter.

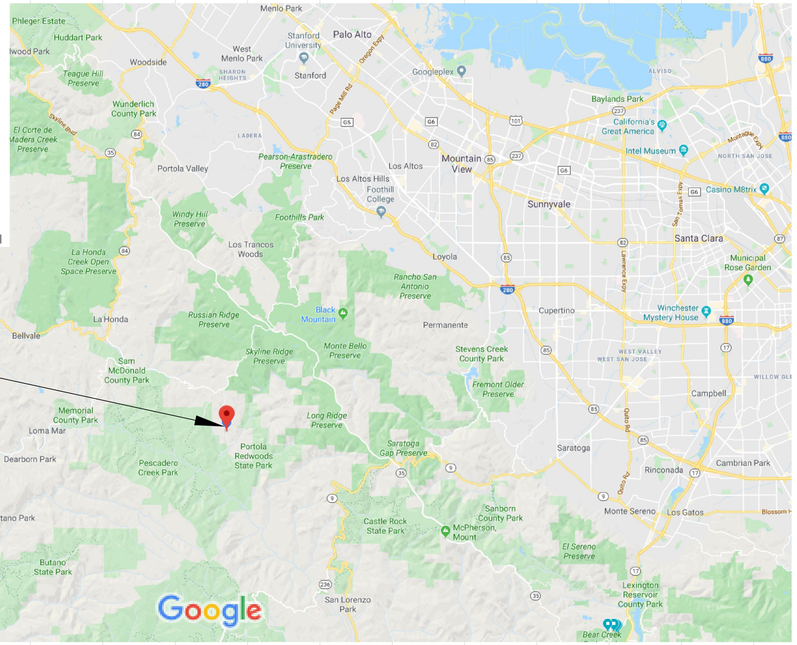
PETER'S CREEK BRIDGES

INDEX OF SHEETS	
1	TITLE SHEET
2	EXISTING SITE SURVEY 1
3	EXISTING SITE SURVEY 2
4	STAGING AND ACCESS 1
5	STAGING AND ACCESS 2
6	STAGING AND ACCESS DETAILS
7	SITE PLAN 1
8	SITE PLAN 2
9	TRAIL CROSS SECTIONS
10	BRIDGE SECTIONS
11	BRIDGE PLAN AND ELEVATION 1
12	BRIDGE PLAN AND ELEVATION 2
13	SWPPP



PROJECT LOCATION

Map data ©2019 1000 ft



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FOR PLANNING PURPOSES

PETER'S CREEK BRIDGES
APN 085-070-100
SAVE THE REDWOODS LEAGUE
SAN FRANCISCO, CA

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Sht:	Rev:	Date:	By:	Description:	App'd:

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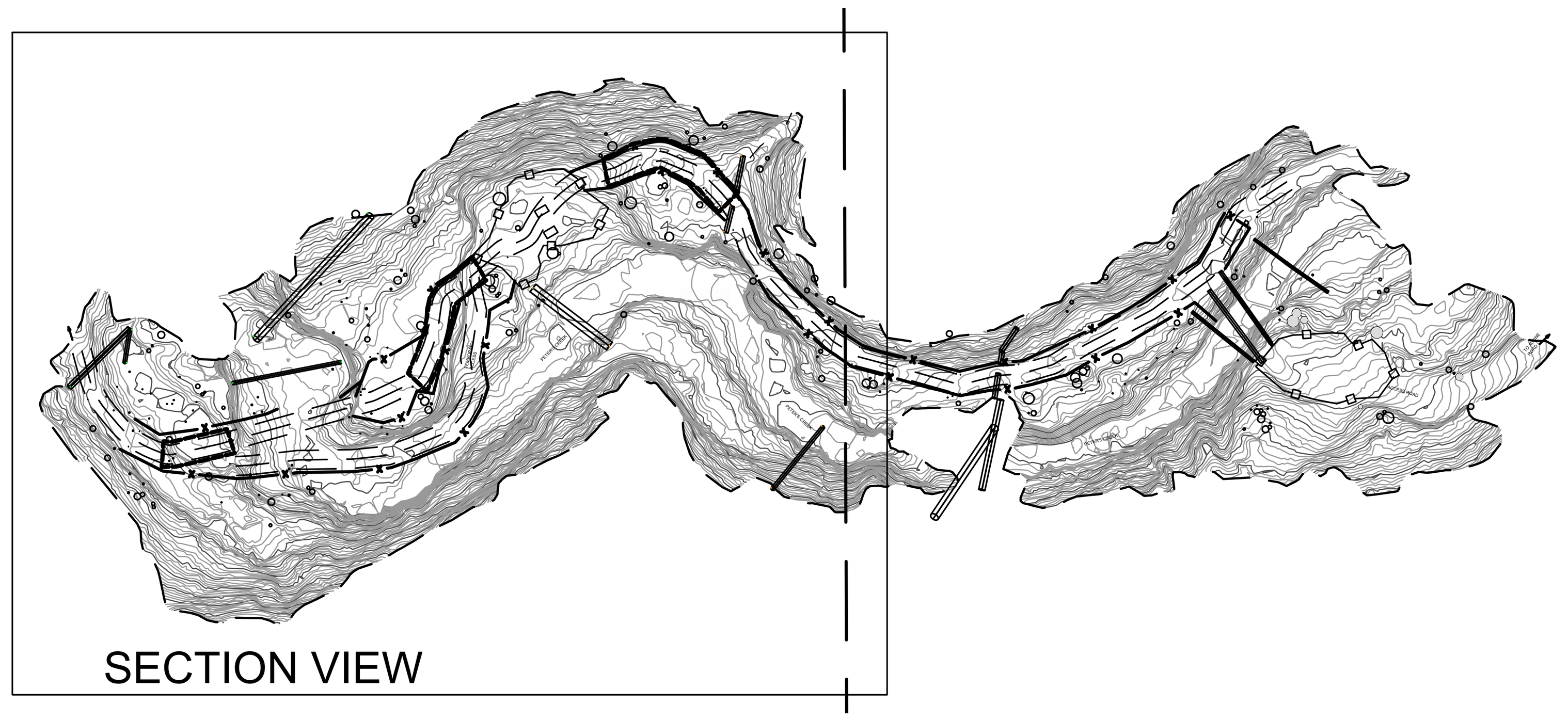
Drawn: FP
Checked: ST
Appr'd: ST

PETER'S CREEK BRIDGES
TITLE SHEET
SAN MATEO COUNTY, CA

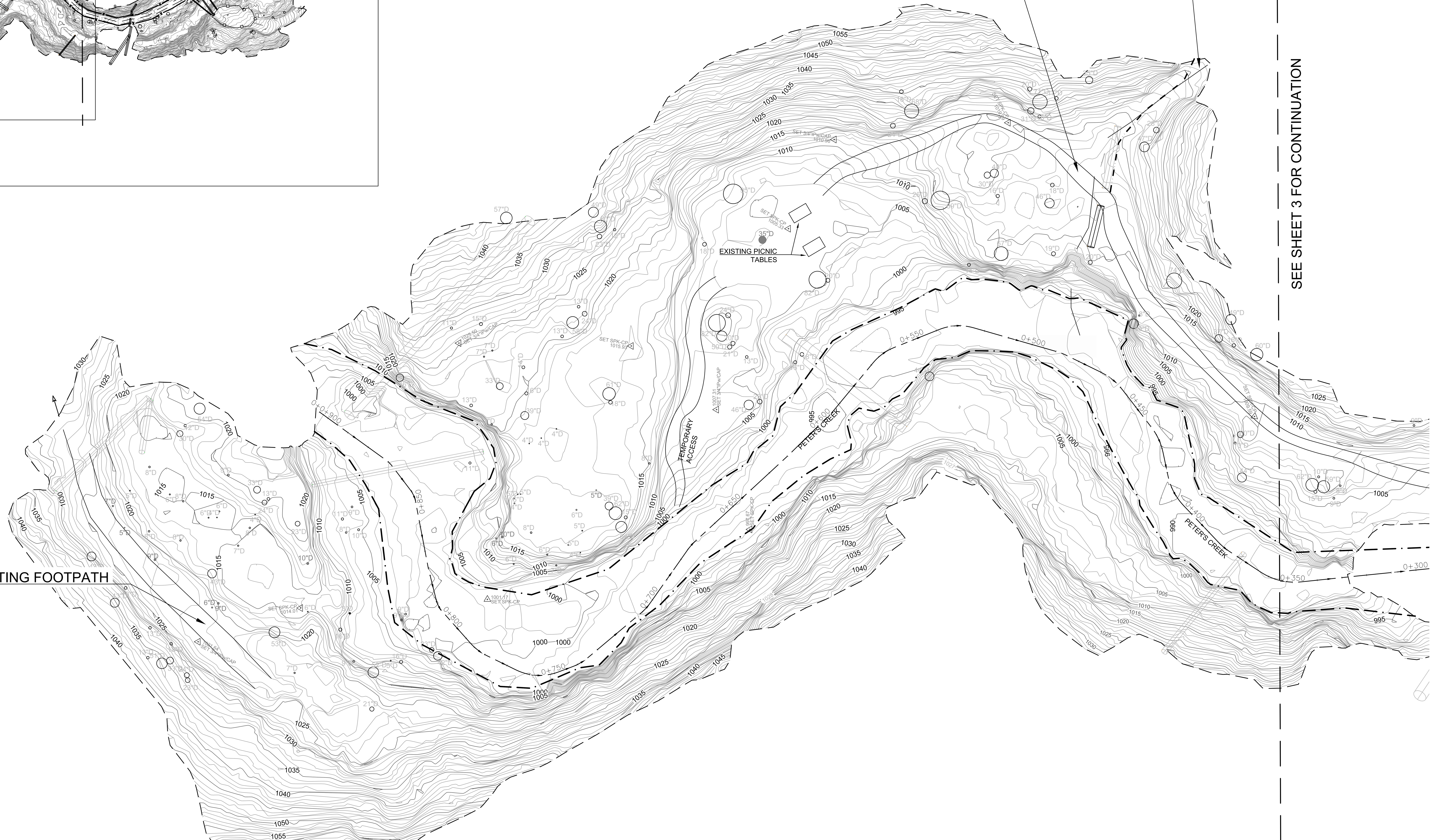
Size D | Project 1900028
Scale: NTS
Date: 6/2/2022
Sheet: 1 OF 13

SITE OVERVIEW



LEGEND

- CONTROL POINT
- FALLEN TREE
- TREE LOCATION DIAMETER (DBH) — 43"
- EDGE OF TRAVEL WAY



SEE SHEET 3 FOR CONTINUATION

20 0 20 40
SCALE IN FEET
1 inch = 20 feet

PETER'S CREEK BRIDGES
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PETER'S CREEK BRIDGES
EXISTING SITE SURVEY 1
SAN MATEO COUNTY, CA

Size	D
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Scale:	1"= 20'
Date:	6/2/2022
Sheet:	2 OF 13

EXISTING FOOT PATH

EXISTING EPHEMERAL DRAINAGE

EXISTING BRIDGE

EXISTING ROAD

LEGEND

- CONTROL POINT
- FALLEN TREE
- 43" TREE LOCATION DIAMETER (DBH)
- EDGE OF TRAVEL WAY

SECTION VIEW

SITE OVERVIEW

PETER'S CREEK

ACCESS ROAD

TO ALPINE ROAD

STUMP

VEGETATION OBSCURED TOPOGRAPHY

20 0 20 40
SCALE IN FEET
1 inch = 20 feet

PETER'S CREEK BRIDGES
APN 085-070-100
SAVE THE REDWOODS LEAGUE
SAN FRANCISCO, CA

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PETER'S CREEK BRIDGES
EXISTING SITE SURVEY 2
SAN MATEO COUNTY, CA

Size: D | Project: 1900028
Scale: 1" = 20'
Date: 6/2/2022
Sheet: 3 OF 13

PETER'S CREEK BRIDGES **APN 085-070-100** SAVE THE REDWOODS LEAGUE SAN FRANCISCO, CA	QUESTA ENGINEERING CORP. Civil Environmental & Water Resources (510) 236-6114 FAX (510) 236-2423 questa@questaec.com P.O. Box 70356 1220 Brickyard Cove Road Point Richmond, CA 94807	**PETER'S CREEK BRIDGES** **STAGING AND ACCESS 1** SAN MATEO COUNTY, CA

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Appr'd: ST

Size: D
Project: 1900028
Scale: 1"= 20'
Date: 6/2/2022
Sheet: 4 OF 13

LEGEND
TREE LOCATION
PROTECTED TREE
REMOVED TREE LOCATION (DBH)
EXCLUSION/ SILT FENCING
STAGING AREA
SITE OVERVIEW
SECTION VIEW
FALLEN TREE MOVED OUT OF WAY
TEMPORARY SANDBAG BERM TO ISOLATE BASE OF CREEK BANK TO FACILITATE TEMPORARY REINFORCEMENT OFF ACCESS ROUTE
TEMPORARY CREEK DIVERSION AS NEEDED TO FACILITATE CONSTRUCTION OF NEW BRIDGE
FALLEN TREE MOVED OUT OF WAY
COFFER DAM
PETER'S CREEK
STUMP
ACCESS ROAD
TO ALPINE ROAD
BRIDGE 1 STAGING AREA
SCALE IN FEET
1 inch = 20 feet
NOTE:
WATER TEMPORARILY DIVERTED THROUGH 48" PIPES

PETER'S CREEK BRIDGES
APN 085-070-100
SAVE THE REDWOODS LEAGUE
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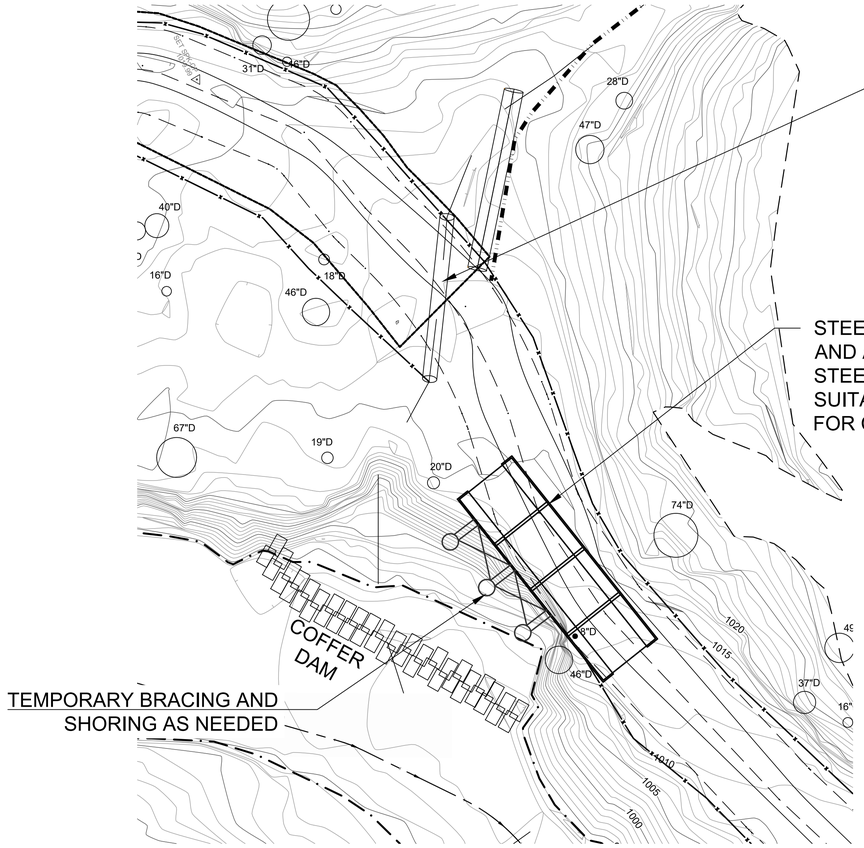
PETER'S CREEK BRIDGES
STAGING AND ACCESS 2
SAN MATEO COUNTY, CA

Size: D
Project: 1900028
Scale: 1" = 20'
Date: 6/2/2022
Sheet: 5 OF 13



1 TRAIL REPAIR SECTION PLAN
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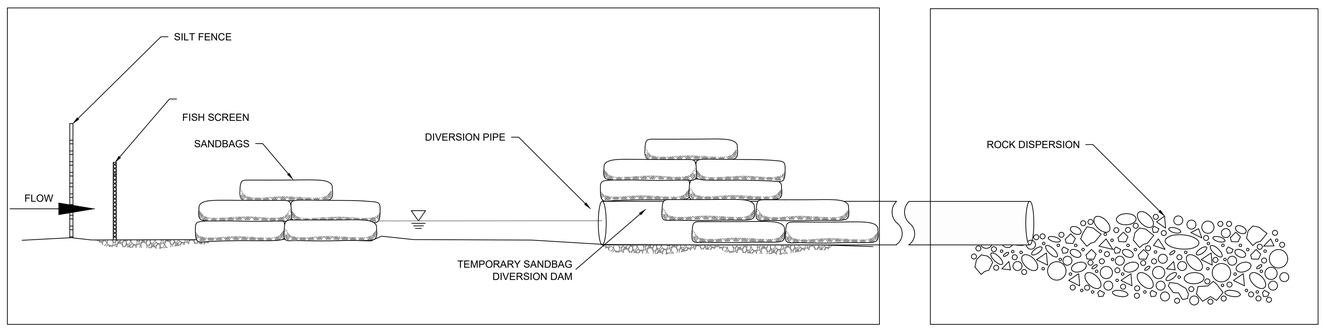

2 COFFER DAM WATER DIVERGENCE
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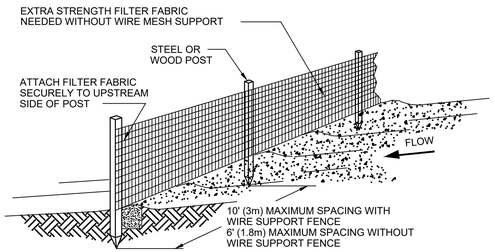
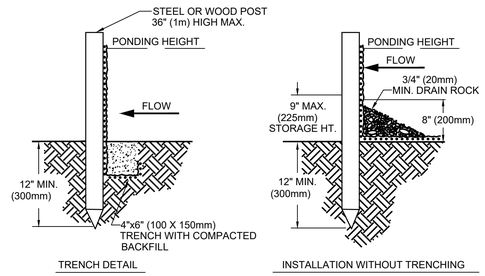
3 WATER DISPERSION
Scale = NTS

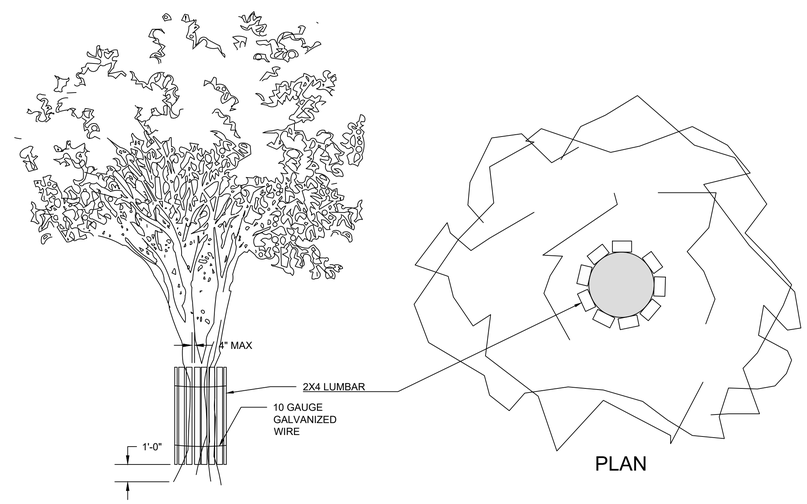




NOTES:

1. SILT FENCE SHALL BE PLACED ON SLOPE CONTOURS TO MAXIMIZE PONDING EFFICIENCY.
2. INSPECT AND REPAIR FENCE AFTER EACH STORM EVENT AND REMOVE SEDIMENT WHEN NECESSARY. 9" (225mm) MAXIMUM RECOMMENDED STORAGE HEIGHT.
3. REMOVED SEDIMENT SHALL BE DEPOSITED TO AN AREA THAT WILL NOT CONTRIBUTE SEDIMENT OFF-SITE AND CAN BE PERMANENTLY STABILIZED.

4 SILT FENCE DETAIL
Scale = NTS



5 TREE PROPTECTION
Scale = NTS

PETER'S CREEK BRIDGES
APN 085-070-100
SAVE THE REDWOODS LEAGUE
SAN FRANCISCO, CA

QUESTA ENGINEERING CORP.
Civil Environmental & Water Resources
(510) 236-6114
FAX (510) 236-2423
questa@questaec.com
P.O. Box 70356 1220 Brickyard Cove Road Point Richmond, CA 94807

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Design: ST
Drawn: FP
Checked: ST
Appr'd: ST

PETER'S CREEK BRIDGES
STAGING AND ACCESS DETAILS
SAN MATEO COUNTY, CA

Size D | Project 1900028
Scale: 1" = 20'
Date: 6/2/2022
Sheet: 6 OF 13

PETER'S CREEK BRIDGES
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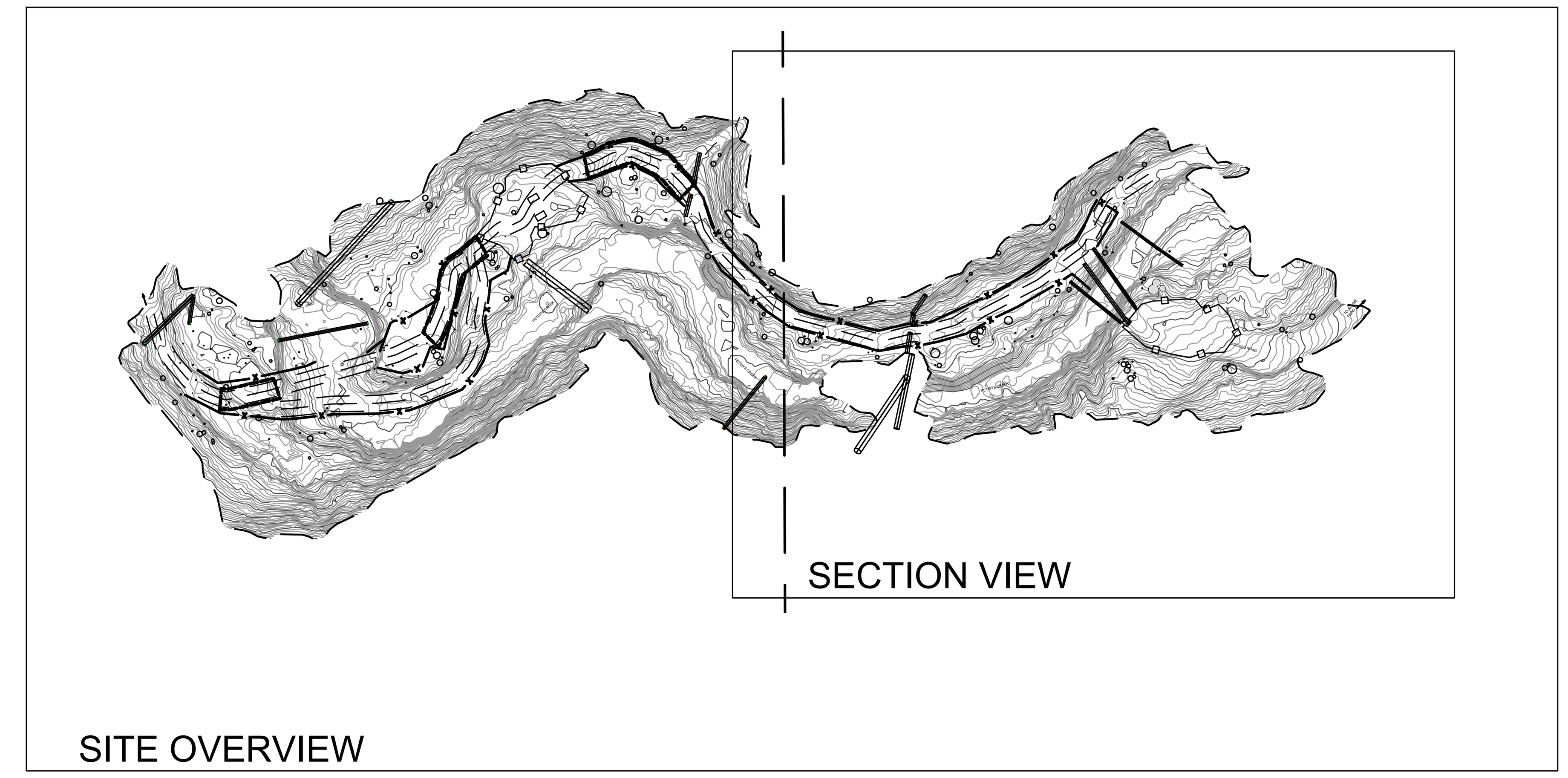
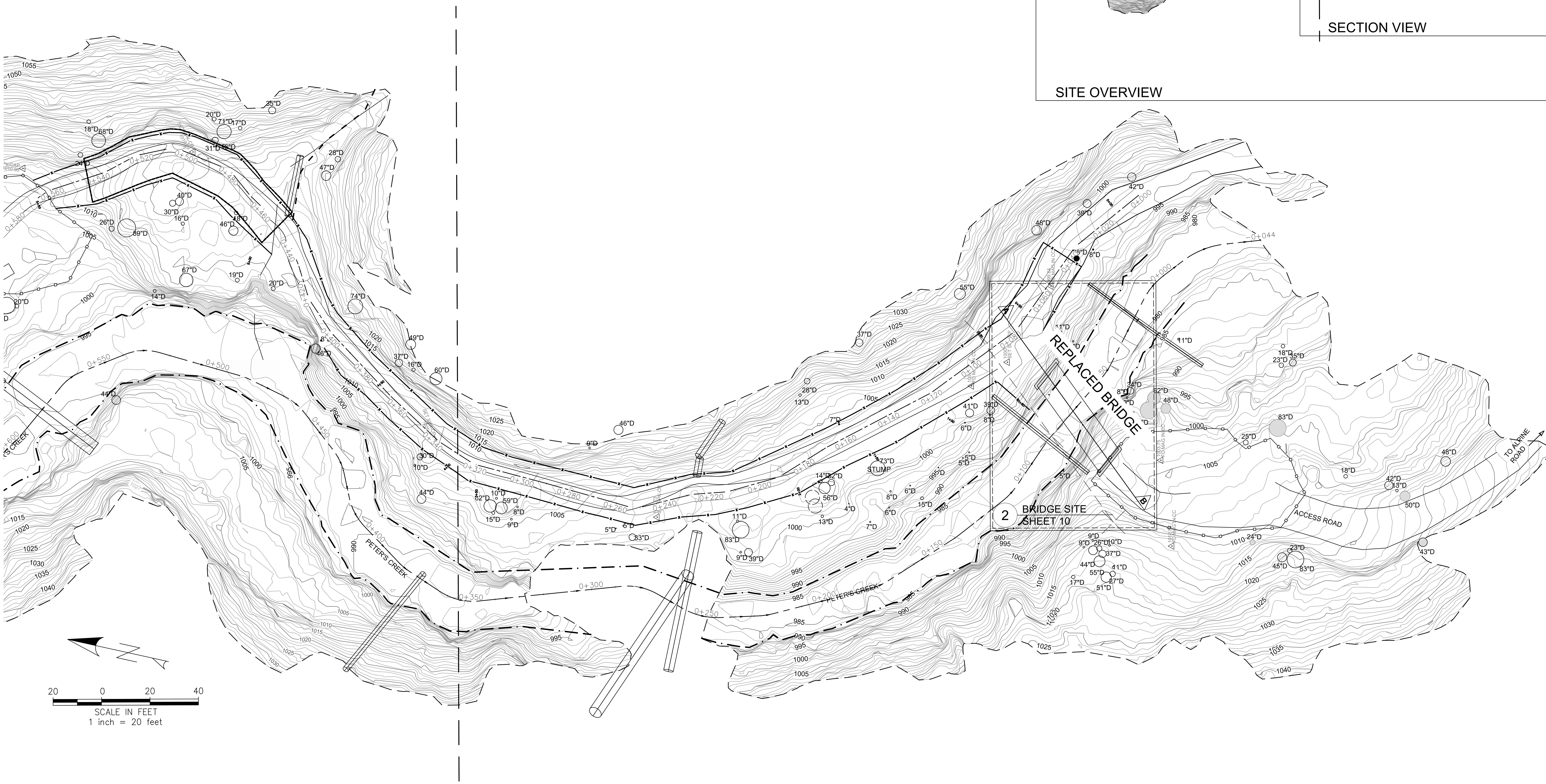
PETER'S CREEK BRIDGES
SITE PLAN 1
SAN MATEO COUNTY, CA

Size: D
Project: 1900028
Scale: 1" = 20'
Date: 6/2/2022
Sheet: 7 OF 13





PETER'S CREEK BRIDGES
APN 085-070-100

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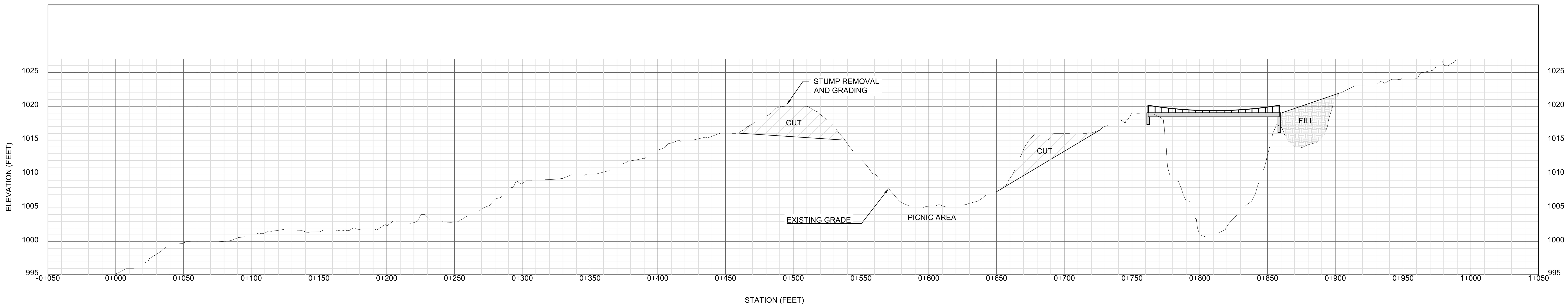
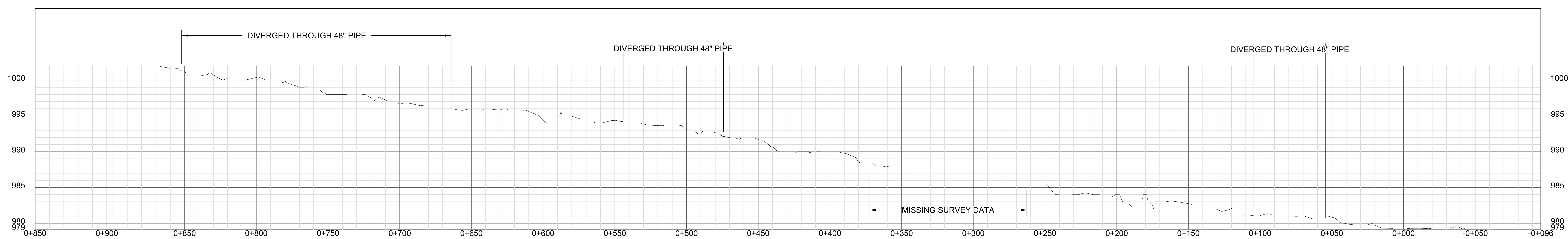
PETER'S CREEK BRIDGES
SITE PLAN 2
SAN MATEO COUNTY, CA

Size: D
Project: 1900028
Scale: 1" = 20'
Date: 6/2/2022
Sheet: 8 OF 13

PROPOSED TRAIL CENTERLINE PROFILE



EXISTING PETER'S CREEK FLOWLINE PROFILE



CUT AND FILL (CY)	
CUT	1048
FILL	515
Total GRADING	1563
REMAINING CUT TO SPREAD ON TRAIL:	533

PETER'S CREEK BRIDGES
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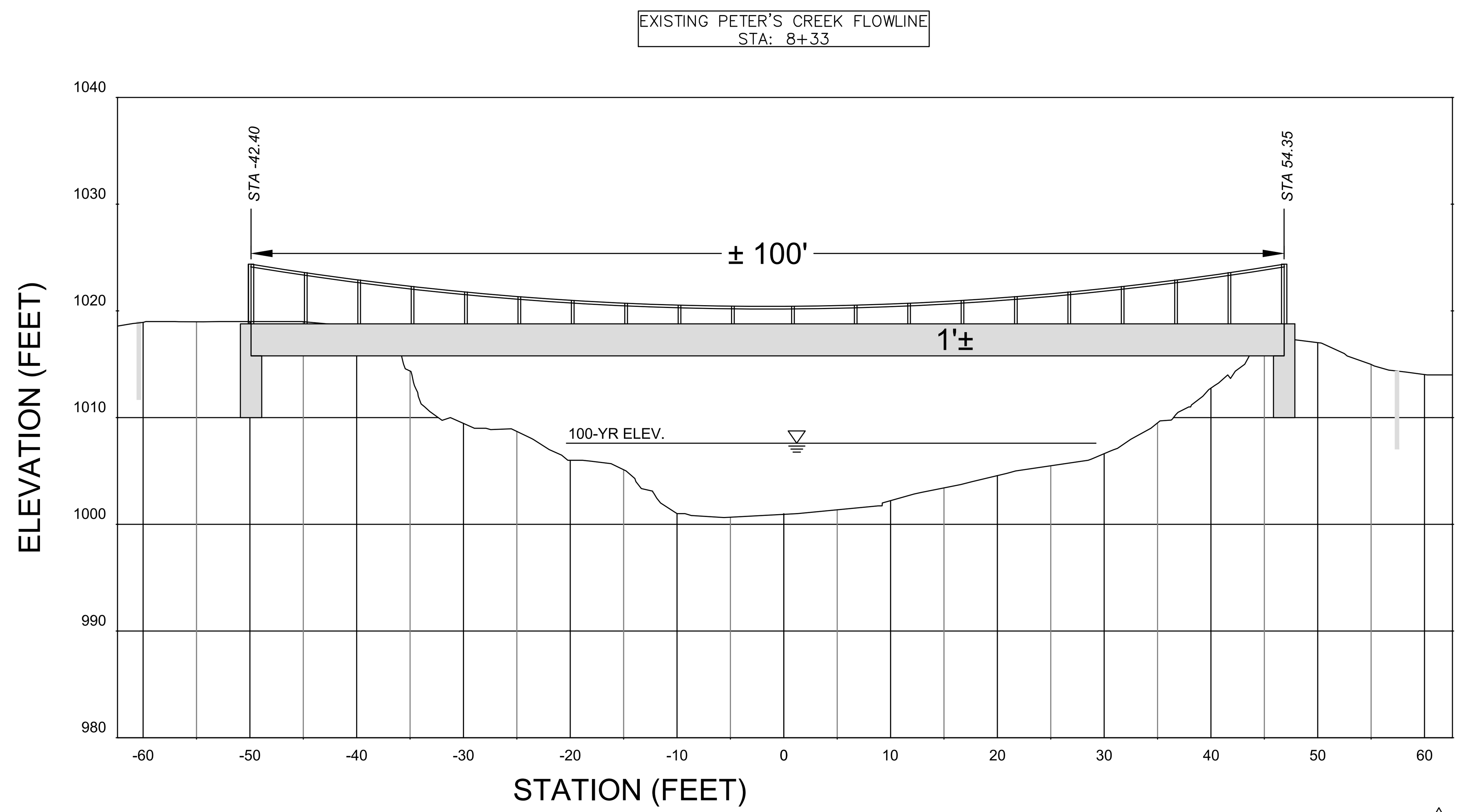
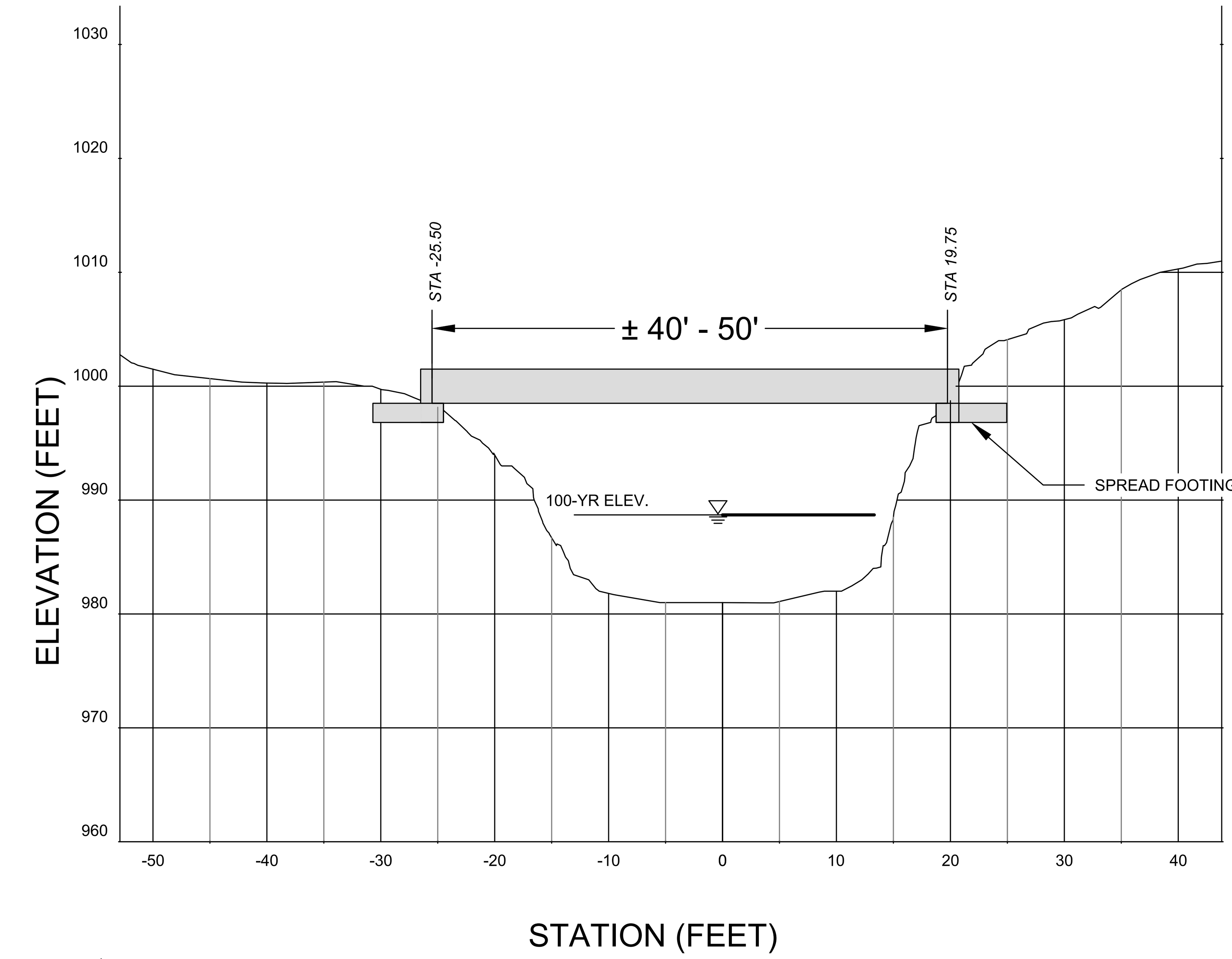
PETER'S CREEK BRIDGES
TRAIL CROSS SECTIONS
PORTOLA REDWOODS
PORTOLA

Size: D
Project: 1900028
Scale: AS SHOWN
Date: 6/2/2022



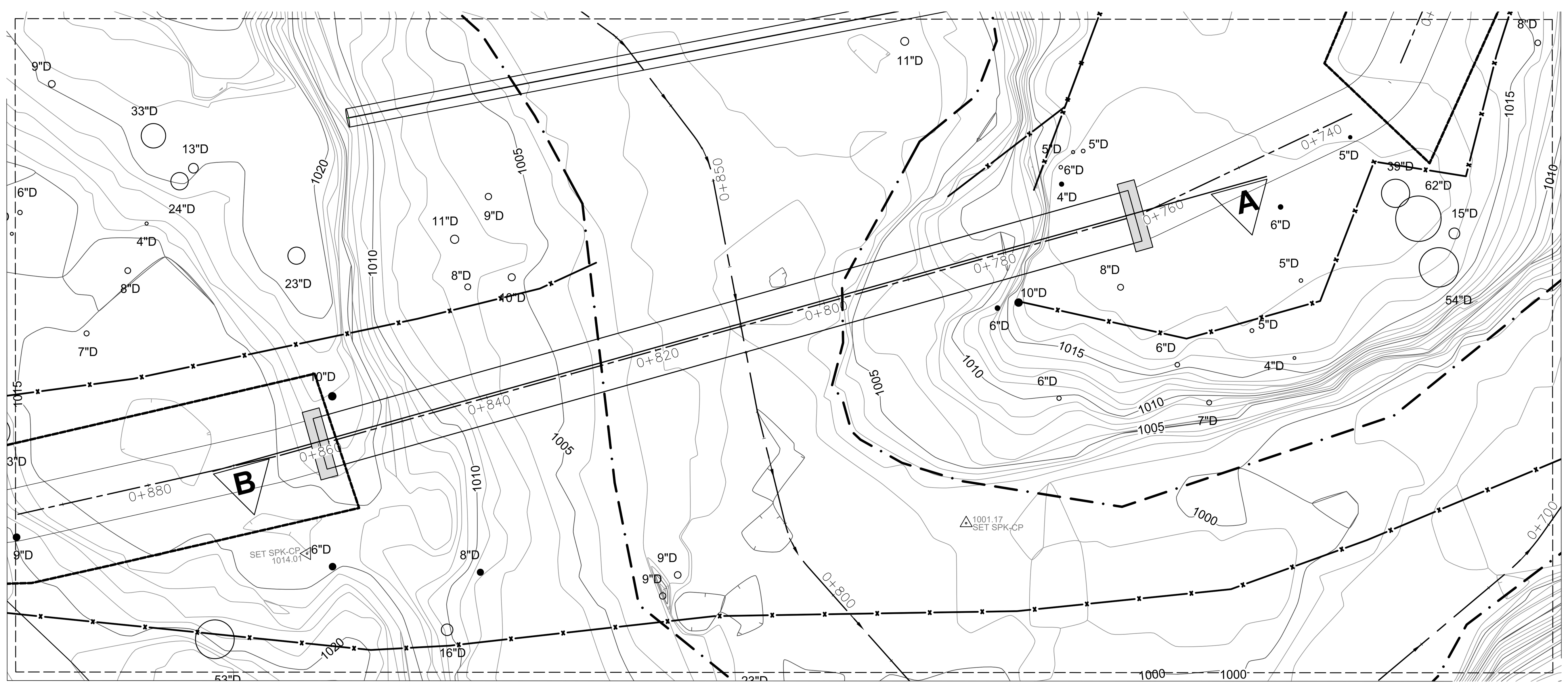
A SUSPENSION BRIDGE CROSS SECTION B

DETAIL # 1 1"=10'



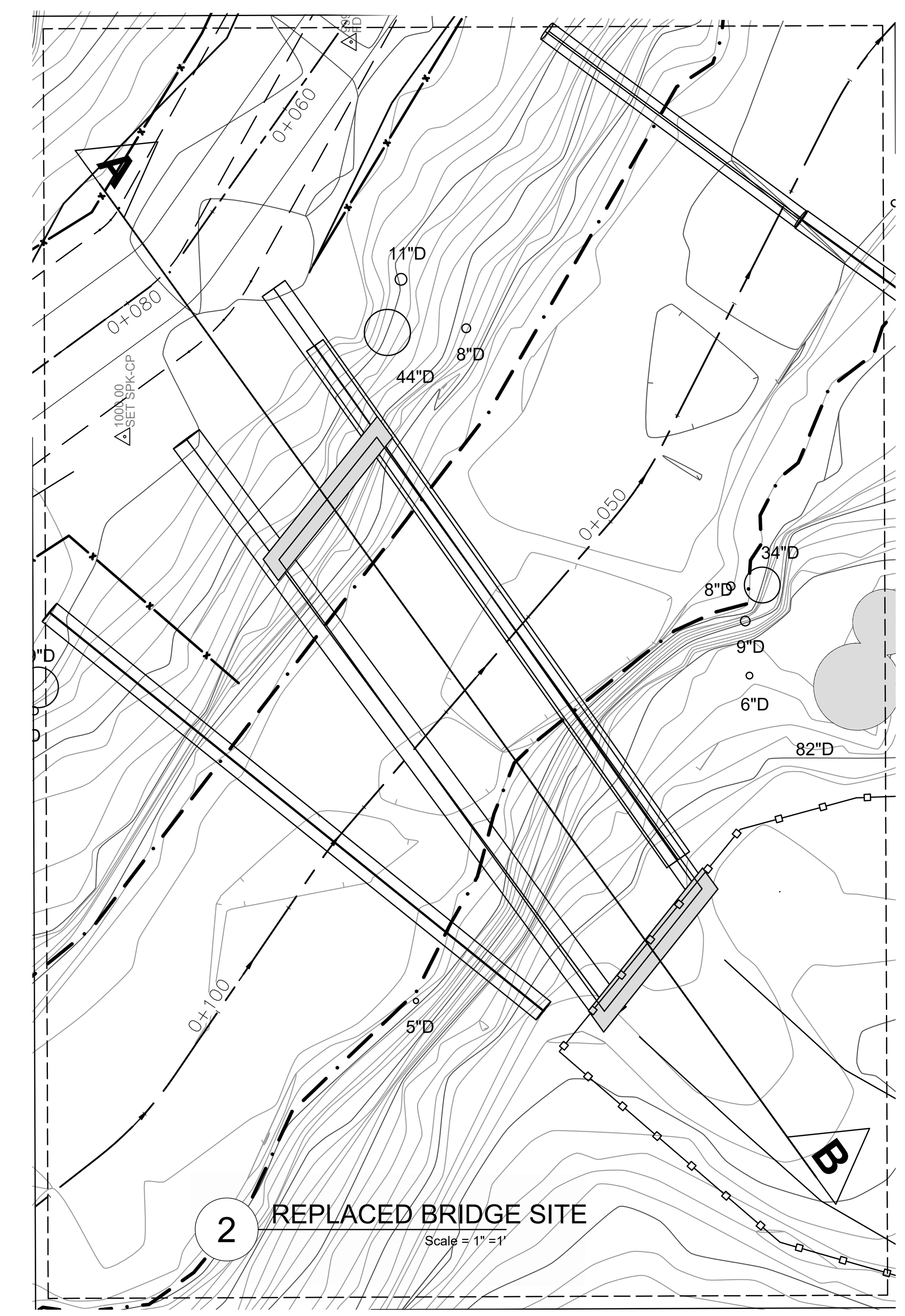
A NEW BRIDGE CROSS SECTION B

DETAIL # 2 1"=10'



1 SUSPENSION BRIDGE SITE

Scale = 1" = 1'



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Drawn:	XXX
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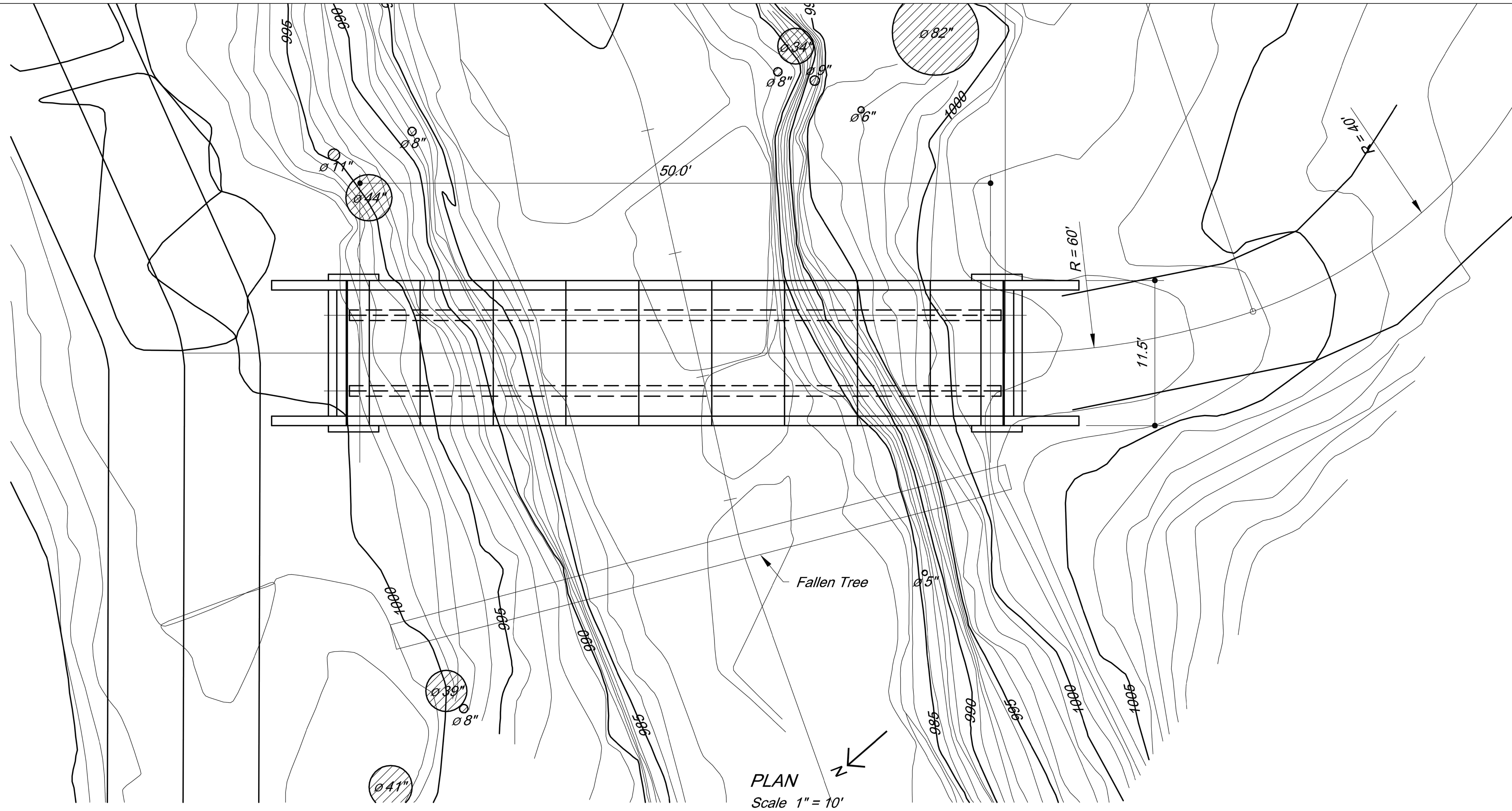
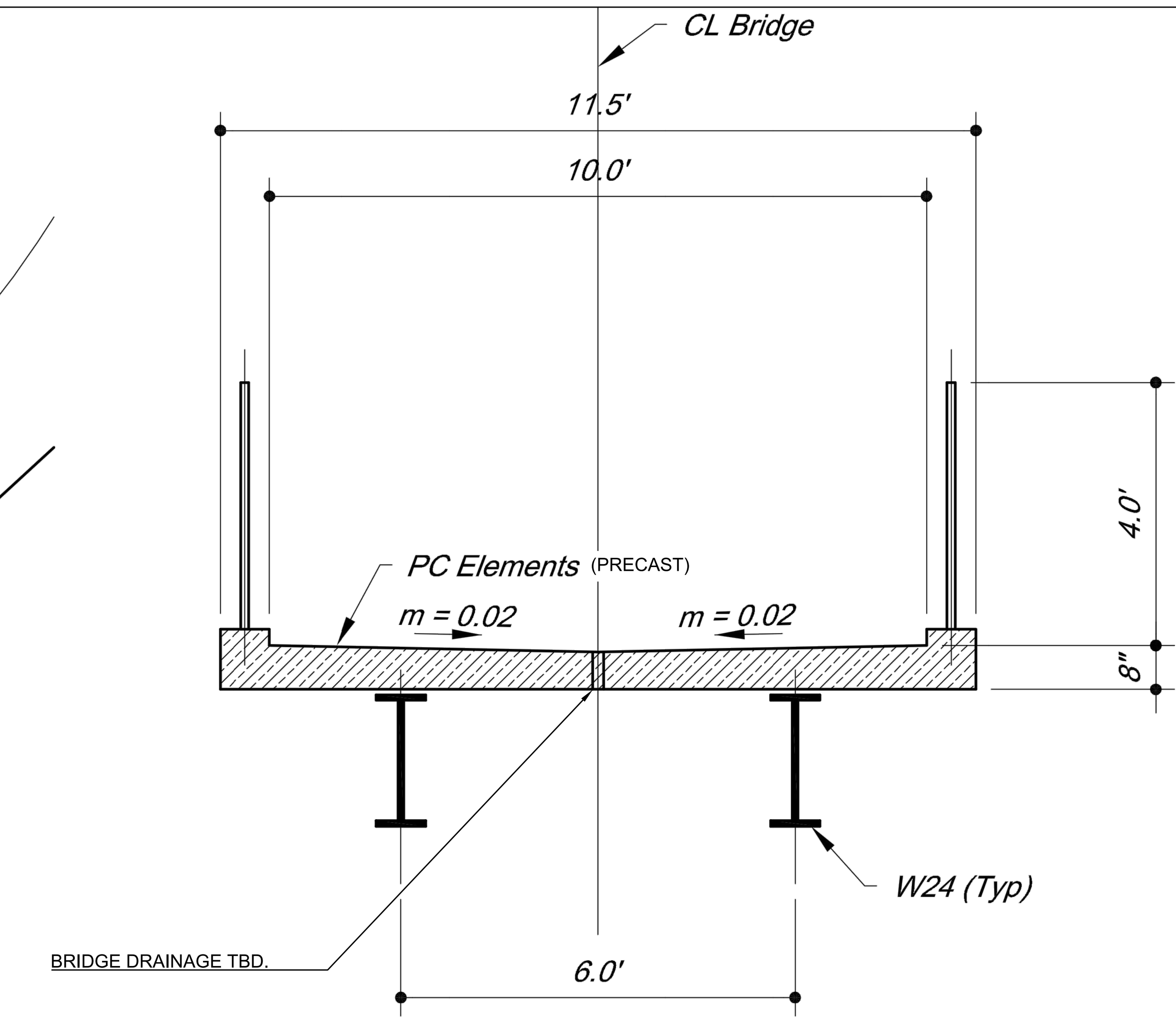
Appr'd:	XXX

PETER'S CREEK BRIDGES
BRIDGE SECTIONS
SAN MATEO COUNTY, CA

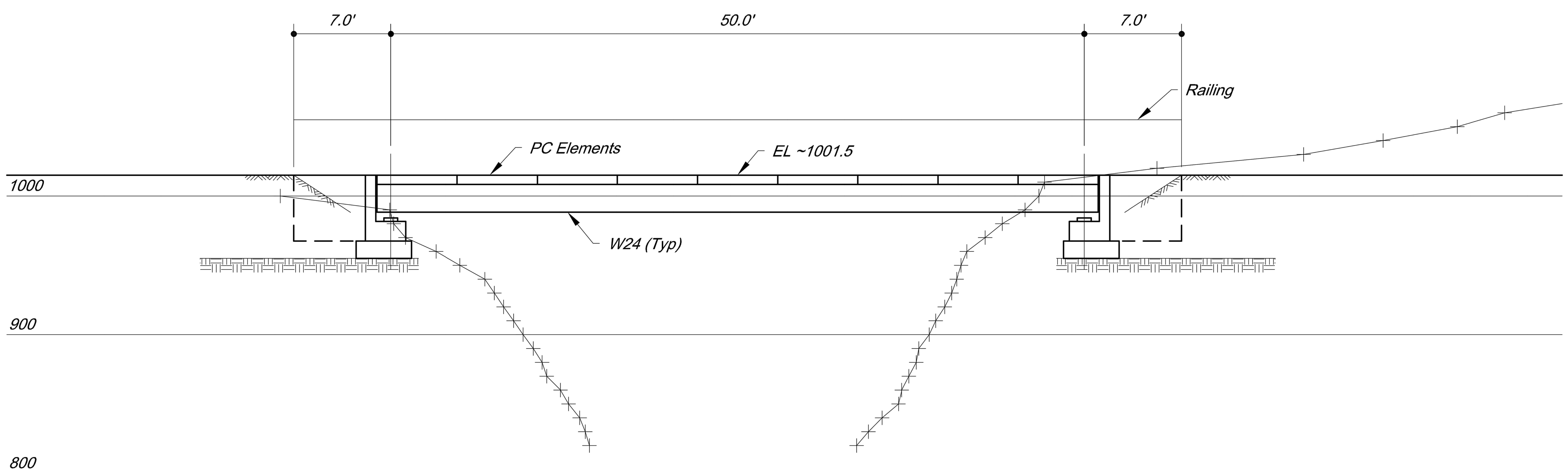
Size: D	Project: 1900028
Scale:	AS SHOWN
Date:	6/2/2022
Sheet:	10 OF 13



PLAN
Scale 1" = 10'



CROSS SECTION
Scale 1" = 4'



ELEVATION
Scale 1" = 10'

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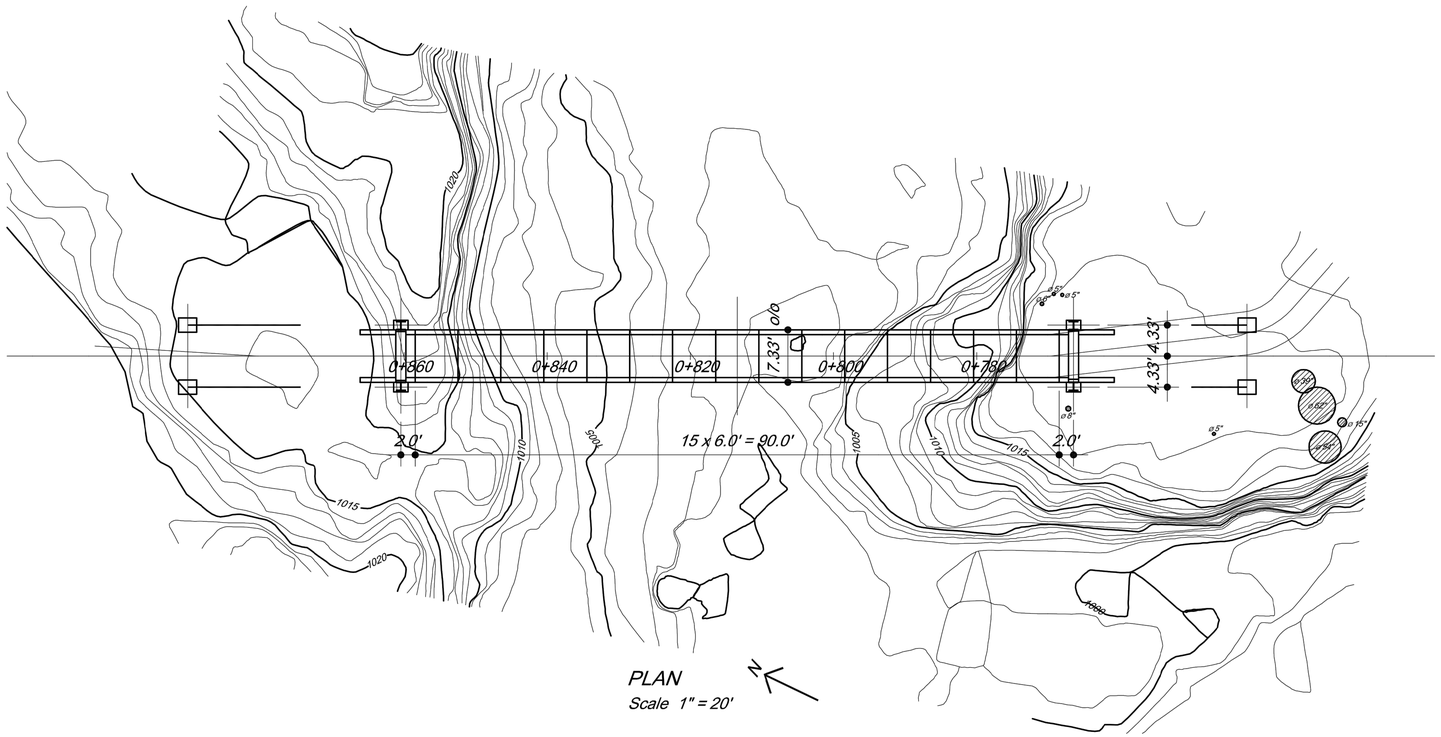
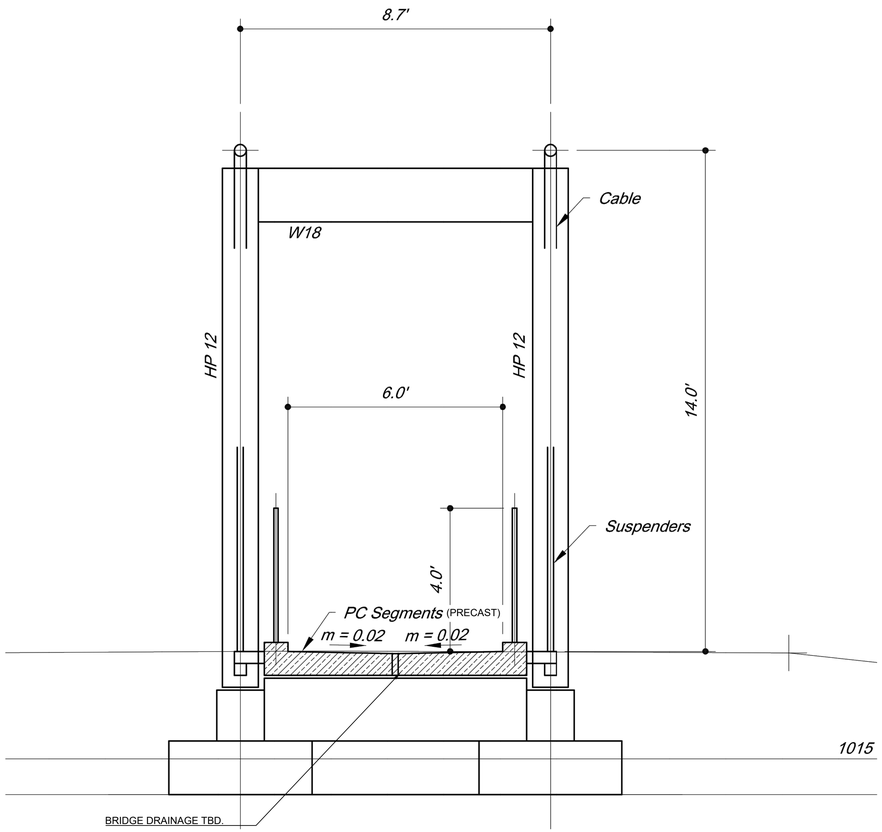
PETER'S CREEK BRIDGES
BRIDGE PLAN AND ELEVATION 1
SAN MATEO COUNTY, CA

Size: D
Project: 1900028
Scale: AS SHOWN
Date: 6/2/2022



PLAN
Scale 1" = 20'



CROSS SECTION
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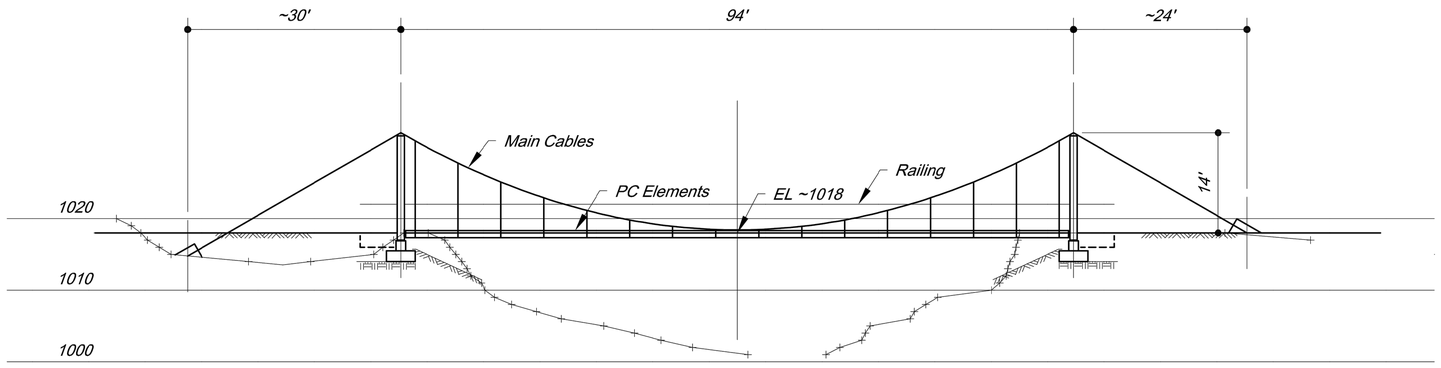
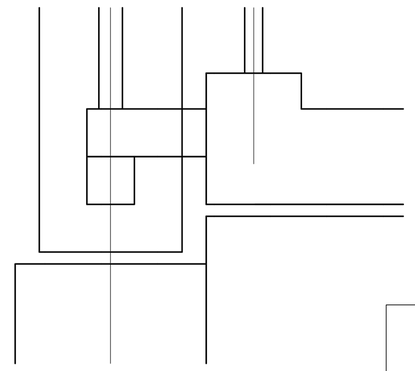


ELEVATION
Scale 1" = 20'



DETAIL
Scale 1" = 1'-0"

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PETER'S CREEK BRIDGES
BRIDGE PLAN AND ELEVATION 2
SAN MATEO COUNTY, CA

Size D | Project 1900028
Scale: AS SHOWN
Date: 6/2/2022
Sheet: 12 OF 13

STORM WATER POLLUTION PREVENTION PLAN (SWPPP) GUIDELINES - MINIMIZING CONSTRUCTION SITE IMPACTS

CONSTRUCTION ACTIVITIES CAN SIGNIFICANTLY IMPACT WATER QUALITY AND ECOLOGIC PROCESSES. EROSION AND TRANSPORT OF DIRT, DEBRIS, CHEMICALS, AND OTHER CONSTRUCTION WASTE CAN ENTER MUNICIPAL DRAIN SYSTEMS, LOCAL CREEKS, AND REGIONAL WATERWAYS AND CAUSE SEVERE DAMAGE TO NATURAL SYSTEMS AND HUMAN INFRASTRUCTURE. MINIMIZE ENVIRONMENTAL IMPACTS BY FOLLOWING THE BMPS OUTLINED IN THE PROJECT. FAILURE TO COMPLY WITH THE BMPS INCLUDED IN THE PROJECT SPECIFICATIONS AND LOCAL, STATE, AND FEDERAL LAWS GOVERNING CONSTRUCTION SITE IMPACT MANAGEMENT AND WATER QUALITY COULD RESULT IN LEGAL VULNERABILITY AND FINES EXCEEDING $10,000 PER DAY. TO AVOID SUCH INSTANCES, PLAN AHEAD, IMPLEMENT THE SPECIFIC BMPS OUTLINED FOR THIS PROJECT, AND FOLLOW THE GUIDELINES OUTLINED BELOW. MORE INFORMATION ON CONSTRUCTION SITE BMPS AND SWPPPS CAN BE FOUND AT: http://www.dot.ca.gov/hq/construc/stormwater/SWPPP_Prep_ManualJune2011.pdf

NON-HAZARDOUS MATERIAL STORAGE

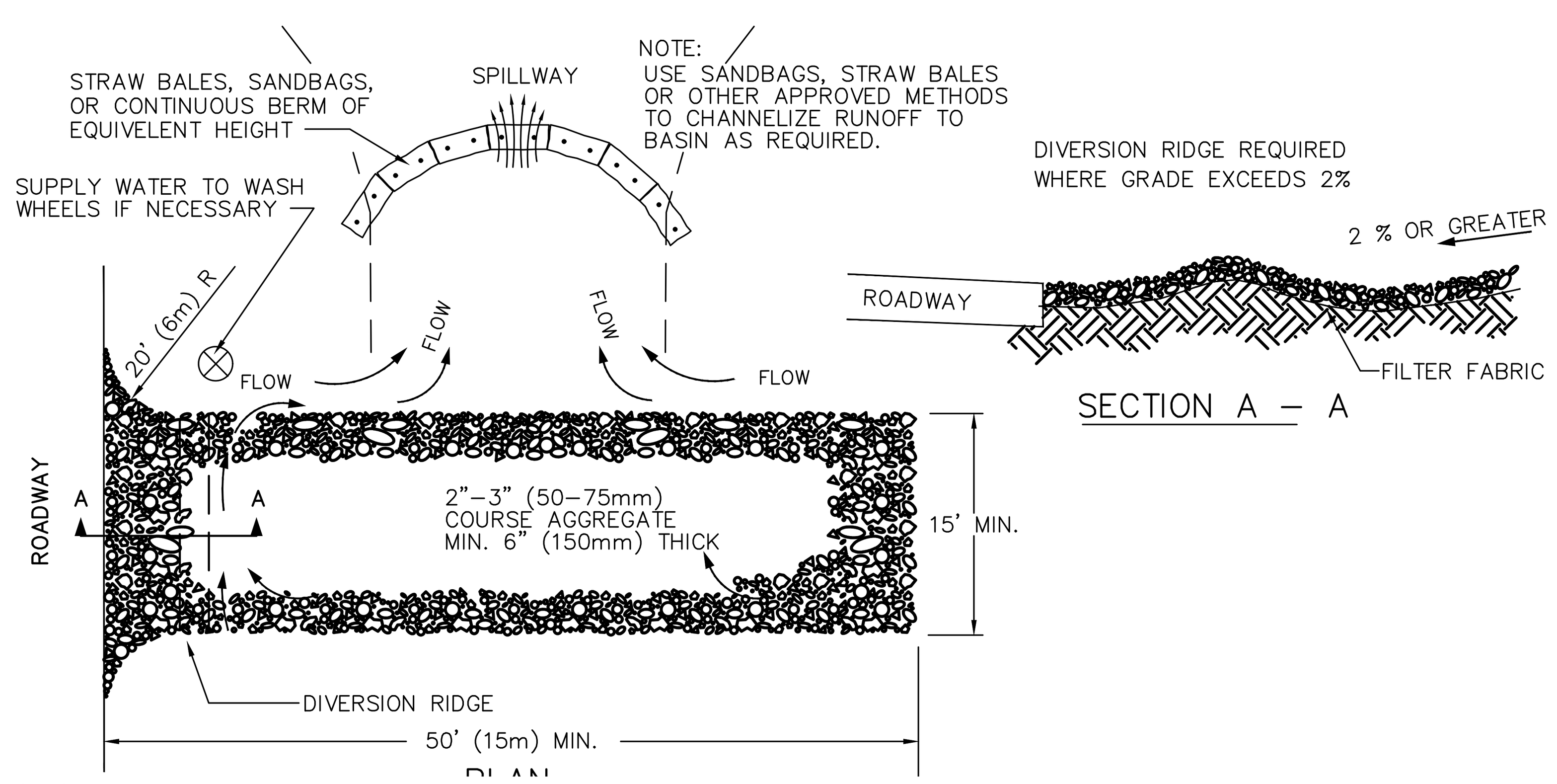
1. STORE ALL SAND, DIRT, AND OTHER ERODIBLE MATERIAL AT LEAST 10 FEET FROM CATCH BASINS AND WHEN FORECASTS CALL FOR RAIN, COVER WITH A TARP, AND SECURE EDGES WITH SANDBAGS, BRICKS, OR OTHER HEAVY OBJECTS.
2. KEEP A CLEAN JOBSITE BY SWEEPING UP PAVED OR OTHER IMPERMEABLE SURFACES DAILY, ESPECIALLY WHEN RAIN IS FORECASTED. DO NOT ADVERTENTLY OR INADVERTENTLY TRANSPORT SEDIMENT OFFSITE, INTO STORM DRAINS, OR ROADWAYS USING WATER, BLOWERS, OR OTHER MECHANICAL DEVICES. DISPOSE ALL NON-HAZARDOUS WASTES INTO THE APPROPRIATE DUMPSTER UNITS.
3. RECYCLE AT LEAST THE MINIMUM REQUIRED AMOUNT OF DEMOLITION MATERIAL INCLUDING CONCRETE, ASPHALT, BASE AGGREGATE, WOOD, ETC. AS OUTLINED IN PROJECT SPECIFICATIONS. PROMOTE RECYCLING OF DAILY CONSUMPTIVE MATERIALS SUCH AS PAPER AND DRINK CANS BY PROVIDING RECYCLE BINS ONSITE.
4. BE SURE DUMPSTERS AND STORAGE CONTAINERS ADEQUATELY MEET ONSITE DEMAND. CHECK FOR ANY LEAKS, CRACKS, OR MATERIAL OVERFLOW ON A REGULAR BASIS. ORDER EXTRA DUMPSTERS AS NECESSARY AND REPAIR ALL LEAKS AND CRACKS IMMEDIATELY.

HAZARDOUS MATERIALS MANAGEMENT AND STORAGE

1. ALL HAZARDOUS MATERIALS AND WASTE MUST BE LABELED (E.G., DIESEL, GASOLINE, ANTIFREEZE, SOLVENTS, THINNERS, PESTICIDES, FERTILIZERS) IN CONFORMITY TO ALL LOCAL, STATE, AND FEDERAL REGULATIONS. FOR GENERAL INFORMATION ON HAZARDOUS WASTE LABELING VISIT: HTTP://WWW.EPA.GOV/EPAOSWER/OSW/HAZWASTE.HTM
2. FOR A COMPLETE LIST OF EPA DEFINED HAZARDOUS WASTES VISIT: HTTP://WWW.EPA.GOV/EPAOSWER/HAZWASTE/LISTING-REF.PDF
3. STORE ALL HAZARDOUS MATERIALS AND WASTES IN APPROVED SECONDARY CONTAINERS PROTECTED FROM THE ELEMENTS (WIND, RAIN, WATER, DIRECT SUNLIGHT). CONSIDER LIMITING THE AVAILABILITY OF HAZARDOUS WASTES BY LOCKING THEM IN SECURED CABINETS/AREAS.
4. FOLLOW THE MANUFACTURER'S INSTRUCTIONS WHEN STORING, TRANSPORTING, APPLYING, AND DISPOSING OF UNUSED HAZARDOUS WASTES. IN GENERAL, OUTDOOR APPLICATION OR USE OF MATERIALS LABELED AS HAZARDOUS WASTES SHOULD BE AVOIDED WHEN FORECASTS CALL FOR RAIN OR HEAVY FOG.

SPILL PREPARATION AND CONTROL

1. PREPARE FOR SPILLS BY STOCKING AN ADEQUATE SUPPLY OF RAGS, ABSORBENTS, SPILL POWDERS, AND SAFETY EQUIPMENT (GLOVES, EYEGLASSES, ETC). FOLLOW ALL HAZARDOUS WASTE STORAGE AND USE RECOMMENDATIONS OUTLINED ABOVE AND CONSULT PROJECT ENGINEERS REGARDING SPILL PREPARATION PLANS THAN MAY BE REQUIRED.
2. COMMUNICATE WITH ALL CONSTRUCTION SITE WORKERS THE IMPORTANCE OF DETECTING AND REPORTING LEAKS TO JOBSITE MANAGERS.
3. CONTAIN ALL SPILLS OR LEAKS UPON DETECTION.
4. PREVENT ALL LEAKS AND SPILLS FROM ENTERING GUTTERS, MUNICIPAL STORM DRAINS, AND ADJACENT CREEKS/WATERWAYS.
5. REPORT ALL HAZARDOUS MATERIAL SPILLS TO THE LOCAL GOVERNMENT ENTITIES OVERSEEING CONSTRUCTION. IN ADDITION, ANY SPILL OF HAZARDOUS MATERIALS, INCLUDING OIL, PAINT, GASOLINE, AND DIESEL, THAT REACH STATE WATERS MUST BE REPORTED THE OFFICE OF SPILL PREVENTION AND RESPONSE. THEY CAN BE REACHED THROUGH THE DEPARTMENT OF FISH AND GAME'S TOLL FREE LINE: CALTIP 1-888-DFG-CALTIP



NOTES:

1. THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHT-OF-WAYS. THIS MAY REQUIRE TOP DRESSING, REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT.
2. WHEN NECESSARY, WHEELS SHALL BE CLEANED PRIOR TO ENTRANCE ONTO PUBLIC RIGHT-OF-WAY.
3. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABLIZED WITH CRUSHED STONE THAT DRAINS INTO AN APPROVED SEDIMENT TRAP OR SEDIMENT BASIN.

1 TEMPORARY GRAVEL CONSTRUCTION ENTRANCE/EXIT

NTS

VEHICLE MAINTENANCE AND CLEANING

1. INSPECT ALL ON-SITE VEHICLES FOR OIL, FUEL, ANTIFREEZE, OR GENERAL FLUID LEAKS. IF LEAKS ARE DETECTED USE APPROPRIATELY SIZED CATCH BASINS TO CAPTURE FLUIDS AND MAKE NECESSARY REPAIRS IMMEDIATELY IN AN APPROVED STAGING AREA.
2. CONDUCT ALL REFUELING AND MAINTENANCE WORK ON VEHICLES WITHIN DESIGNATED STAGING AREA, USE APPROPRIATELY SIZED DRIP PANS TO CAPTURE ALL FLUIDS, AND PREVENT SOIL AND WATER CONTAMINATION. DO NOT ALLOW FLUIDS TO REACH STORM GUTTERS, RUN-OFF IMPERVIOUS SURFACES, OR ENTER WATER BODIES AT THE SITE (SEE SPILL PREPARATION AND CONTROL, ABOVE).
3. IF VEHICLE CLEANING IS REQUIRED, DO NOT ALLOW WASH WATER TO LEAVE THE STAGING AREA. THIS MAY REQUIRE CONSTRUCTION OF BERMS AND TARPS THAT PROHIBIT RUN-OFF TO GUTTERS, STREETS, STORM DRAINS, OR CREEKS.
4. DO NOT CLEAN VEHICLES WITH DEGREASERS, SOLVENTS, OR STEAM EQUIPMENT.

EROSION CONTROL AND SOIL CONTAMINATION

1. STORE, TRANSPORT, AND TRANSFER ALL EXCAVATED SOIL, SAND, AND MATERIAL IN CONFORMITY WITH THE TECHNICAL SPECIFICATIONS. IN ADDITION, AVOID STORING EXCAVATED MATERIAL WHERE IT CAN EASILY ERODE OR BE TRANSPORTED TO STREAMS, ROADWAYS, AND DRAIN SYSTEMS
2. CLEARING, EXCEPT THAT NECESSARY TO ESTABLISH SEDIMENT CONTROL DEVICES, SHALL NOT BEGIN UNTIL ALL SEDIMENT CONTROL DEVICES HAVE BEEN INSTALLED AND HAVE BEEN STABILIZED.
3. MAJOR GRADING OPERATIONS SHALL BE SCHEDULED DURING DRY MONTHS, AND SHALL ALLOW ADEQUATE TIME BEFORE RAINFALL BEGINS TO STABILIZE THE SOIL WITH EROSION CONTROL MATERIALS.
4.
5. EXAMINE AND FOLLOW THE SPECIFIC EROSION CONTROL PLAN TO MINIMIZE TRANSPORT OF DEBRIS AND SILT OFF THE CONSTRUCTION SITE. THIS MAY INCLUDE INSERTING FIBER ROLLS, SILT FENCING, WATTLES, SEEDING AND OTHER APPROVED BMPS.
6. VEGETATION REDUCES RAINFALL IMPACT AND PROVIDES COHESIVE PROPERTIES TO SOIL. THEREFORE, DURING SITE CLEARING AND GRUBBING MINIMIZE THE REMOVAL OF NATURAL VEGETATION INCLUDING FORBS, GRASSES, SHRUBS, GROUND COVERINGS, AND TREES.
7. SLOPES DISTURBED DURING CONSTRUCTION ACTIVITIES WILL REQUIRE SOME FORM OF TEMPORARY AND PERMANENT STABILIZATION. CONSULT THE PROJECT EROSION CONTROL PLANS AND SPECIFICATIONS REGARDING THE SPECIFIC REQUIREMENTS. PROJECT BMPS INCLUDE INSTALLATION OF EROSION CONTROL FABRIC, HYDRO-SEEDING, DRILL-SEEDING, OR DIRECT PLANTING SEEDING AND MULCHING SHALL BE DONE AS SOON AS GRADING IS COMPLETE.
8. SOIL STABILIZATION SHALL BE COMPLETED WITHIN FIVE DAYS OF CLEARING OR INACTIVITY IN CONSTRUCTION
9. SOIL STOCKPILES MUST BE STABILIZED AND/OR SECURELY COVERED AT THE END OF EACH WORKDAY.
10. IN AREAS WHERE PERMANENT RE-SEEDING AND PLANTING IS NOT ESTABLISHED AT THE CLOSE OF THE CONSTRUCTION SEASON, ADDITIONAL CONTROL MEASURES SHALL BE USED, SUCH AS A HEAVY MULCH LAYER OR ANOTHER METHOD THAT DOES NOT REQUIRE GERMINATION, TO ENSURE SOIL STABILIZATION AT THE SITE.
11. WHERE RUNOFF NEEDS TO BE DIVERTED FROM ONE AREA AND CONVEYED TO ANOTHER, EARTH DIKES, DRAINAGE SWALES, SLOPE DRAINS OR OTHER SUITABLE PRACTICE SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE DESIGN CRITERIA SET FORTH IN THE MOST RECENT VERSION OF THE CALIFORNIA STORMWATER QUALITY ASSOCIATION BEST MANAGEMENT PRACTICE HANDBOOK.
12. LINEAR SEDIMENT BARRIERS SHALL BE PLACED BELOW THE TOE OF EXPOSED AND ERODIBLE SLOPES, DOWN-SLOPE OF EXPOSED SOIL AREAS, AROUND SOIL STOCKPILES, AND AT OTHER APPROPRIATE LOCATIONS ALONG THE SITE PERIMETER.
13. STREET SWEEPING SHALL BE CONDUCTED ON AN AS NEEDED BASIS TO REMOVE SEDIMENT FROM STREETS AND ROADWAYS AND TO PREVENT THE SEDIMENT FROM ENTERING STORM DRAINS OR RECEIVING WATERS.
14. EVERY STORM DRAIN INLET WITH THE POTENTIAL TO RECEIVE SEDIMENT-LADEN RUNOFF SHALL BE PROTECTED IN ACCORDANCE WITH THE DESIGN CRITERIA SET FORTH IN THE MOST RECENT VERSION OF THE CALIFORNIA STORMWATER QUALITY ASSOCIATION BEST MANAGEMENT PRACTICE HANDBOOK. INLET PROTECTION SHALL BE INSPECTED AND MAINTAINED FREQUENTLY.
15. SEDIMENT BASINS OR SEDIMENT TRAPS SHALL BE INSTALLED ON PROJECTS WHERE SEDIMENT-LADEN WATER MAY ENTER THE DRAINAGE SYSTEM OR WATERCOURSES AND IN ASSOCIATION WITH DIKES, TEMPORARY CHANNELS, AND PIPES USED TO CONVEY RUNOFF FROM DISTURBED AREAS.
16. OTHER MEASURES, SUCH AS TRACK-OUT PREVENTION DEVICES, OR AS REQUIRED BY THE DISTRICT INSPECTOR IN ORDER TO ENSURE THAT SEDIMENT IS NOT TRACKED ONTO PUBLIC STREETS BY CONSTRUCTION VEHICLES OR WASHED INTO STORM DRAINS.
17. DURING EXCAVATION WORK, LOOK FOR UNDERGROUND STORAGE TANKS, ABANDONED PIPES, OR BURIED DEBRIS THAT WERE NOT IN THE PROJECT PLANS OR JOBSITE BACKGROUND INVESTIGATION. IF FOUND, IMMEDIATELY CONTACT THE PROJECT ENGINEER.
18. IF CONTAMINATED SOIL IS FOUND, IMMEDIATELY CONTACT SITE ENGINEERS AND LOCAL GOVERNMENT ENTITIES OVERSEEING CONSTRUCTION. SPECIAL EXCAVATION, TRANSPORT, AND TREATMENT OF CONTAMINATED SOILS MAY BE REQUIRED.
19. SUFFICIENT EROSION AND SEDIMENT CONTROL SUPPLIES SHALL BE AVAILABLE ON SITE DURING THE RAINY SEASON (OCTOBER THROUGH APRIL) TO PROTECT AREAS SUSCEPTIBLE TO EROSION DURING RAIN EVENTS. CONTRACTORS SHALL BE PREPARED YEAR-ROUND TO DEPLOY EROSION AND SEDIMENT TREATMENT CONTROL PRACTICES.

WATER USE

1. WATER IS A PRECIOUS RESOURCE. RECYCLE AND RE-USE ON-SITE WATER RESOURCES FOR DUST CONTROL, IRRIGATION, AND OTHER USES WHEN POSSIBLE.
2. CONTACT THE LOCAL MUNICIPALITY OR AGENCY RESPONSIBLE FOR DRAINAGE IF STORM GUTTERS, SEWER SYSTEMS, OR WATER BODIES WILL RECEIVE ANY JOBSITE RUN-OFF.
3. WATER CONTAINING HIGH AMOUNTS OF SEDIMENT AND OTHER CONTAMINANTS MAY REQUIRE CONSTRUCTION OF SEDIMENT BASINS, TREATMENT FACILITIES, OR SPECIAL TRANSPORT THAT ARE OUTLINED IN THE PROJECT DRAWINGS AND SPECIFICATIONS.
4. TO REDUCE THE IMPACT OF CONTAMINATED SURFACE WATERS ON LOCAL/REGIONAL GROUNDWATER QUALITY, CONSULT WITH LOCAL OFFICIALS AND PROJECT ENGINEERS REGARDING THE PROPER TESTING, TREATMENT, AND DISPOSAL OF CONTAMINATED WATERS.

CUTTING WOOD, ASPHALT, OR CONCRETE MATERIALS

1. CONTAIN AND PROPERLY DISPOSE ALL SAWDUST FROM CUTTING OPERATIONS AT THE JOBSITE. DO NOT ALLOW SAWDUST AND WOOD DEBRIS, ESPECIALLY TREATED LUMBER PRODUCTS, TO ENTER STORM DRAINS OR ENTER ADJACENT WATER BODIES.
2. PRIOR TO FORECASTED RAINFALL EVENTS, CLEAN UP AND DISPOSE OF ALL WOOD WASTE SOURCES.
3. WHEN SAW CUTTING ASPHALT OR CONCRETE MATERIALS BLOCK ALL STORM GUTTERS AND DRAINS TO PROHIBIT SLURRY FROM CONTAMINATING AND CLOGGING INFRASTRUCTURE. IMMEDIATELY REMOVE ANY AND ALL SLURRY WASTE THAT REACHES STORM DRAINS/GUTTERS
4. INSTALLATION OF FILTER FABRICS, SEDIMENT BASINS, STRAW BALES, OR SPECIAL FILTER EQUIPMENT MAY BE REQUIRED. CONSULT THE PROJECT PLANS AND TECHNICAL SPECIFICATIONS.
5. CONTAIN, CLEAN UP, AND PROPERLY DISPOSE ALL CUTTING WASTE AND SLURRIES UPON MOVING LOCATIONS AND COMMENCING DAILY OPERATIONS.

ASPHALTIC PAVING

1. ASPHALTIC PAVING DURING WET WEATHER IS NOT PERMITTED DUE TO APPLICATION GUIDELINES AND ENVIRONMENTAL CONCERNS.
2. COVER ALL DRAINS AND MANHOLES WHEN PAVING OR APPLYING SEAL COATS, TACK COATS, SLURRY SEALS, AND FOG SEALS.
3. ASPHALTIC PAVING MACHINES CAN LEAK WHEN NOT IN USE. PLACE DRIP PANS AND OTHER ABSORBENT MATERIALS IN APPROPRIATE LOCATIONS TO MINIMIZE LEAKS AND SPILLS WHEN ASPHALTIC PAVING EQUIPMENT IS BEING STORED OR NOT IN USE.
4. ALL SAND USED DURING PAVING, SLURRY SEALING, AND COATING SHOULD BE REMOVED FROM THE JOB SITE AND DISPOSED OF AS TRASH. DO NOT ALLOW EXCESS MATERIALS TO ENTER STORM DRAINS OR LOCAL WATER BODIES.

CONCRETE AND CEMENTITIOUS MATERIALS

1. STORE AND CONTAIN ALL CONCRETE AND CEMENTITIOUS PRODUCTS IN DRY AREAS AND AWAY FROM ANY WATER SOURCES.
2. IF TRUCK AND EQUIPMENT CLEANUP OCCURS ON-SITE, DESIGNATE A BASIN/AREA FOR WASHING. ALLOW WATER TO SEEP INTO A VISQUEEN LINED BASIN AND WAIT UNTIL CONCRETE HARDENS. REMOVE AND DISPOSE ALL HARDENED CONCRETE IN THE APPROPRIATE SOLID WASTE UNIT.
3. DO NOT ALLOW TRUCK AND MIXING EQUIPMENT WASH WATER TO ENTER STORM DRAINS, GUTTERS, OR ADJACENT WATER BODIES.

PAINTING

1. RINSING OF PAINT BRUSHES, PANS, SPRAYERS AND ANY ASSOCIATED EQUIPMENT INTO STORM DRAINS, STREETS, OR WATER BODIES IS NOT PERMITTED.
2. PRIOR TO CLEANING WATER BASED PAINTING EQUIPMENT, ROLL, BRUSH, OR SPRAY ANY EXCESS PAINT ONTO A DISCARDABLE SURFACE (WOOD, PAPER, ETC.) WHEN A SINK IS UNAVAILABLE DILUTE WASTE PAINT WITH WATERAND POUR ONTO SOIL WHILE AGITATING WITH A SHOVEL OR RAKE.
3. PRIOR TO CLEANING OIL BASED PAINTING EQUIPMENT WITH A THINNER, ROLL, BRUSH, OR SPRAY ANY EXCESS PAINT ONTO A DISCARDABLE SURFACE. FILTER AND RE-USE PAINT THINNERS FOR FUTURE USE AND DISPOSE UNUSABLE THINNER AS HAZARDOUS WASTE.

GENERAL

1. SANITARY FACILITIES OF SUFFICIENT NUMBER AND SIZE TO ACCOMMODATE CONSTRUCTION CREWS SHALL BE LOCATED AWAY FROM STORM DRAIN INLETS AND DRAINAGE FACILITIES, AND ANCHORED TO PREVENT BEING BLOWN OVER OR TIPPED BY VANDALS. THE FACILITIES SHALL BE MAINTAINED IN GOOD WORKING ORDER AND EMPTIED AT REGULAR INTERVALS BY A LICENSED SANITARY WASTE HAULER.
2. TECHNIQUES SHALL BE EMPLOYED TO PREVENT THE BLOWING OF DUST OR SEDIMENT FROM THE SITE SUCH AS WATERING ACCESS ROADS AND COMPACTION AND SEEDING OF FILL AREAS.

Note: THIS SHEET TO BE REMOVED AND REPLACED BY APPROVED CONTRACTOR SWPPP

FOR CONSTRUCTION ONLY
NOT FOR PERMITTING

IF BAR DOES NOT MEASURE 1" DRAWING IS NOT TO SCALE – ADJUST ACCORDINGLY

PLOT STYLE: QUESTA-GRAYSCALE-255.CTB PLOT DATE: 6/2/2022 LAST SAVED: 6/2/2022

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PETER'S CREEK BRIDGES
APN 085-070-100
SAVE THE REDWOODS LEAGUE
SAN FRANCISCO, CA

QUESTA ENGINEERING CORP.
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Environmental
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Sht:	Rev:	Date:	By:	Description:	App'd:

Design: XXX
Drawn: XXX
Checked: XXX
Appr'd: XXX

PETER'S CREEK BRIDGES
SWPPP
SAN MATEO COUNTY, CA

Size: D
Project: 1900028
Scale: AS SHOWN
Date: 6/2/2022
Sheet: 13 OF 13

BIOLOGICAL RESOURCE ASSESSMENT

Peters Creek Bridge Project

San Mateo County, California

Prepared for

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December 2021

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INTRODUCTION AND SUMMARY

This Biological Resource Assessment (BRA) has been prepared to address the potential effects of the proposed Peter's Creek Bridge Construction Project (Project) along Peter's Creek in San Mateo County, California (**Figure 1**). The Study Area for the Project consists of an existing access road and two bridge crossing locations over Peter's Creek. The goal of the Project is to rebuild an existing bridge and construct a new bridge over Peter's Creek on property that is owned and managed by Save the Redwoods League. These bridges would be part of an access improvement program that allows for safe and low impact access to the property as well as the adjacent State Park lands and trails. The bridges would be clear span structures that are 50 feet and 100 feet in span, respectively. Bridge 1 is the shorter of the bridges and entails replacing a rusting railroad flat car bridge at the downstream end of the study area. It is currently unsafe to support movement of construction equipment across it. Bridge 2 would be a new suspension bridge placed between two high banks about 800 feet upstream of the first bridge. A detailed project description, map of the bridge locations and project plans are contained in **Appendix A**.

The access route to Bridge 2 would be along a historic road that was likely constructed in the early 1900's as part of logging operations in the area. The road is generally wider than 15 feet, but slight improvements would be needed in some locations to make it safe for construction access. Several large downed tree trunks would have to be moved. A short area of the roadway has been narrowed by bank erosion and temporary access improvements would be necessary to provide a minimum width of 12 feet to allow safe equipment and material access.

Construction would be timed during the dry period when stream flows are lowest and is estimated to take two years to complete. Replacing Bridge 1 the first year and constructing Bridge 2 the second year after construction access is possible. Temporary coffer dams would be installed, and any stream flows diverted into a gravity diversion pipe to allow dewatering of the construction reaches at both bridge locations. A third smaller creek diversion/exclusion dam would be needed at the base of the bank where the access road would be temporarily widened. Design for this feature would ultimately be the responsibility of the building contractor but it is likely that some shoring would be needed along the toe of the creek bank within ordinary high water to support the road extension. This area would be isolated from the active creek flow to avoid affecting water quality and aquatic habitat.

Project construction would utilize a variety light trucks and heavy equipment. Workers would likely have ½ ton pickups or greater for vehicle access to the site. Heavy equipment may include a 130 excavator or larger, backhoe/skip loaders, small dozer (D3 or less), truck or track mounted drilling rigs, and small compact front end loaders. A small crane maybe needed briefly. Portable generators would be used to supply electric power during construction. Construction of each bridge is estimated to take 2-3 months to complete. Construction would presumably start no later than August 1st and would be completed and/or winterized by October 15th of that construction season, unless additional restrictions are imposed to avoid sensitive habitat and meet permit conditions from regulatory agencies.

Project improvements would require modifications to the regulated waters associated with the Peter's Creek and has a potential to affect several special-status species and disrupt nesting birds during construction. Appropriate measures would be taken by the construction contractor as part of the proposed Project (see discussion of Project Controls below under Impacts) to prevent erosion and sedimentation, degradation of downgradient waters, minimize potential impacts on special-status species and avoid any bird nests in active use. Implementation of these Project Controls

would collectively serve to avoid or minimize potential most adverse effects. However, some potential impacts would remain significant given the need to secure agency authorizations for impacts to regulated waters and temporary construction impacts on special-status species. These would require implementation of recommended mitigation measures to reduce potential impacts of the proposed Project to a less than significant level, as discussed below.

SETTING

Background and Methods

Biological resources associated with the Study Area were identified through a review of available background information and conduct of a field reconnaissance survey. Available documentation was reviewed to provide information on general resources in the Peters Creek area of San Mateo County, presence of sensitive natural communities, and the distribution and habitat requirements of special-status species which have been recorded from or are suspected to occur in the Project vicinity. Literature reviewed included: the occurrence records of the California Natural Diversity Data Base (CNDDB) of the California Department of Fish and Wildlife (CDFW); and the California Native Plant Society (CNPS) *Inventory of Rare and Endangered Plants*; a list of federally-listed and candidate species prepared as part of Information for Planning and Consultation (IPac) report by the U.S. Fish and Wildlife Service (USFWS) for the Project vicinity; and assessments on possible presence of marbled murrelet (*Brachyramphus marmoratus*) in the Study Area, among other sources. Marbled murrelet is listed as a threatened species under the federal Endangered Species Act and an endangered species under the California Endangered Species Act, and their possible presence was considered a major issue of concern with regard to the Project. In 2020 Save the Redwoods League retained Alex Rinkert to conduct a *Habitat Assessment* (HA) for possible presence of the marbled murrelet in the Study Area in 2020.[1] Mr. Rinkert subsequently conduct protocol surveys in 2020 and 2021 to determine presence of nesting activity in the Study Area, the results of which were reported in the survey report *Marbled Murrelet Surveys at Peters Creek Old-Growth Forest* (SR).[2] Ms. Hannah Ormshaw, Natural Resource Manager for San Mateo County Parks, was consulted regarding mitigation strategies and the regulatory agency permitting process utilized by San Mateo County for improvements to County Park facilities within known occupied nesting habitat for marbled murrelet, including Memorial Park.[3] Lists from the CNDDB records search and IPac Report for the Study Area are contained in **Appendix B**.

A field reconnaissance survey of the Study Area was conducted by James Martin, biologist and principal of Environmental Collaborative, on September 4, 2019, to provide an overview of conditions, extent of regulated waters and suitability for possible presence of special-status species. During the field reconnaissance all plant species were identified to the degree necessary to determine rarity. Wildlife species observed during the field reconnaissance were also noted. No protocol surveys were conducted by Mr. Martin, but the HA and SR prepared by Mr. Rinkert were reviewed and used in assessing potential impacts on marbled murrelet. The following provides a summary of existing biological and wetland resources in the Study Area, an assessment of potential impacts of the Project, and recommended mitigation where significant impacts have been identified.

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[1] Rinkert, Alex, 2020, *Habitat Assessment and Mitigation Recommendation for Marbled Murrelets at Peters Creek*, prepared for Save The Redwoods League, 13 June.

[2] Rinkert, Alex, 2021, *Marbled Murrelet Surveys at Peters Creek Old-Growth Forest*, *Final Report,* prepared for Save the Redwoods League, October.

[3] Ormshaw, Hannah, Natural Resource Manager, San Mateo County Parks, 2021, personal communication with James Martin, Environmental Collaborative, on August 13.

Existing Vegetation and Wildlife Habitat Conditions

The Study Area is part of the intercoastal watershed lands along Peters Creek dominated by redwood forest. The redwood forest in the Study Area forms a dense overstory composed of coast redwood (*Sequoia sempervirens*) with other secondary species such as Douglas fir (*Pseudotsuga menziesii* var. *menziesii*), coast live oak (*Quercus agrifolia*), tanoak (*Notholithocarpus densiflorus*), madrone (*Arbutus menziesii*), and interior live oak (*Quercus wislizeni*). Much of the redwood forest understory is sparsely vegetated with a thick duff layer. Understory species are largely perennial forbs, shrubs and vines, including sword fern (*Polystichum munitum*), California wood fern (*Dryopteris arguta*), poison oak (*Toxicodendron diversilobum*), California blackberry (*Rubus ursinus*), California huckleberry (*Vaccinium ovatum*), trillium (*Trillium chloropetalum*), redwood sorrel (*Oxalis oregana*), elk clover (*Aralia californica*), and snowberry (*Symphoricarpos mollis*), among others. A narrow broken band of deciduous riparian woodland occurs along the banks of Peters Creek and tributary drainages. Riparian trees, such as big leaf maple (*Acer macrophyllum*), California bay (*Umbellularia californica*), white alder (*Alnus rhombifolia*), and red willow (*Salix laevigata*) grow as scattered individuals along the creek banks where sufficient sunlight and available water allow for their establishment and survival. Representative photographs of the Study Area are contained in **Appendix C**.

Sensitive natural communities are natural community types that The CDFW maintains a California Natural Community List[4] based on the National Vegetation Classification Standard hierarchical classification system. Natural community types are ranked using NatureServe's Heritage Methodology, the same system used to assign global and state rarity ranks for plant and animal species in the CNDDB. Natural Communities with ranks of S1-S3 are considered Sensitive Natural Communities by the CDFW and are to be addressed in the CEQA environmental review process. Old growth redwood and Douglas fir forests, including those in the Study Area, are recognized by the CDFW as sensitive natural community types given their rarity in the State.

The Peters Creek watershed provides high quality forest and riparian habitat for a wide range of wildlife, including a number of highly sensitive species with legal protective status. Areas of old-growth forest trees provide essential nesting habitat for the marbled murrelet (MAMU), a federally-threatened and State-endangered seabird that typically nests high in the trees. Black-tailed deer, raccoon, gray squirrel, deer mouse, San Francisco dusky-footed woodrat, coyote, black bear, and mountain lion occur in the forest and mosaic of grassland and scrub in the watershed. The forest and riparian habitats support a wide variety of resident and migratory birds, including: white-breasted nuthatch, Steller's jay, Oregon junco, northern flicker, acorn woodpecker, common raven, great-horned owl, and Northern saw-whet owl, among many others. Amphibians and reptiles found on the forest floor and creek corridor include: California newt, slender salamander, western toad, Pacific chorus frog, aquatic garter snake, and western rattlesnake. Occurrences of the federally-threatened California red-legged frog (*Rana aurora*) have been reported from the Peters Creek watershed and may disperse along the Project reach.

Riparian corridors serve as critical linkages for aquatic and terrestrial wildlife movement. When surface water is available, it provides seasonal habitat for aquatic-dependent organisms and serves as a source of drinking water for terrestrial mammals and birds. The channel serves as movement corridors for aquatic and terrestrial species that use the protective cover found along the creek banks. Coho salmon (*Oncorhynchus kisutch*) and steelhead (*Oncorhynchus mykiss irideus*), both listed special-status species, were historically known from the upper reaches of Peters Creek and

[4] California Department of Fish and Wildlife, Biogeographic Data Branch, 2021, *California Natural Community List*, August 18.

tributaries, but major downstream barriers now reportedly prevent successful migration into the Project reach.

Special-Status Species

Special-status species are plants and animals that are legally protected under the State and/or federal Endangered Species Acts[5] or other regulations, as well as other species that are considered rare enough by the scientific community and trustee agencies to warrant special consideration, particularly with regard to protection of isolated populations, nesting or denning locations, communal roosts and other essential habitat. Species with legal protection under the Endangered Species Acts often represent major constraints to development, particularly when they are wide-ranging or highly sensitive to habitat disturbance and where proposed development would result in a "take" [6] of these species.

A record search conducted by the CNDDB, together with review of lists from the USFWS and CNPS indicates that occurrences of numerous plant and animal species with special-status have been recorded from or are suspected to occur in the Peters Creek area of San Mateo County. **Figures 1** and **2** show the known occurrences of special-status plants and animals, respectively, as mapped by the CNDDB within about three miles of the Study Area. Designated critical habitat mapped by the USFWS for the federally-threatened California red-legged frog and the federally-threatened and State-endangered MAMU are also shown in **Figure 2**. Designated critical habitat for California red-legged frog extends throughout the Study Area. The designated critical habitat for MAMU follows the boundary of Portola Redwoods State Park just upstream of the Study Area. A summary of CNDDB data for each of the species with occurrences mapped in **Figures 1** and **2** is contained in **Appendix B**, including species name, status and occurrence data. The following provides a summary of the special-status plant and animal species considered to have the highest potential for occurrence in the Study Area vicinity.

Plant Species. Based on the review of CNDDB data, the CNPS *Inventory* and other information, numerous special-status plant species were suspected to possibly occur in the vicinity of the Study Area. **Figure 1** shows the distribution of the 10 special-status plant species with known occurrences within about five miles of the Study Area. The status of each of these and other special-status plant species known from the south San Mateo vicinity is provided in the CNDDB Summary Table in **Appendix B**. Most of these species are considered rare (list 1B) by the CNPS in their electronic *Inventory of Rare and Endangered Plants of California*. A few have legal protective status under the ESAs, including the State and federal-endangered San Mateo thorn-mint (*Acanthomintha duttonii*), the State-endangered Ben Lomand spineflower (*Chorizanthe pungens* var. *hartwegiana*), and the State and federally-endangered Crystal Springs fountain thistle (*Cirsium fontinale* var. *fontinales*). However, suitable habitat for these listed species and most other special-status plant species is absent from the Study Area or would have been detected during the field

[5] The federal Endangered Species Act (FESA) of 1973 declares that all federal departments and agencies shall utilize their authority to conserve endangered and threatened plant and animal species. The California Endangered Species Act (CESA) of 1984 parallels the policies of FESA and pertains to native California species.

[6] "Take" as defined by the FESA means "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect" a threatened or endangered species. "Harm" is further defined by the U.S. Fish and Wildlife Service (USFWS) to include the killing or harming of wildlife due to significant obstruction of essential behavior patterns (i.e., breeding, feeding, or sheltering) through significant habitat modification or degradation. The CDFW also considers the loss of listed species habitat as take, although this policy lacks statutory authority and case law support under the CESA.

reconnaissance survey in 2019. All plants encountered during the field survey were identified to the degree necessary to determine rarity, in accordance with CDFW protocols for rare plant surveys. Groundcover species is generally absent or common perennial species characteristic of forest understories.

There remains a remote potential for presence of three special-status plant species in the limits of construction which could have been indiscernible at the time of the field reconnaissance in September 2019. None have any legal protective status under the Endangered Species Acts but have a California Rare Plant Rank (CRPR) of 1B (rare and endangered in California and elsewhere in the CNPS *Inventory* and warrant further consideration under CEQA. Information on each of these species is summarized as follows.

Minute pocket moss. Minute pocket moss (*Fisidens pauperculus*) has a CRPR of 1B.2. This moss species is found in north coast coniferous forest communities with damp coastal soil. The closest occurrence reported by the CNDDB less than a mile south of the Study Area in Portola State Park on hard moist soil within redwood forest (see **Figure 1**). Suitable habitat for this species occurs throughout the Study Area in the moist forest understory along Peters Creek.

Dudley's lousewort. Dudley's lousewort (*Pedicularis dudleyi*) has a CRPR of 1B.2. It is a perennial herb which blooms from April to June. This species occurs in maritime chaparral, cismontane woodland, north coast coniferous forest, and valley and foothill grassland communities. Numerous occurrences of Dudley's lousewort have been reported within Portola State Park along Peters Creek less than a half mile downstream of the Project reach (see **Figure 1**). Suitable habitat for this species occurs throughout the Study Area in the moist forest understory along Peters Creek.

White-flowered rein orchid. White-flowered rein orchid (*Piperia candida*) has a CRPR of 1B.2. It is a perennial herb which blooms from May to September, sometimes as early as March. This species is sometimes found in serpentine-derived soils within broadleafed upland forest, lower montane coniferous forest, and north coast coniferous forest communities. The nearest occurrence is documented in Portola State Park about two miles downstream of the Project reach near the confluence of Peters and Pescadero creeks (see **Figure 1**). Suitable habitat for this species occurs throughout the Study Area in the moist forest understory along Peters Creek.

Animal Species. Based on the review of CNDDB data and the USFWS IPac Report species list a number of special-status mammal, birds, reptiles, amphibians, fish, and invertebrate species are known or suspected to occur in the Peters Creek vicinity of San Mateo County. **Figure 2** shows the occurrences of the nine special-status reported by the CNDDB within about three miles of the Study Area. The Peters Creek corridor through the Study Area reach have been mapped as presumed occupied habitat for steelhead and California giant salamander (*Dicamptodon ensatus*). An occurrence of California red-legged frog and MAMU occurs about a quarter mile upstream of the Study Area in Portola State Park. Designated critical habitat for these two species encompasses the Study Area vicinity as indicated in **Figure 2**. The following provides information on special-status animal species considered to have some potential for occurrence in the Study Area.

Marbled murrelet. Marbled murrelet (MAMU) is federally-listed as threatened and State-listed as endangered. It occurs in North America, from Alaska south to Santa Cruz, California, and wintering as far south as Baja California, Mexico. It is closely associated with old-growth and mature forests for nesting, and population declines have been attributed in part to loss or modification of forest habitat. It is federally-listed as threatened and State-listed as endangered. Critical habitat has been

mapped over Portola State Park and lands to the west of the Study Area. Occurrences have been observed in the forests along Peters Creek, upstream and downstream of the Study Area.

The HA conducted for the Study Area in 2020 included an inspection of suitable nesting habitat within about 400 meters of the proposed construction areas for the Project. Numerous platforms suitable for nesting were observed on mature trees along the existing access road, along Peters Creek, and the surrounding hillsides. Nests are typically established in mature redwood and Douglas fir trees, where a flat platform at lead four inches in diameter is present on branches or burls. The presence of epiphytic growth (lichens and mosses), duff mats, and old unused squirrel or bird nests are all features that can contribute to the suitability of a tree platform for nesting, together with protective cover and access for flight to and from the nest location.

Protocol level surveys were conducted for MAMU for the Study Area in 2020 and 2021, as summarized in the SR. The survey effort followed the standardized protocol for dawn MAMU surveys in California,[7] and were conducted between April 15 and August 5, with surveys beginning 45 minutes before local sunrise and continued at least 75 minutes after sunrise. During each survey, all detections of MAMU were recorded, together with the maximum number of Steller's jays (*Cyanocitta stelleri*) and common ravens (*Corvas corax*) detected at one time, and all other birds detected. The average and maximum decibels of ambient noise during the survey were also recorded during each survey. A total of 30 dawn murrelet surveys were conducted for two sites in the Study Area, 18 in 2020 and 12 in 2021. MAMU were detected on 7 of 18 (39%) surveys in 2020, and on 7 of 12 (58%) surveys in 2021. There was a total of 158 detections over the course of the 30 surveys, with most (70%) detections of MAMU being auditory. The 48 visual detections consisted of 43 (90%) flights above the canopy and 5 (10%) flights below the canopy. Flights below the canopy is considered behavior that indicates a stand as being occupied for nesting by MAMU. The results of the protocol level surveys clearly indicate nesting behaviors along the Peters Creek corridor through the Study Area, with the majority of observations made from stations closest to the creek (see **Figure 3** from SR).

In the MAMU recover plan,[8] the USFWS identifies two primary constituent elements which are considered essential to provide and support suitable nesting habitat for successful reproduction within designated critical habitat. These consist of: 1) individual trees with potential nesting platforms, and 2) forested areas within 0.5 mile of individual trees with potential nesting platforms and a canopy height of at least one-half the site potential tree height. Potential nest trees are typically greater than 32 inches diameter at breast height (DBH) with potential platforms or deformities (broken tops, forked limbs) that could support adult MAMU and overhead protection from weather and predation. Forests with a canopy height of at least one-half the height of the potential nest site tree height may reduce microclimate differences such as windthrow during storms and generally provide a more attractive landscape for nesting. As evidence by the critical habitat designation of the adjacent parklands, and results of the HA and SR, these primary constituent elements have been determined to be present within the Study Area.

Other Bird Species. Numerous other bird species with special-status have varying potential for occurrence in the Study Area vicinity. Most of these are recognized as California Species of Special

[7] Evans Mack D, Ritchie WP, Nelson SK, Kuo-Harrison E, Harrison P, Hamer TE, 2003, *Methods for surveying Marbled Murrelets in forests: a revised protocol for land management and research*, Pacific Seabird Group unpublished document available at http://www.pacificseabirdgroup.org.
[8] USFWS, 1997, *Recovery Plan for the Threatened Marbled Murrelet (Brachyramphus marmoratus) in Washington, Oregon, and California*, Portland, Oregon.

Concern (SSC) by CDFW, and others are protected under Fish and Game Code and other regulations. These include golden eagle (*Aquila chrysaetos*), peregrine falcon (*Falco peregrinus*), loggerhead shrike (*Lanius ludovicianus*), long-eared owl (*Asio otus*), and burrowing owl (*Athene cunicularia*), among others. Additional birds of concern have been identified in the IPac Report by the USFS (see **Appendix B**) as possible occurring in the Study Area vicinity. These include: Allen's hummingbird (*Selasphorus sasin*), rufous hummingbird (*Selasphorus rufus*), black swift (*Cypseloides niger*), Nuttall's woodpecker (*Picoides nuttallii*), spotted towhee (*Pipilo maculatus clementae*), and wrentit (*Chamaea fasciata*), among others. Individual birds and nests in active use are also protected under the Migratory Bird Treaty Act and State Fish and Game Code. Nests of golden eagle are also protected under the Bald and Golden Eagle Protection Act. Peregrine falcon has been delisted under the California and federal Endangered Species Acts but remains a Fully Protected species under State Fish and Game Code.

As described above, no nests of any bird species were observed in the immediate vicinity of proposed construction during the field reconnaissance survey. As described above, nests of MAMU are presumed to be present in the Study Area and other locations along the Peters Creek corridor. In addition, there remains a possibility that new nests of other non-listed bird species could be established in the future or that nests occur in the nearby area that could be affected by construction-related disturbance, warranting preconstruction surveys as called for under the Project controls.

Central California Coast steelhead. The central California coast steelhead distinct population segment (DPS) is federally-listed as threatened. Steelhead may follow a variety of life history patterns that range from resident fish (non-migratory) to individuals that seasonally migrate to the open ocean (anadromous). Steelhead are unique among Pacific salmon in that ocean migrating individuals may return to the ocean after spawning and return to freshwater to spawn one or more times. Freshwater habitats support eggs (laid in gravel nests called redds), alevins (gravel dwelling hatchlings), fry (juveniles newly emerged from stream gravels), and young juveniles until individuals become large enough to migrate to the ocean to finish rearing and maturing to adults. Steelhead fry generally rear in edgewater habitats and move gradually into pools and riffles as they grow larger. Cover tends to be an important habitat component for juvenile steelhead, both as a velocity refuge and as a means of avoiding predation. Steelhead, however, tend to use riffles and other habitats not strongly associated with cover during summer rearing more than other salmonids. Young steelhead feed on a wide variety of aquatic and terrestrial insects, and emerging fry are sometimes preyed upon by older juveniles. In coastal California, steelhead usually live in freshwater for one to two years, then spend an additional two or three years in the ocean before returning to their natal stream to spawn. Adult steelhead are generally not present in streams between May and October.

Peters Creek is mapped by the CNDDB as habitat occupied by steelhead (**Figure 2**) through the Study Area based on survey work conducted in 1962. Downstream barriers along Peters Creek in Portola State Park reportedly now preclude upward migration to the upper reaches of Peters Creek. However, no in-stream surveys have been conducted through the Project reach and upstream watershed and there remains a possibility that resident individuals may be present. Pescadero Creek, both upstream and downstream of its confluence with Peters Creek, is mapped by the CNDDB as a North Central Coast California Road/Stickleback/Steelhead Stream and is recognized as a Sensitive Aquatic Community.

Central California Coast coho salmon. The Central California Coast Evolutionarily Significant Unit (ESU) of coho salmon (*Oncorhynchus kisutch*) are listed as endangered under both the federal and California Endangered Species Acts. Coho salmon are anadromous fish, rearing at least partially in freshwater, migrating to the ocean as smolts, spending their adult lives in the ocean, and then

migrating back into freshwater streams to spawn. Most coho salmon return to their natal streams to spawn in their third year, after which they die. Within freshwater streams, coho salmon require adequate, year-round stream flows, cold water, streamside shade, instream and off-stream shelter and pools, and access to spawning gravels with a low fine sediment component. Spawning typically occurs at the tail of pools, or head of riffles, where substrate, depths, velocities, and streamside cover is adequate.

The Central California Coast ESU of coho salmon extends from Punta Gorda in southern coastal Humboldt County south to Aptos Creek in Santa Cruz County. In a status review of the ESU based on all available biological information, it was concluded that the Pescadero coho salmon population is currently at extreme risk of extirpation and there have only been sparse reports of the species in the watershed over the past two decades.[9] Three adult coho salmon carcasses were found in Pescadero Creek during the 2014/2015 spawning season, but subsequent surveys found no young-of-the-year coho salmon, suggesting that reproduction may have been unsuccessful.[10] Barriers between the confluence with Pescadero Creek and the Project reach of Peters Creek currently prevent upward migration of coho salmon and this species is not suspected to occur in the Study Area.

California red-Legged frog. California red-legged frog (CRLF) is federally-listed as threatened and is recognized as a California Species of Special Concern (SSC) by the CDFW. It has been extirpated or nearly extirpated from 70 percent of its former range. Population declines have been attributed to a variety of factors, with habitat loss and predation by non-native Aquatic predators (e.g., bullfrogs, crayfish, other non-native fishes) typically implicated as primary factors. CRLF occur in and along freshwater marshes, streams, ponds, and other semi-permanent water sources. Optimal habitat contains dense emergent or shoreline riparian vegetation closely associated with deep (i.e., greater than 2.3 feet), still, or slow-moving water. Cattails, bulrushes, and willows provide the habitat structure that seems to be most suitable for CRLF. Although the species can occur in intermittent streams and ponds, they are unlikely to persist in streams in which all surface water disappears. Suitable breeding ponds and pools usually have a minimum depth of 20 inches, but CRLF do sometimes breed successfully in pools as shallow as 10 inches.[11] Regardless of water depth, suitable breeding habitat must contain water during the entire development period for eggs and tadpoles.

According to the CNDDB records, an occurrence of CRLF have been reported from Portola State Park about a quarter mile upstream of the Study Area along Peters Creek (see **Figure 2**). The lack of deep pools and emergent vegetation along the Project reach in the Study Area makes it unsuitable as breeding habitat for CRLF, or even for long-term foraging due to the high risk of predation. However, there remains a remote potential for an individual frog to disperse along the creek corridor in search of suitable habitat. There are no impenetrable barriers preventing such movement which is why some level of caution in implementing the Project improvements is still warranted and would be implemented as part of the project controls (see Project Controls below).

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[9] Spence, B and T. H. Williams, 2011, *Status Review Update for Pacific Salmon and Steelhead Listed Under the Endangered Species Act: Central California Coast Coho Salmon ESU*, U.S. Department of Commerce, National Oceanic and Atmospheric Administration, National Marine Fisheries Service, Southwest Fisheries Science Center, NOAA-TMNMFSSWFSC-47.

[10] NMFS, 2016. *Viability Assessment for Pacific Salmon and Steelhead Listed Under the Endangered Species Act: Southwest. NOAA Technical Memorandum NMFS*, July 2016.

[11] Fellers, G.M., 2005. *California red-legged frog. In* M. Lannoo, editor. Amphibian Declines: The Conservation Status of Unites States Species.

Foothill yellow-legged frog. Foothill yellow-legged frog (*Rana boylii*) populations in the coastal area of San Mateo County are now listed as endangered under the California Endangered Species Act. It is an aquatic species found in or near rocky streams in a variety of habitats. Foothill yellow-legged frogs hunt aquatic, terrestrial, and flying invertebrates, seeking refuge in between rocks or leaf litter at the bottom of stream or creek bed when threatened. Breeding and egg laying usually begin at the end of spring flood flows, commencing sometime between mid-March to May, depending on local conditions. The historic range of this species extends along the Coast Range from the Oregon border south to the Transverse Mountains in Los Angeles County, in most of northern California west of the Cascade crest, and along the western flank of the Sierra south to Kern County. A general occurrence of foothill yellow-legged frog was reported from Portola Redwood State Park in 1960 (see **Figure 2**). However, the CDFW indicates that several authorities believe this species has likely been extirpated from the upper watershed of Pescadero Creek, which would include the Project reach of Peters Creek.

California giant salamander. California giant salamander (*Dicamptodon ensatus*) is considered a SSC by CDFW but has no listing under the State or federal Endangered Species Acts. It occurs in and around cold, semi-permeant and permanent streams and seepages in mesic forests from Sonoma and Napa counties to Santa Cruz County. Adults are elusive and seek cover under rocks, logs and other substrate and forage on the forest floor during wet weather. During breeding season, adults can be found under rocks within small to medium-sized streams and will create subterranean nests for eggs. Several occurrences are documented within 5 miles of the Study Area and larvae of California giant salamander were encountered along Peters Creek during electrofishing surveys conducted in 1995, both upstream and downstream of the Project reach. This species is assumed to be present within areas of suitable habitat along Peters Creek in the Study Area.

Santa Cruz black salamander. Santa Cruz black salamander (*Aneides niger*) is recognized as a SSC by the CDFW but has no listing under the State or federal Endangered Species Acts. This subspecies is endemic to California, with a limited range west of the San Francisco Bay and south of the San Francisco Peninsula from Santa Cruz County and western Santa Clara County, north to southern San Mateo County. It occurs in mixed deciduous woodland, coniferous forests, and coastal grasslands, and is typically found under rocks near streams, in talus, under damp logs, and other objects. The closest occurrence to the Study Area reported by the CNDDB is about three miles to the southeast (see **Figure 2**), although suitable habitat is present along the Peters Creek corridor.

Red-bellied newt. The red-bellied newt (*Taricha rivularis*) is considered a SCC by CDFW. It is a stream or river dwelling newt of coastal woodlands that breed from late February to May in flowing water of rocky rivers and creeks. Eggs are laid in clusters on the underside of rocks or branches in the fast-moving sections of streams. Once eggs are laid, adult newts retreat from the water to the banks and upland areas. This species occurs along the coast from Bodega in Sonoma County north to Humboldt County and east to Lower Lake and Kelsey Creek in Lake County. An isolated population of red-bellied newt occurs within the Stevens Creek watershed in Santa Clara County. The Stevens Creek watershed population is not genetically divergent from northern populations, and it is undetermined if the population is naturally occurring or introduced. This population is considered to be of conservation significance and warrants management protection due to the overall limited geographic range of the species, lack of genetic diversity, and high levels of habitat disturbance, until more is understood about the origin of the Stevens Creek population.[12]. Red-

[12] Reilly, Sean B., D.M. Portik, M.S. Koo, and D.B. Wake, 2014, *Discovery of a New, Disjunct Population of a Narrowly Distributed Salamander (Taricha rivularis) in California Presents Conservation Challenges*, Journal of Herpetology, Vol. 48, No. 2, University of California, Berkeley.

bellied newt has not been documented within Portola Redwood State Park, and it seems unlikely it has expanded over the crest of the coast range from the Stevens Creek watershed into the Peters Creek drainage and Study Area.

Western pond turtle. Western pond turtle (*Actinemys marmorata*) is considered a SSC by CDFW. This species inhabits rivers, streams, natural and artificial ponds, lakes, marshes and irrigation ditches with abundant vegetation and either rocky or muddy bottoms. Basking sites are necessary for western pond turtle and may include exposed logs, rocks, or banks. Adjacent terrestrial habitat is typically woodland, forest or grassland with pliable soils for nesting and egg laying, winter refuge, and dispersal. Nest sites most often characterized as having gentle slopes (<15%) with little vegetation or sandy banks. Suitable habitat for western pond turtle is absent through the Study Area due to an absence of deep pools along Peters Creek in the Project reach necessary as refugia, although individuals may disperse through the watershed in search of suitable habitat.

Mammal Species. Several special-status mammal species are known or suspected from the south San Mateo County area, including San Francisco dusky-footed woodrat (*Neotoma fuscipes*) and American badger (*Taxidia taxus*), both of which are considered SSC by CDFW, several bat species, and mountain lion (*Puma concolor*). American badger is typically found in grassland and savannah habitat not found in the Study Area vicinity. San Francisco dusky-footed woodrat is found in woodland and forest habitat typical of the Study Area vicinity, but no evidence of any conspicuous stick nests was observed in the immediate vicinity of proposed construction. Occurrences of pallid bat (*Antrozos pallidus*) and Townsend's western big-eared bat (*Corynorhinus townsendii*), both of which are recognized as SSCs by CDFW, are known to occur in redwood forests of San Mateo County and may forage through the Study Area vicinity, but no suitable cavities were observed in the trees in the immediate vicinity of proposed construction that would serve as important maternity roosting locations for these or other special-status bat species. Mountain lion is protected under State regulations and likely forages through the Study Area vicinity, but essential denning habitat is absent in the vicinity of proposed construction.

Jurisdictional Waters

Although definitions vary, wetlands are generally considered to be areas that are periodically or permanently inundated by surface or groundwater, and support vegetation adapted life in saturated soil. Wetlands are recognized as important features on a regional and national level due to their inherent value to fish and wildlife, use as storage areas for storm and floodwaters, and water recharge, filtration and purification functions. Jurisdiction of the U.S. Army Corps of Engineers (Corps) is established through provisions of Section 404 of the Clean Water Act, which prohibits the discharge of dredged or fill material into "waters of the U.S." without a permit. The Regional Water Quality Control Board (RWQCB) jurisdiction is established through Section 401 of the Clean Water Act, which requires certification or waiver to control discharges in water quality whenever a Corps permit is required under Section 404 of the Clean Water Act, and State waters as regulated under the Porter-Cologne Act. Jurisdictional authority of the CDFW over wetland areas is established under Sections 1600-1607 of the State Fish and Wildlife Code, which pertains to activities that would disrupt the natural flow or alter the channel, bed or bank of any lake, river or stream. The Regulatory Setting discuss below provides additional information on regulations related to wetlands and waters.

A preliminary wetland assessment of the Study Area was conducted during the field survey in 2019 and the extent of assumed regulated waters were mapped (see attached **Project Tree Removal and Construction Site Plans**). Regulated waters in the Study Area consist of the Peters Creek channel and possibly a narrow ephemeral drainage that crosses the existing road alignment that will

be modified for construction vehicle access as part of the Project. Federally regulated waters are limited to the active channel of Peters Creek and possibly the ephemeral drainage below the Ordinary High Water Mark (OHWM). The width of Peters Creek between the OHWM varies but is generally about 20 feet. The width of the ephemeral drainage between the OHWM is about three feet at the existing roadway crossing. State regulated waters extend to the top of bank (TOB) or beyond to the edge of riparian canopy where it extends beyond the TOB. Scattered alders and other riparian indicator species occur along the banks of Peters Creek but are absent along the ephemeral drainage. No indications of seasonal wetland, seeps of other regulated waters were observed away from the Peters Creek and ephemeral drainage channel.

REGULATORY CONTEXT

The following provides a summary of federal, State, and local regulatory jurisdiction over biological and wetland resources. Although most of these regulations do not directly apply to the site, given the general lack of sensitive resource, they provide important background information.

Endangered Species Act

The USFWS has jurisdiction over federally listed threatened and endangered plant and animal species. The federal Endangered Species Act (ESA) and its implementing regulations prohibit the take of any fish or wildlife species that is federally listed as threatened or endangered without prior approval pursuant to either Section 7 or Section 10 of the ESA. ESA defines “take” as “harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct.” Federal regulation 50CFR17.3 defines the term “harass” as an intentional or negligent act that creates the likelihood of injuring wildlife by annoying it to such an extent as to significantly disrupt normal behavior patterns such as breeding, feeding, or sheltering (50CFR17.3). Furthermore, federal regulation 50CFR17.3 defines “harm” as an act that either kills or injures a listed species. By definition, “harm” includes habitat modification or degradation that actually kills or injures a listed species by significantly impairing essential behavior patterns such as breeding, spawning, rearing, migrating, feeding, or sheltering (50CFR217.12).

Section10(a) of the ESA establishes a process for obtaining an incidental take permit that authorizes nonfederal entities to incidentally take federally listed wildlife or fish. Incidental take is defined by ESA as take that is “incidental to, and not the purpose of, the carrying out of another wise lawful activity.” Preparation of a habitat conservation plan, generally referred to as an HCP, is required for all Section 10(a) permit applications. The USFWS and National Oceanic and Atmospheric Administration’s National Marine Fisheries Service (NOAA Fisheries Service) have joint authority under the ESA for administering the incidental take program. NOAA Fisheries Service has jurisdiction over anadromous fish species and USFWS has jurisdiction over all other fish and wildlife species.

Section 7 of the ESA requires all federal agencies to ensure that any action they authorize, fund, or carry out is not likely to jeopardize the continued existence of any species listed under the ESA, or result in the destruction or adverse modification of its habitat. Federal agencies are also required to minimize impacts to all listed species resulting from their actions, including issuance or permits or funding. Section 7 requires consideration of the indirect effects of a project, effects on federally listed plants, and effects on critical habitat (ESA requires that the USFWS identify critical habitat to the maximum extent that it is prudent and determinable when a species is listed as threatened or endangered). This consultation results in a Biological Opinion prepared by the USFWS stating whether implementation of the HCP will result in jeopardy to any HCP Covered Species or will

adversely modify critical habitat and the measures necessary to avoid or minimize effects to listed species.

Although federally listed animals are legally protected from harm no matter where they occur, the Section 9 of the ESA provides protection for endangered plants by prohibiting the malicious destruction on federal land and other "take" that violates State law. Protection for plants not living on federal lands is provided by the California Endangered Species Act.

Clean Water Act

The Corps is responsible under Section 404 of the Clean Water Act to regulate the discharge of fill material into waters of the U.S. These waters, and their lateral limit, are defined in 33 CFR Part 328.3(a) and include streams that are tributaries to navigable waters and their adjacent wetlands. The lateral limits of jurisdiction for a non-tidal stream are measured at the line of the OHWM (33 CFR Part 328.3[e]) or the limit of adjacent wetlands (33 CFR Part 328.3[b]). Any permanent extension of the limits of an existing water of the U.S., whether natural or man-made, results in a similar extension of Corps jurisdiction (33 CFR Part 328.5).

Waters of the U.S. fall into two broad categories: wetlands and other waters. Other waters include waterbodies and watercourses generally lacking plant cover such as rivers, streams, lakes, springs, ponds, coastal waters, and estuaries. Wetlands are aquatic habitats that support hydrophytic wetland plants and include marshes, wet meadows, seeps, floodplains, basins, and other areas experiencing extended seasonal soil saturation. Seasonally or intermittently inundated features, such as seasonal ponds, ephemeral streams, and tidal marshes, are categorized as wetlands if they have hydric soils and support wetland plant communities. Seasonally inundated waterbodies or watercourses that do not exhibit wetland characteristics are classified as other waters of the U.S.

Waters and wetlands that cannot trace a continuous hydrologic connection to navigable water of the U.S. are not tributary to waters of the U.S. These are termed "isolated wetlands." Isolated wetlands are jurisdictional when their destruction or degradation can affect interstate or foreign commerce (33 CFR Part 328.3[a]). The Corps may or may not take jurisdiction over isolated wetlands depending on the specific circumstances.

In general, a project proponent must obtain a Section 404 permit from the Corps before placing fill or grading in wetlands or other waters of the U.S. Prior to issuing the permit, the Corps is required to consult with the USFWS under Section 7 of the ESA if the project may affect federally listed species.

All Corps permits require water quality certification under Section 401 of the Clean Water Act. In the San Francisco Bay Area, this regulatory program is administered by the San Francisco Bay RWQCB. Project proponents who propose to fill wetlands or other waters of the U.S. must apply for water quality certification from the RWQCB. The RWQCB has adopted a policy requiring mitigation for any loss of wetland, streambed, or other jurisdictional area.

Migratory Bird Treaty Act

The federal Migratory Bird Treaty Act (MBTA) prohibits the taking, hunting, killing, selling, purchasing, etc. of migratory birds, parts of migratory birds, or their eggs and nests. As used in the MBTA, the term "take" is defined as "to pursue, hunt, shoot, capture, collect, kill, or attempt to pursue, hunt, shoot, capture, collect, or kill, unless the context otherwise requires." Most bird species native to North America are covered by this act. In December 2017, the Department of the

Interior (DOI) issued a memorandum reversing the incidental take interpretation of the MBTA. Under the latest determination of the DOI, the take of a migratory bird or its active nest (i.e., with eggs or young) that is incidental to a lawful activity does not violate the MBTA. However, this opinion from the DOI is only the latest interpretation from the current Administration of the MBTA. This legal opinion is contrary to the long-standing interpretation for over 40 years that held the MBTA strictly prohibits the intentional or incidental killing of birds or destruction of their nests when in active use.

California Endangered Species Act

The CDFW has jurisdiction over State-listed endangered, threatened, and rare plant and animal species under the California Endangered Species Act (CESA). CESA is similar to the federal ESA both in process and substance; it is intended to provide additional protection to threatened and endangered species in California. Species may be listed as threatened or endangered under both acts (in which case the provisions of both State and federal laws apply) or under only one act. A candidate species is one that the Fish and Wildlife Commission has formally noticed as being under review by CDFW for addition to the State list. Candidate species are protected by the provisions of CESA. An Incidental Take Permit is required where a State-listed species is affected by proposed activities, in accordance with Section 2081 of the State Fish and Game Code.

California Environmental Quality Act

The California Environmental Quality Act (CEQA) applies to "projects" proposed to be undertaken or requiring approval by State and local government agencies. Projects are defined as having the potential to have physical impact on the environment. Under Section 15380 of CEQA, a species not included on any formal list "shall nevertheless be considered rare or endangered if the species can be shown by a local agency to meet the criteria" for listing. With sufficient documentation, a species could be shown to meet the definition of rare or endangered under CEQA and be considered a "de facto" rare or endangered species.

California Fish and Wildlife Code

The CDFW is also responsible for enforcing the California Fish and Wildlife Code, which contains several provisions potentially relevant to construction projects. For example, Section 1602 of the Fish and Wildlife Code governs the issuance of Lake and Streambed Alteration Agreements by the CDFW. Lake or Streambed Alteration Agreements are required whenever project activities substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake designated as such by the CDFW.

The Fish and Wildlife Code also lists animal species designated as Fully Protected or Protected, which may not be taken or possessed at any time. The CDFW does not issue licenses or permits for take of these species except for necessary scientific research, habitat restoration/species recovery actions, or live capture and relocation pursuant to a permit for the protection of livestock. Fully Protected species are listed in Sections 3511 (birds), 4700 (mammals), 5050 (reptiles and amphibians), and 5515 (fish) of the Fish and Wildlife Code, while Protected amphibians and reptiles are listed in Chapter 5, Sections 41 and 42.

Section 3503 of the Fish and Wildlife Code prohibits the take, possession, or needless destruction of the nest or eggs of any bird. Subsection 3503.5 specifically prohibits the take, possession, or destruction of any birds in the orders Falconiformes (hawks and eagles) or Strigiformes (owls) and their nests. These provisions, along with the federal MBTA, essentially serve to protect nesting

native birds. Non-native species, including European starling, house sparrow, and rock pigeon, are not afforded any protection under the MBTA or California Fish and Wildlife Code.

Porter-Cologne Water Quality Control Act

Under this Act (California Water Code Sections 13000–14920), the RWQCB is authorized to regulate the discharge of waste that could affect the quality of the State's waters. The RWQCB asserts jurisdiction over isolated waters and wetlands, as well as waters and wetlands that are regulated by the Corps. Therefore, even if a project does not require a federal permit, it still requires review and approval by the RWQCB. When reviewing applications, the RWQCB focuses on ensuring that project do not adversely affect the "beneficial uses" associated with waters of the State. In most cases, the RWQCB seeks to protect these beneficial uses by requiring the integration of waste discharge requirements (WDRs) into projects that will require discharge into waters of the State. For most construction projects, the RWQCB requires the use of construction and post-construction Best Management Practices (BMPs).

Other CDFW Statutes, Codes, and Policies Affording Species Protection

The CDFW maintains an administrative list of Species of Special Concern (SSC), defined as a "species, subspecies, or distinct population of an animal native to California that currently satisfies one or more of the following (not necessarily mutually exclusive) criteria:

- Is extirpated from the State, or, in the case of birds, in its primary seasonal or breeding role;
- Is listed as federally, but not State-, threatened or endangered;
- Meets the State definition of threatened or endangered but has not formally been listed;
- Is experiencing, or formerly experienced, serious (noncyclical) population declines or range retractions (not reversed) that, if continued or resumed, could qualify it for State threatened or endangered status;
- Has naturally small populations exhibiting high susceptibility to risk from any factor(s) that, if realized, could lead to declines that would qualify it for State threatened or endangered status.

The CDFW's Nongame Wildlife Program is responsible for producing and updating SSC publications for mammals, birds, and reptiles and amphibians. The Fisheries Branch is responsible for updates to the Fish SSC document and list. Section 15380 of the CEQA Guidelines clearly indicates that SSC should be included in an analysis of project impacts if they can be shown to meet the criteria of sensitivity outline therein. In contrast to species listed under the federal ESA or CESA, however, SSC have no formal legal status.

The California Native Plant Society (CNPS), a non-governmental conservation organization, has developed a ranking system for plant species of concern in California. Vascular plants included on these lists are defined as follows:

Rank 1A: Plants presumed extirpated in California and either rare or extinct elsewhere
Rank 1B: Plants rare, threatened, or endangered in California and elsewhere
Rank 2A: Plants presumed extirpated in California, but common elsewhere
Rank 2B: Plants rare, threatened, or endangered in California, but more common elsewhere
Rank 3: Plants about which more information is needed – a review list
Rank 4: Plants of limited distribution – a watch list

Although the CNPS is not a regulatory agency and plants on these lists have no formal regulatory protection, plants with a ranking of 1A through 2B may be considered to meet the definition of

endangered, rare, or threatened species under Section 15380(d) of CEQA (see above) and impacts to these species may be considered "significant."

In addition, the CDFW recommends, and local governments may require, protection of species which are regionally significant, such as locally rare species, disjunct populations, essential nesting and roosting habitat for more common wildlife species, or plants with a CNPS ranking of 3 and 4.

San Mateo County General Plan

The County's General Plan,[13] adopted in 1986, guides future development and land use decisions within the County. Chapter 1 of the General Plan addresses vegetation, water, fish and wildlife resources. Goals and policies pertaining to biological resources applicable to the proposed Project are listed in **Table 1**.

San Mateo County Significant and Heritage Tree Ordinances

The County's Heritage Tree Ordinance (Section 11000) acknowledges that the County's outstanding heritage tree population has been and continues to be an invaluable asset in contributing to the economic, environmental, and aesthetic stability of the County and the welfare of its people and of future generations and, therefore, that the removal of such trees should be regulated. According to the ordinance, a "Heritage Tree" means any of tree that meets the following class criteria:

1) Class 1 includes any tree or grove of trees so designated after Board inspection, advertised public hearing and resolution by the Board of Supervisors. The affected property owners shall be given proper written notice between 14 and 30 days prior to inspection and/or hearing by the Board.
2) Class 2 includes any of a number of native tree species, healthy and generally free from disease, with a minimum trunk diameter varying based on species and location in the county. These consist of the following species and sizes:
   (1) Acer macrophyllum - Bigleaf Maple of more than 36 inches in d.b.h. west of Skyline Boulevard or 28 inches east of Skyline Boulevard.
   (2) Arbutus menziesii - Madrone with a single stem or multiple stems touching each other 4 1/2 feet above the ground of more than 48 inches in d.b.h., or clumps visibly connected above ground with a basal area greater than 20 square feet measured 4 1/2 feet above average ground level.
   (3) Chrysolepis chrysophylla - Golden Chinquapin of more than 20 inches in d.b.h.
   (4) Cupressus abramsiana - All Santa Cruz Cypress trees.
   (5) Fraxinus latifolia - Oregon Ash of more than 12 inches in d.b.h.
   (6) Lithocarpus densiflorus - Tan Oak of more than 48 inches in d.b.h.
   (7) Pseudotsuga menziesii - Douglas Fir of more than 60 inches in d.b.h. east of Skyline Boulevard and north of Highway 92.
   (8) Quercus agrifolia - Coast Live Oak of more than 48 inches in d.b.h.
   (9) Quercus chrysolepis - Canyon Live Oak of more than 40 inches in d.b.h.
   (10) Quercus garryana - All Oregon White Oak trees.
   (11) Quercus kellogii - Black Oak of more than 32 inches in d.b.h.
   (12) Quercus wislizenii - Interior Live Oak of more than 40 inches in d.b.h.
   (13) Quercus lobata - Valley Oak of more than 48 inches in d.b.h.
   (14) Quercus douglasii - Blue Oak of more than 30 inches in d.b.h.

[13] County of San Mateo,1986, San Mateo County General Plan, adopted November 18.

Table 1
General Plan Goals and Policies Relevant to Biological Resources

Number	Goal / Policy
Goal 1.1	Conserve, enhance, protect, maintain, and manage vegetative, water, fish and wildlife resources.
Goal 1.2	Protect sensitive habitats: Protect sensitive habitats from reduction in size or degradation of the conditions necessary for their maintenance.
Policy 1.21	Importance of sensitive habitats: Consider areas designated as sensitive habitats as a priority resource requiring protection.
Policy 1.23	Regulate Development to Protect Vegetative, Water, Fish and Wildlife Resources: a. Regulate land uses and development activities to prevent, and if infeasible mitigate to the extent possible, significant adverse impacts on vegetative, water, fish and wildlife resources. b. Place a priority on the managed use and protection of vegetative, water, fish and wildlife resources in rural areas of the County.
Policy 1.24	Regulate Location, Density and Design of Development to Protect Vegetative, Water, Fish and Wildlife Resources: Regulate the location, density and design of development to minimize significant adverse impacts and encourage enhancement of vegetative, water, fish and wildlife resources.
Policy 1.25	Protect Vegetative Resources: Ensure that development will: (1) minimize the removal of vegetative resources and/or; (2) protect vegetation which enhances microclimate, stabilizes slopes or reduces surface water runoff, erosion or sedimentation; and/or (3) protect historic and scenic trees.
Policy 1.26	Protect Water Resources: Ensure that development will: (1) minimize the alteration of natural water bodies, (2) maintain adequate stream flows and water quality for vegetative, fish and wildlife habitats; (3) maintain and improve, if possible, the quality of groundwater basins and recharge areas; and (4) prevent to the greatest extent possible the depletion of groundwater resources.
Policy 1.27	Protect Fish and Wildlife Resources: Ensure that development will minimize the disruption of fish and wildlife and their habitats.
Policy 1.28	Regulate Development to Protect Sensitive Habitats: Regulate land uses and development activities within and adjacent to sensitive habitats in order to protect critical vegetative, water, fish and wildlife resources; protect rare, endangered, and unique plants and animals from reduction in their range or degradation of their environment; and protect and maintain the biological productivity of important plant and animal habitats.
Policy 1.29	Establish Buffer Zones a. Establish necessary buffer zones adjacent to sensitive habitats which include areas that directly affect the natural conditions in the habitats and areas expected to experience changing vulnerabilities due to impacts of climate change. b. As part of Countywide efforts to foster resilience and adapt to impacts of climate changes, establish wildlife corridors in appropriate locations to maintain a functional network of connected wildlands, to support native biodiversity, and to encourage movement of wildlife species.
Policy 1.30	Uses Permitted in Sensitive Habitats: Within sensitive habitats, permit only those land uses and development activities that are compatible with the protection of sensitive habitats, such as fish and wildlife management activities, nature education and research, trails and scenic overlooks and, at a minimum level, necessary public service and private infrastructure.

Policy 1.31	Uses Permitted in Buffer Zones: Within buffer zones adjacent to sensitive habitats, permit the following land uses and development activities: (1) land uses and activities which are compatible with the protection of sensitive habitats, such as fish and wildlife management activities, nature education and research, trails and scenic overlooks, and at a minimum level, necessary public and private infrastructure; (2) land uses which are compatible with the surrounding land uses and will mitigate their impact by enhancing or replacing sensitive habitats; and (3) if no feasible alternative exists, land uses which are compatible with the surrounding land uses.
Policy 1.32	Regulate the Location, Siting and Design of Development in Sensitive Habitats: Regulate the location, siting and design of development in sensitive habitats and buffer zones to minimize to the greatest extent possible adverse impacts, and enhance positive impacts.
Policy 1.33	Performance Criteria and Development Standards: Establish performance criteria and development standards for development permitted within sensitive habitats and buffer zones, to prevent and if infeasible mitigate to the extent possible significant negative impacts, and to enhance positive impacts.

(15) Umbellularia californica - California Bay or Laurel with a single stem or multiple stems touching each other 4 1/2 feet above the ground of more than 48 inches in d.b.h., or clumps visibly connected above ground with a basal area of 20 square feet measured 4 1/2 feet above average ground level.
(16) Torreya californica - California Nutmeg of more than 30 inches in d.b.h.
17) Sequoia sempervirens - Redwood of more than 84 inches in d.b.h. west of Skyline Boulevard or 72 inches d.b.h. east of Skyline Boulevard.

No trees on the site have been designated a Heritage Tree by the Board of Supervisors under the Class 1 criterion. Numerous trees in the vicinity of proposed construction meet the minimum trunk diameter criterion under Class 2 of the County's Heritage Tree Ordinance. These are mapped in the attached Project Site Plans.

On September 20, 2016, San Mateo County Board of Supervisors adopted additional amendments to the Significant and Heritage Tree Ordinances. The changes include a provision for an Existing Tree Plan and also a Tree Protection Plan for development or grading that has the potential to impact site trees. The proposed Project will need to comply with these newly adopted rules.

IMPACT ANALYSIS

Project Controls

The proposed Project involves rebuilding an existing bridge and construct a new bridge over Peter's Creek, with related roadway and trail access improvements. These bridges would be part of an access improvement program that allows for safe and low impact access to the property as well as the adjacent State Park lands and trails. As summarized above in the Introduction and Summary, the proposed Project would be timed during the dry period when stream flows are lowest and is estimated to take two years to complete. Temporary coffer dams (see attached **Project Tree Removal and Construction Site Plans**) would be installed and any stream flows diverted into a gravity diversion pipe to allow dewatering of the construction reaches at both bridge locations. A third smaller creek diversion/exclusion dam would be needed at the base of the bank where the

access road to Bridge 2 would be temporarily widened. Design for this feature would ultimately be the responsibility of the building contractor but this area would be isolated from the active creek flow to avoid affecting water quality and aquatic habitat.

The Project contractor will implement standard Project Controls to avoid and minimize potential adverse effects of the proposed Project. These Project Controls would serve to minimize disturbance to regulated waters and provide for their protection and enhancement, confirm absence of any special-status species and nesting birds within the construction zone, train works on the presence of regulated waters and other sensitive resources, monitor construction progress to ensure adequate controls are in place, and define methods to minimize potential adverse effects on downstream waters. These consist of the following Project Controls which would collectively serve to avoid or minimize potential adverse effects and reduce most of the potential impacts of the proposed Project to a less than significant level, as discussed in detail below.

Project Control BIO-1: Minimize Disturbance to Regulated Waters and Restore Areas Disturbed by Project. *Appropriate measures shall be taken to minimize impacts on regulated waters and provide for restoration of disturbed areas as part of the Project. This shall include the following:*

- *In-channel construction activities shall be scheduled to minimize disturbance to surface waters and seasonal aquatic habitat. No work shall be performed within 24 hours of projected rainfall events.*
- *A worker training shall be conducted by a qualified biologist prior to starting work on the Project to explain the presence of regulated waters, the need to limit construction-related disturbance, and explain repercussions for violations. A record of all personnel trained during the project shall be maintained for compliance verification.*
- *Once the preconstruction clearance surveys have been performed as called for in **Project Control BIO-3**, the qualified biologist shall train the on-site monitor (such as the construction foreman) in procedures to follow as part of construction monitoring, including supervising the construction crew to ensure compliance. The qualified biologist shall visit the site at least once a week during construction and confer with the trained on-site monitor that the project is in compliance.*
- *Areas disturbed by construction access into the Peters Creek channel shall be restored to predisturbance conditions. All material used as part of the temporary coffer dam system for dewatering shall be removed, cobble reinstalled, and banks seeded with indigenous native grasses and forbs to the Study Area to control erosion.*
- *The qualified biologist or other specialist shall provide post-construction monitoring to confirm that improvements have been successfully installed and maintained, consistent with any conditions specified in the regulatory agency authorizations described in **Project Control BIO-6**.*

Project Control BIO-2: Minimize Damage and Loss to Trees. *Appropriate measures shall be taken to minimize tree removal, protect trees to be retained from construction-related damage, and provide for replacement where avoidance is not feasible. This shall include the following:*

- *A certified arborist shall determine appropriate protective measures to be implemented during construction. This shall include accurately mapping root protection zones and identifying other specific measures that would limit potential indirect impacts on trees to be retained such as installation of protective fencing consistent with the County's tree*

protection measures. Tree protection measures shall be maintained throughout the duration of Project construction.

- *Construction drawings shall depict areas to be avoided such as tree trunks and root protection zones and shall indicate the location of protective fencing recommended by the certified arborist.*
- *If any large roots or large masses of roots need to be cut, the roots shall be inspected by the certified arborist or forester prior to cutting. Any root cutting shall be undertaken by the arborist or forester and documented. Roots to be cut shall be severed cleanly with a saw or toppers.*
- *If pruning is necessary, pruning should be overseen by the certified arborist or forester to clean and raise canopy per International Society of Arboriculture pruning standards.*
- *If trimming or removal of significant or heritage trees cannot be avoided, a permit shall be secured from the County to trim or remove qualifying trees. The permit application process requires an Existing Tree Plan be prepared and an Arborists Report that assesses tree health and provides tree protection measures which may be incorporated into a Tree Protection Plan for trees that could be indirectly affected by work in their immediate vicinity.*
- *Trees identified for removal measuring 12 inches DBH or greater shall be replaced at a 3:1 ratio (replacement trees to removed trees) with the same species removed within the immediate vicinity of the removal location using at least a 5-gallon stock. Trees identified for removal measuring less than 12 inches DBH shall be replaced at a ratio of 1:1 (replacement trees to removed trees). Replacement trees shall be monitored at least once a year for at least five years or longer, concurrent with restored areas of riparian habitat or wetlands, if applicable.*

Project Control BIO-3: Avoidance of Special-Status Species. *Appropriate measures shall be taken to prevent inadvertent take of California red-legged frog (CRLF), foothill yellow-legged frog (FYLF), California giant salamander (CGS), Santa Cruz black salamander (SCBS), western pond turtle (WPT), red-bellied newt (RBN), steelhead, nesting birds and other wildlife during construction. In addition to the avoidance of active nest called for in* ***Project Control BIO-4****, this shall include the following:*

- *A qualified biologist shall be retained to oversee construction and ensure that no inadvertent take of special-status species occurs as a result of construction and other habitat modifications to the Study Area.*
- *The qualified biologist shall oversee construction, conduct preconstruction clearance surveys for nesting birds and focused species, and train workers over the regulations related to wetlands and special-status species, and the possible risk of inadvertent take in advance of construction.*
- *The worker training shall be conducted prior to starting work on the Project and upon the arrival of any new worker. The training program shall include a brief review of locations of sensitive areas, possible fines for violations, Project Controls to be implemented, and summary of environmental permits and regulatory compliance requirements. In addition, a record of all personnel trained during the project shall be maintained for compliance verification.*
- *All construction workers shall be instructed that focal special-status are to be avoided, that the foreman must be notified if a suspected species of concern is seen, and that construction shall be halted until the qualified biologist arrives and makes a determination*

on possible presence. If any special-status species are encountered within the excluded work zone, construction shall be halted until the individual(s) disperse naturally for State and federally-listed species unless explicitly authorized by the USFWS and CDFW through issuance of an Incidental Take Permit (ITP) or are relocated outside the construction zone for non-listed species. Construction shall not proceed until adequate measures are taken to prevent dispersal of any individuals into the construction zone, as directed by the USFWS and CDFW. The specific methods for handling amphibians or reptiles and decontamination shall follow latest protocols from the USFWS. These protocols describe field equipment maintenance, disinfection, and field hygiene procedures designed to minimize potential spread of pathogens when handling amphibians or reptiles.

- *Once preconstruction surveys have been conducted, the qualified biologist shall train the on-site monitor (such as the construction foreman) in how to identify target special-status species and procedures to follow as part of construction monitoring for the duration of construction. The qualified biologist shall visit the site at least once a week during construction and confer with the trained on-site monitor.*
- *Project work areas will be monitored by a qualified biologist during exclusion fence installation and ground disturbing activities to identify, capture, and relocate non-listed sensitive amphibians (CGS, SCBS, WPT, or RBN) if found, and halt or observe work in the vicinity of CRLF and FYLF if encountered onsite. The qualified biologist shall have the authority to stop construction activities and develop alternative work practices, in consultation with construction personnel and resource agencies (as appropriate), if construction activities are likely to affect special-status species or other sensitive biological resources.*
- *Temporary exclusion fencing shall be installed around key project boundaries, including areas where ground disturbance will occur adjacent to Peters Creek, segments of the access road to be modified, and around all project staging and laydown areas. Fencing shall be installed immediately prior to the start of construction activities under the supervision of a qualified biologist who will perform monitoring on a daily basis for the first week of construction. After the first week of construction and following training by the qualified biologist, the on-site monitor shall ensure that the temporary exclusion fencing is continuously maintained until all construction activities are completed. The on-site monitor shall perform daily visual inspections of the fence for any amphibians or reptiles that may get stuck by the fence. The fencing shall be of a material that meets CDFW standards for species exclusion, a minimum height of 3 feet above ground surface, with an additional 4 to 6 inches of fence material buried such that species cannot crawl under the fence and shall include escape funnels to allow species to exit the work areas.*
- *Dewatering of construction reaches within the Peters Creek channel shall be overseen by the qualified biologist and aquatic life within the dewatered areas shall be relocated to nearby suitable habitat. A second preconstruction survey shall be performed by the qualified biologist before construction equipment is allowed to enter the dewatered reaches of Peters Creek, to confirm absence of any special-status species of concern and other aquatic wildlife.*
- *All excavations of a depth of 8 inches or greater shall be either backfilled at the end of each workday, covered with heavy metal plates, or escape ramps shall be installed at a 3:1 grade to allow wildlife that fall in a means to escape.*
- *Use of monofilament plastic for erosion control or other practices shall be prohibited on the site to prevent possible entrainment.*

- *The contractor shall provide wildlife-proof (closed) garbage containers for the disposal of all food-related trash items. All food waste shall be removed daily from the site to avoid attracting predators. Construction personnel shall not feed or otherwise attract fish or wildlife to the Study Area.*
- *Subsequent recommendations made by the USFWS and CDFW shall be followed. Only an agency-approved biologist is allowed to handle or otherwise direct movement of listed special-status species, including CRLF, FYLF, and all others shall not handle or otherwise harass the animals. The qualified biologist and the on-site monitor shall be aware of all terms and conditions set by USFWS and CDFW for the Project.*

Project Control BIO-4: Avoidance of Bird Nests in Active Use. *Adequate measures shall be taken to avoid inadvertent take of bird nests protected under the federal Migratory Bird Treaty Act and State Fish and Game Code when in active use. This shall be accomplished by taking the following steps.*

- *If initial grubbing and tree removal is proposed during the nesting season (February 1 to August 31), a focused survey for nesting raptors and other migratory birds shall be conducted by a qualified biologist within 7 days prior to the onset of construction in order to determine whether any active nests are present in the Study Area and surrounding area within 300 feet of proposed construction. The survey shall be reconducted any time construction has been delayed or curtailed for more than 7 days during the nesting season.*
- *Typical credentials for a qualified biologist include a minimum of four years of academic training and professional experience in biological sciences and related resource management activities, and a minimum of two years of experience conducting surveys for each species that may be present within the Study Area.*
- *If no active nests are identified during the construction survey period, or construction is initiated during the non-breeding season (September 1 to January 31), then construction may proceed with no restrictions.*
- *If it is determined that construction may affect an active nest, the qualified biologist shall establish a no-disturbance buffer around the nest(s) and all construction activities restricted within the buffer until a qualified biologist determines the nest is no longer in use. Required setback distances for the no-disturbance buffer zone shall be based on input received from the CDFW, and the setback may vary depending on species and sensitivity to disturbance. As necessary, the no-disturbance zone shall be fenced with temporary orange construction fencing if construction is to be initiated elsewhere in the Study Area. Typically, these buffer distances are 250 feet for passerines and 500 feet for raptors; however, the buffers may be adjusted if topography or other obstructions block the line-of-sight between the nest and the construction area. For bird species that are federally and/or State-listed sensitive species (i.e., fully protected, endangered, threatened, species of special concern), the qualified biologist shall coordinate with CDFW (and USFWS for FESA–protected species nests such as MAMU) regarding modifying nest buffers, prohibiting construction within the buffer, and modifying construction activities.*
- *Modifying nest buffer distances, allowing certain construction activities within the buffer, and/or modifying construction methods in proximity to active nests for non-listed species shall be done at the discretion of the qualified biologist. Any work that must occur within established no-disturbance buffers around active nests shall be monitored by a qualified biologist. If adverse effects in response to construction activities within the buffer are observed and could compromise the nest viability, work within the no-disturbance buffer(s)*

shall be modified as directed by the qualified biologist or halt until the nest occupants have fledged if monitoring indicates continued disturbance to the active nest.

- *Any birds that begin nesting within the Project site and survey buffers amid construction activities shall be assumed to be habituated to construction-related or similar noise and disturbance levels and no work exclusion zones shall be established around active nests in these cases; however, should birds nesting nearby begin to show signs of disturbance associated with construction activities, then no-disturbance buffers shall be established as determined by the qualified wildlife biologist.*
- *A report of findings shall be prepared by the qualified biologist and submitted to the County for review and approval prior to initiation of construction during the nesting season (February 1 to August 31). The report shall either confirm absence of any active nests or should confirm that any young are located within a designated no-disturbance zone and construction can proceed. No report of findings is required if construction is initiated during the non-nesting season (September 1 to January 31) and continues uninterrupted according to the above criteria.*

Project Control BIO-5 Construction Restrictions to Protect Wildlife. *The following restrictions shall be implemented to avoid adversely affecting sensitive habitats and harm or harassment to wildlife during construction:*

- *A speed limit of 5 miles per hour (mph) in the Study Area shall be followed by all construction equipment and vehicles.*
- *Access routes and the number and size of staging and work areas shall be limited to the minimum necessary to construct the proposed project. Routes and boundaries of staging areas and access shall be clearly marked prior to initiating construction or installation.*
- *All food and food-related trash items shall be enclosed in sealed trash containers and removed completely from the Study Area at the end of each day.*
- *No pets from project personnel shall be allowed anywhere in the Study Area during construction.*
- *All equipment shall be maintained such that there will be no leaks of automotive fluids such as gasoline, oils or solvents and a Spill Response Plan shall be prepared. Hazardous materials such as fuels, oils, solvents, etc. shall be stored in sealable containers in a designated location that is at least 100 ft from wetlands and aquatic habitats.*
- *Servicing of vehicles and construction equipment including fueling, cleaning, and maintenance shall occur at designated locations away from regulated waters and other sensitive habitats. Staging areas may occur closer to the project activities as required.*
- *The spread of invasive non-native plant species and plant pathogens shall be avoided or minimized. Construction equipment shall arrive at the Project site clean and free of soil, seed, and plant parts to reduce the likelihood of introducing new weed species. Any imported fill material, soil amendments, gravel, or other materials required for construction and/or restoration activities that will be placed within the upper 12 inches of the ground surface shall be free of vegetation and plant material. Certified weed-free imported erosion control materials (or rice straw in upland areas) shall be used exclusively, if possible.*

Project Control BIO-6: Obtaining Agency Authorizations. *The applicant shall obtain required authorizations from the Corps, RWQCB and CDFW for modifications to regulated waters associated with the Study Area. This includes a Section 404 Permit from the Corps, a*

Section 401 Certification from the RWQCB, and a Streambed Alteration Agreement from the CDFW. The applicant shall obtain all legally required permits or other authorizations from the USFWS and CDFW for the potential "take" of species protected under the Endangered Species Acts, if required. All conditions and measures contained in the regulatory agency authorizations shall be implemented as part of the Project.

Significance Criteria

The following provides an environmental review of the proposed Project using the California Environmental Quality Act (CEQA) Significance Criteria from Appendix G of the CEQA Guidelines.

Resource Category/Significance Criteria	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
BIOLOGICAL RESOURCES. Would the Project:				
1) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	X	☐	☐
2) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	☐	☐	X	☐
3) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☐	X	☐
4) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☐	X	☐
5) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	X	☐
6) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan or other approved local, regional, or state habitat conservation plan?	☐	☐	☐	X

Resource Category/Significance Criteria	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact

Discussion

1) **Less than Significant Impact with Mitigation Incorporated.**

The proposed Project has the potential to adversely affect a number of special-status species, in particular MAMU which the SR has confirmed nests in the Study Area vicinity. There is also a possibility that individuals of a number of other special-status animal species could be present within the construction zone and could be injured or inadvertently taken during project implementation. This includes the remote potential for presence of individual California red-legged frog, foothill yellow-legged frog, California giant salamander, Santa Cruz black salamander, western pond turtle, red-bellied newt, and steelhead, among others. Finally, there remains a remote possibility that a number of special-status plant species could be adversely affected by construction-related disturbance if present within the limits of grading and vegetation removal. Further assessment of these potential impacts on special-status species are summarized as follows.

MAMU

As indicated by the results in the HA and RA, the Study Area is considered occupied habitat for MAMU, and critical habitat has been designated for the Portola State Parks lands just upstream of the Project site. Up to 20 native trees would be removed to accommodate equipment access and new bridge construction proposed as part of the Project, ranging in diameter from 4 to 35 inches DBH. None of these trees are of large enough size to serve as important roosting or potential nesting locations for MAMU, and due to the density and extent of redwood forest and old growth redwood forest stands in the Study Area vicinity, their removal would not substantially degrade the habitat value of the forest for MAMU. Project impacts on the redwood forest sensitive natural community are further discussed in response to Significance Criterion 2, below.

However, vegetation removal, grading, equipment operation and increased human disturbance could contribute to visual or auditory harassment of MAMU occupied nests. Increased noise and visual disturbance associated with construction could disrupt nesting efforts by MAMU in the forest habitat surrounding the Project construction areas. The loss of an active nest occupied by MAMU and other bird species as a result of Project implementation would be a significant impact. Moreover, disruption of nesting migratory or native birds is not permitted under California Fish and Game Code of the MBTA, as it would constitute unauthorized take, as discussed further below under Other Nesting Birds.

In accordance with the Endangered Species Act, the USFWS published the *Marbled Murrelet Recovery Plan*[14] to promote the survival and recovery of MAMU populations in California, Oregon and Washington. Several procedures have been identified in the Recovery Plan to reduce human-related disturbance in occupied MAMU nesting habitat, including: a) scheduling the timing of human-caused disturbances in nesting habitat to occur outside the breeding season, b) reducing the level of direct disturbance of nests by human presence during the breeding season, c) reducing the numbers of nest predators (i.e., mainly corvids) in areas with human disturbance during the breeding season, and d) reducing the unnatural attraction of predators to specific forest areas (with human disturbance) during the breeding season.

[14] USFWS, 1997, Recovery Plan for the Threatened Marbled Murrelet (*Brachyramphus marmoratus*) in Washington, Oregon, and California. Portland, Oregon

The USFWS has issued guidance (USFWS Guidance)[15] on estimating effects of auditory and visual disturbance that would be considered harassment and possible take of MAMU and northern spotted owl. The USFWS Guidance was developed to provide consistent and reasonable determinations of effects for activities in or near suitable habitat within Northwestern California north of the Russian River watershed, but provides the most definitive information available regarding anthropomorphic effects on MAMU nesting habitat and remains applicable to populations in San Mateo County as well. The USFWS Guidance describes harassment-induced behavior (e.g., adult flushing from a nest during incubation or abandoning feeding attempts) that are typically observed when a) the project-generated sound level substantially exceeds ambient nesting conditions (i.e., by 20-25 decibel [dB] or more); b) when the total sound level from both ambient and project-generated sources is very high (i.e., exceeds 90 dB); or c) when visual proximity of human activities occurs within a visual line-of-sight of 330 feet or less from a nest.

Project-induced auditory disturbance generated by certain types of construction activities has a greater potential to result in adverse effects on nesting MAMU behavior. Using definitions taken from the USFWS Guidance, a conservative estimate of the ambient noise level for the Study Area is "Very Low" (between 50-60 dB), based on its location in undeveloped forest habitat located a considerable distance from the closest roadways, residences and park facilities expected to generate noise on a regular basis. Noise levels during Project-related construction are expected to reach up to 90 dB or more during use of certain equipment, which the USFWS Guidance classifies as "High" (81-90 dB). An increase of 25 dB or more above ambient noise conditions during construction could influence behavior of individual MAMU to a degree considered harassment depending on distance to the closest nest tree and degree to which dense vegetation and topography could attenuate the Project-generated noise disturbance. The HA and SR did not map nest tree locations in the Study Area, so the distance and conditions between Project construction areas and nests is currently unknown. But these could change in advance of construction, even if past nest trees were identified as part of future surveys. From a conservative standpoint, it is reasonable to assume that noise generated during Project construction could have a significant impact on occupied MAMU nesting habitat.

One of the methods used to address noise disturbance associated with recent construction of facility improvements at San Mateo Memorial Park, located downstream of the Study Area along the Pescadero Creek, was to develop and implement a "noise deterrent system".[16] As described by the Natural Resource Manager with San Mateo County Parks, the noise deterrent system used at Memorial Park created a temporary artificial source of noise in advance of the MAMU nesting season, so that any individual MAMU establishing nesting territories in the vicinity of construction that year were already exposed to noise levels comparable to those generated by construction, were less likely to be disturbed when construction activities were initiated later in the season, and became acclimated to the higher "ambient" noise levels from the artificial noise source. The artificial noise was generated starting one hour before sunset and continuing until one hour after sunset from March through May, at which time construction of facility improvements at Memorial Park had been initiated. The noise deterrent system reportedly addressed the potential impact of temporary construction-generated noise and allowed the work schedule to proceed during the MAMU nesting season. Used of a similar noise deterrent system for the proposed Project at Peters Creek would require review and approval by USFWS, but appears to be feasible from a technical

[15] USFWS, 2020, Estimating the Effects of Auditory and Visual Disturbance to Northern Spotted Owls and Marbled Murrelets in Northwestern California, October 1.

[16] Ormshaw, Hannah, 2021, Ormshaw, Hannah, Natural Resource Manager, San Mateo County Parks, 2021, personal communication with James Martin, Environmental Collaborative, on August 13.

standpoint.

With regard to increased use of the trail system along Peters Creek, MAMU individuals nesting in the Study Area are already acclimated to limited human activity associated with trail use in Portola State Park and the existing bridge and roadway through the Project site. Constructing the new bridges and formalizing the trail segment through the Study Area may increase the use of this trail system by humans, as well as public access to the portion of Portola State Park in the upper Peters Creek watershed, which could contribute to an increase in indirect effects on MAMU nesting success. In particular, the increased human activity could increase the numbers of Steller's jay and other bird species known to predate on MAMU. This could be a potentially significant indirect effect on MAMU habitat suitability in the Study Area unless carefully managed and controlled, as called for in the mitigation below.

Recommendation: The potential for significant disturbance or inadvertent take of nesting MAMU as a result of Project implementation could be minimized by adhering to a number of construction restrictions, noise attenuation measures, and adherence to post-construction management strategies. Implementation of **Project Control BIO-4: Avoidance of Bird Nests in Active Use** would ensure compliance State and federal regulations that require avoidance of active bird nests. Additional measures and controls would likely be developed and refined as part of the consultation process with the USFWS. Together with the following measures, these would mitigate potentially significant impacts on MAMU nesting habitat to a level of less-than-significant.

> **Mitigation Measure BIO-1a: MAMU Nesting Habitat Avoidance**. Appropriate measures shall be taken to mitigate potential adverse impacts on MAMU nesting in proximity to the Project improvements. This shall be accomplished through implementation of the following measures:
>
> **Restrictions on Tree Removal**:
>
> 1. Tree removal and trimming required by the Project shall occur outside of the MAMU breeding season (April 1 to September 15) to minimize disturbance to MAMU nesting.
> 2. Trees identified for removal under the Project shall first be assessed for suitability as MAMU nesting trees by a qualified wildlife biologist. Typical credentials for a qualified biologist include a minimum of four years of academic training and professional experience in biological sciences and related resource management activities, and a minimum of two years of experience conducting surveys for MAMU.
> 3. Trees determined to have suitable elements for nesting by MAMU will be retained under the Project, if feasible. If a suitable nest tree(s) cannot be retained as part of the Project, the qualified biologist shall coordinate with the USFWS removal of a potential MAMU nest tree from occupied habitat and shall identify additional measures to address this loss. This may include follow-up monitoring of nest activity in the area to provide additional data on MAMU use of the Study Area, or other measures considered appropriate by the USFWS.
>
> **Preconstruction Surveys**
>
> 4. Prior to initiation of construction during the MAMU nesting season, the qualified biologist shall conduct a preconstruction survey to determine whether any active MAMU nests are located within line-of-sight of proposed Project construction activities. This preconstruction survey may be conducted as part of the larger preconstruction survey for active nests of other bird species called for in **Project Control BIO-4.**

5. If active MAMU nests are discovered where visual disturbance from Project construction activities may result in harassment or take, the qualified biologist shall monitor the nest location and identify any additional construction control measures in consultation with the USFWS as part of the MAMU Nest Avoidance Program called for below. These may include restrictions on the timing of disruptive construction activities within line-of-sight of the active nest until the nest is no longer in use as determined by the qualified biologist, at which time construction may proceed at this location without additional MAMU restrictions. Nest monitoring frequency shall be determined by the qualified biologist on a nest-by-nest basis considering the particular construction activity, duration, and proximity to the nest.
6. The qualified biologist may revise their construction-restriction determinations at any time during the nesting season, including applying additional restrictions if considered necessary to prevent harassment or take.

Project Construction Activities:

7. The qualified biologist shall evaluate the schedule of Project construction, identify any activities associated with the Project that could affect active MAMU nests, and develop a MAMU Nest Avoidance Program (NAP) in consultation with the USFWS that addresses any potential harassment or take.
8. An artificial noise deterrent system shall be developed and implemented as appropriate to acclimate individual MAMU that could be establishing new nests in the Project vicinity to construction activities. The artificial noise deterrent system shall be operating starting one hour before sunset and continuing until one hour after sunset from March through May, or until Project construction activities generating high noise levels have been initiated, whichever is later in the year.
9. Project activities which produce noise levels between 70 dB and 90 dB shall be restricted to between two-hours after sunrise and two-hours before sunset during the MAMU breeding season. Project activities which produce noise levels of 91 dB or greater shall be prohibited during MAMU breeding season.
10. Construction control measures determined necessary during the preconstruction surveys shall also be implemented as part of the MAMU NAP.
11. Construction practices called for in **Project Control BIO-5 Construction Restrictions to Protect Wildlife** shall be implemented to minimize disturbance to MAMU habitat and avoid attracting additional predators.

Post Construction Monitoring and Management

12. Appropriate management practices shall be implemented as part of future trail use to minimize any adverse effects on MAMU habitat in the Study Area. This shall include installation of interpretive signage defining restrictions on visitor behavior during the MAMU breeding season, packing out all trash to avoid attracting additional MAMU predators, and a prohibition of pets on the trail system.
13. Conduct follow-up monitoring of MAMU nest activity in the Study Area by a qualified biologist for a minimum of five years to provide additional data on MAMU use.

Other Nesting Birds

Although no signs of active nests were observed during the field reconnaissance survey, there is a possibility that nests of other native bird species protected under the MBTA and State Fish and Game code could be established in advance of construction and be inadvertently disturbed or lost while eggs or young are present. If construction is initiated during the bird nesting season (February through August 31), vegetation removal, grading, equipment operation, and increased

human activity could lead to destruction or abandonment of the active nest. This includes the loss or disruption of both special-status bird species recognized as SSC by CDFW such as long-eared owl, and more common species great horned owl, Cooper's hawk, sharp-shinned hawk, other raptors and passerine species.

Prevention of impacts to active nests is required under federal and California law. Implementation of **Project Control BIO-4: Avoidance of Bird Nests in Active Use** would ensure compliance State and federal regulations that require avoidance of active bird nests. This compliance would be achieved by limiting removal of vegetation (including trees) to periods outside of the bird nesting season, to the extent feasible, conducting pre-construction nesting bird surveys to identify active nests, and establishing no work buffer zones around active nests identified on or near proposed construction areas. Through adherence to **Project Control BIO-4**, the Project would not have a significant impact on nesting birds. Additional consultation with the USFWS would be necessary to address potential impacts on nesting MAMU as discussed above, which may include additional avoidance measures and monitoring.

Other Special-Status Animal Species

Standard construction avoidance practices to prevent take include conducting preconstruction surveys, training workers over the potential presence of this species, and monitoring the construction zone. **Project Control BIO3: Avoidance of Special-Status Species** calls for a qualified biologist to conduct preconstruction clearance surveys to confirm that special-status species are absent from the construction zone, train workers about the possible presence of their presence, and perform follow-up surveys to confirm no species are present following dewatering of the Peters Creek channel prior to in-water construction activities, and ensure that work is performed in compliance with regulatory agency authorizations. **Project Control BIO-4: Avoidance of Bird Nests in Active Use** would ensure compliance State and federal regulations that require avoidance of active bird nests. **Project Control BIO-6: Obtaining Agency Authorizations** requires that appropriate authorizations from regulatory agencies are secured prior to initiating construction, and that all conditions be complied with as part of the Project. Other Project Controls would address construction-related risks from vehicle collisions, attracting predators from trash left by workers, entrainment on monofilament plastic, and injury or death from pets of workers, among other measures. These Project Controls would serve to ensure that no inadvertent take of most special-status animal species occurs as a result of project implementation and no additional mitigation is considered necessary to address potential impacts on these species.

Special-Status Plant Species

There is a remote potential that several special-status plant species are present in the Study Area and could be affected by vegetation removal, grading and other disturbance associated with the proposed Project, including minute pocket moss, Dudley's lousewort, and white-flowered rein orchid. No populations were observed within the limits of disturbance during late summer field reconnaissance in 2019, but this was conducted outside the flowering period for these three species and they could have been undetectable. If present, individual plants or an entire occurrence could be inadvertently damaged or destroyed during construction. Given the status of each of these species with a CRPR rank of 1B.2, this would be a significant impact under CEQA, if occurrences are present and inadvertently lost.

Recommendation: The potential for inadvertent loss of one or more occurrences of special-status plants could be avoided by conducting confirmation surveys and providing appropriate avoidance or mitigation if present in the vicinity of proposed Project improvements. This could be accomplished

implementing the following mitigation measure, which would mitigate potentially significant impacts to a level of less-than-significant.

Mitigation Measure BIO-1b: Rare Plant Avoidance Measures. *Appropriate measures shall be undertaken to ensure avoidance of any special-status plant species or provide for mitigation where avoidance is not possible. A qualified botanist with a minimum of four years of academic training and professional experience in botanical sciences and a minimum of two years of experience conducting rare plant surveys shall conduct appropriately timed surveys for special-status plant species with a moderate or high potential to occur in the Study Area (i.e., minute pocket moss, Dudley's lousewort, and white-flowered rein orchid) in all suitable habitat that would be potentially disturbed by the Project (i.e., where vegetation removal may occur). Surveys shall be conducted following the most recent CDFW guidelines for rare plant surveys. If no special-status plants are found during focused surveys, the botanist shall document the negative survey results in a report of findings and no further mitigation will be required.*

If special-status plants are found during focused surveys, the following measures shall be implemented:

1. *Information regarding the special-status plant populations shall be reported to the CNDDB, mapped, and documented in a technical memorandum provided to the County.*
2. *If any population can be avoided during project implementation, it shall be clearly marked in the field by a qualified botanist, workers shall be trained to avoid the area(s) and avoided during construction activities. Before vegetation removal, ground clearing or ground disturbance, all on-site construction personnel shall be instructed as to the presence of this special-status species and the importance of avoiding impacts to this species and its habitat as part of the worker training called for in Project Control BIO-3.*
3. *If special-status plant populations cannot be avoided, the qualified botanist shall coordinate with CDFW on relocation of special-status plants or alternative measures. To the extent feasible, special-status plants that would be impacted by the Project shall be relocated within local suitable habitat nearby. This can be done either through salvage and transplanting or by collection and propagation of seeds or other vegetative material. Any plant relocation shall be done under the supervision of a qualified botanist or restoration ecologist and shall include a monitoring and maintenance program to verify success.*

2) **Less than Significant Impact.**

The Study Area supports a cover a mature redwood and Douglas fir forest, some of which represents old growth stands considered to be a sensitive natural community type by the CDFW. Similarly, areas of deciduous riparian woodland along the banks of Peters Creek are also considered a sensitive natural community type. Although most of the bridge and trail improvements would be located in areas that have been previously disturbed, construction access to install the two new bridges would require the removal of an estimated 20 native trees with trunk diameters of from 4 to 35 inches DBH, three of which qualify as heritage trees under the County's Heritage Tree Ordinance (see attached **Project Tree Removal and Construction Site Plans**). These consist of 13 tan oak, 4 redwood, 1 California bay, 1 big leaf maple, and 1 Douglas fir. None of the trees to be removed are large enough to be considered "old growth" or would substantially degrade the character and value of the surrounding forest habitat. Adherence to **Project Control BIO-2: Minimize Damage and Loss to Trees** would serve to minimize damage to native trees during construction and would provide for replacement where avoidance is not feasible. These controls and replacement plantings provided under **Project Control BIO-2: Minimize Damage and Loss to**

Trees would ensure compliance with the County's Significant and Heritage Tree Ordinances.

Implementation of **Project Control BIO-1: Minimize Disturbance to Regulated Waters and Provide for Revegetation** would ensure that unavoidable disturbance to regulated waters is minimized, that necessary authorizations from regulatory agencies are obtained and all conditions met, and that appropriate revegetation and habitat enhancement is implemented as part of the proposed Project. Potential impacts on sensitive natural communities would be less-than-significant.

3) **Less than Significant.**

The proposed Project involves modifications to the existing regulated waters associated with the reach of Peters Creek through the Study Area. Construction would require installation of temporary coffer dams and dewatering of the creek to allow equipment in the channel to construct the two new bridges and reinforce the bank in one location along the access road (see attached **Project Tree Removal and Construction Site Plans**). The existing crossing of the ephemeral drainage would also be modified as part of the access road improvements to Bridge 2. Collectively an estimated 3,000 SF of regulated waters below the OHWM would be temporarily disturbed to accommodate the access road, coffer dams, and other construction activities within federally regulated waters. Bridge abutments would be located above the OHWM, and indirect effects of shading from the bridges would be nominal as the new Bridge 1 would replace an existing structure of similar width and Bridge 2 would be narrow enough and suspended high enough across the creek that it should not disrupt plant growth and aquatic habitat within the active channel.

The potential impacts of the proposed Project are largely temporary in nature and involve a relatively small area, but regulated waters would be affected, and authorizations would be necessary from the Corps, RWQCB and CDFW. Appropriate measures would be taken by the construction contractor as part of the proposed Project to prevent erosion and sedimentation, degradation of downgradient waters as a result of construction activities, controls to minimize disturbance to regulated waters, and successful implementation of habitat enhancements. **Project Control BIO-1: Minimize Disturbance to Regulated Waters** would serve to minimize direct impacts to the regulated waters along Peters Creek and would serve to restore any areas disturbed by temporary construction access. Adherence to **Project Control BIO-2: Minimize Damage and Loss to Trees** would serve to minimize damage to native trees during construction and would provide for replacement where avoidance is not feasible. The replacement plantings provided under **Project Control BIO-2: Minimize Damage and Loss to Trees** would serve to address the proposed tree removal at the bridge crossings and along the access road. **Project Control BIO-6: Obtaining Agency Authorizations** requires that appropriate authorizations from regulatory agencies are secured prior to initiating construction, and that all conditions be complied with as part of the Project.

Given the small area of affected waters, that disturbance to regulated waters would be limited, and the minimization of adverse effects provided through implementation of Project Controls, potential impacts on regulated waters would be less-than-significant. Collectively, the Project Controls would serve to ensure appropriate authorizations for modifications are obtained and implemented, potential impacts are minimized, and that the habitat enhancements of the proposed Project are successful and avoid any significant adverse impacts on regulated waters or need for compensatory mitigation beyond what is proposed as part of the proposed Project.

4) **Less than Significant Impact.**

The proposed Project will not have any significant adverse impacts on wildlife movement

opportunities or adversely impact native wildlife nursery sites. Wildlife in the vicinity of the Study Area is already acclimated to human activity along the existing trail and construction-related disturbance would not cause any significant impacts on the existing wildlife habitat values. Bridge 2 would separate human disturbance in the active channel of Peters Creek, including aquatic habitat known to support a number of special-status species. Construction-related disturbance would be short-term, and the proposed Project would not substantially alter existing habitat or disrupt wildlife movement opportunities. Construction activities would occur during the dry season thereby minimizing disturbance to the active creek channel when surface flows and water are present and provide seasonal habitat to amphibians and other aquatic-dependent species. **Project Control BIO-5*:* Construction Restrictions to Protect Wildlife** would serve to avoid the possibility of adverse effects of construction on wildlife. Adherence to **Project Control BIO-2: Minimize Damage and Loss to Trees** would serve to minimize damage to native trees during construction and would provide for replacement where avoidance is not feasible. **Project Control BIO-4: Avoidance of Bird Nests in Active Use** defines steps that would be taken to ensure avoidance of any nesting birds if new nests are established in advance of construction. With the appropriate Project Controls, potential impacts on wildlife habitat and movement opportunities would be less-than-significant.

5) **Less than Significant Impact.**

Goals and policies specified in the County General Plan address the protection of sensitive biological and wetland resources. The proposed Project would include controls described above to ensure protection and restoration of any disturbance to areas of sensitive habitat such as regulated waters and bird nests in active use. No substantial conflicts with relevant policies in the County General Plan listed in **Table 1** are anticipated as a result of Project implementation.

Implementation of the proposed Project would require the removal of an estimated 20 native trees with trunk diameters of from 4 to 35 inches DBH, three of which qualify as heritage trees under the County's Heritage Tree Ordinance (see attached **Project Tree Removal and Construction Site Plans**). These consist of 13 tan oak, 4 redwood, 1 California bay, 1 big leaf maple, and 1 Douglas fir. Adherence to **Project Control BIO-2: Minimize Damage and Loss to Trees** would serve to minimize damage to native trees during construction and would provide for replacement where avoidance is not feasible. The replacement plantings provided under **Project Control BIO-2: Minimize Damage and Loss to Trees** would serve to address the proposed tree removal and no significant adverse impacts on the forest sensitive natural community types are anticipated. Implementation of **Project Control BIO-2: Minimize Damage and Loss to Trees** would ensure compliance with the County's Significant and Heritage Tree Ordinances.

6) **No Impact.**

No habitat conservation plans have been prepared addressing the Study Area or surrounding lands, and the Project would therefore not conflict with any adopted habitat conservation plans. As a result, no impact would occur.

PERSONS RESPONSIBLE FOR REPORT PREPARATION

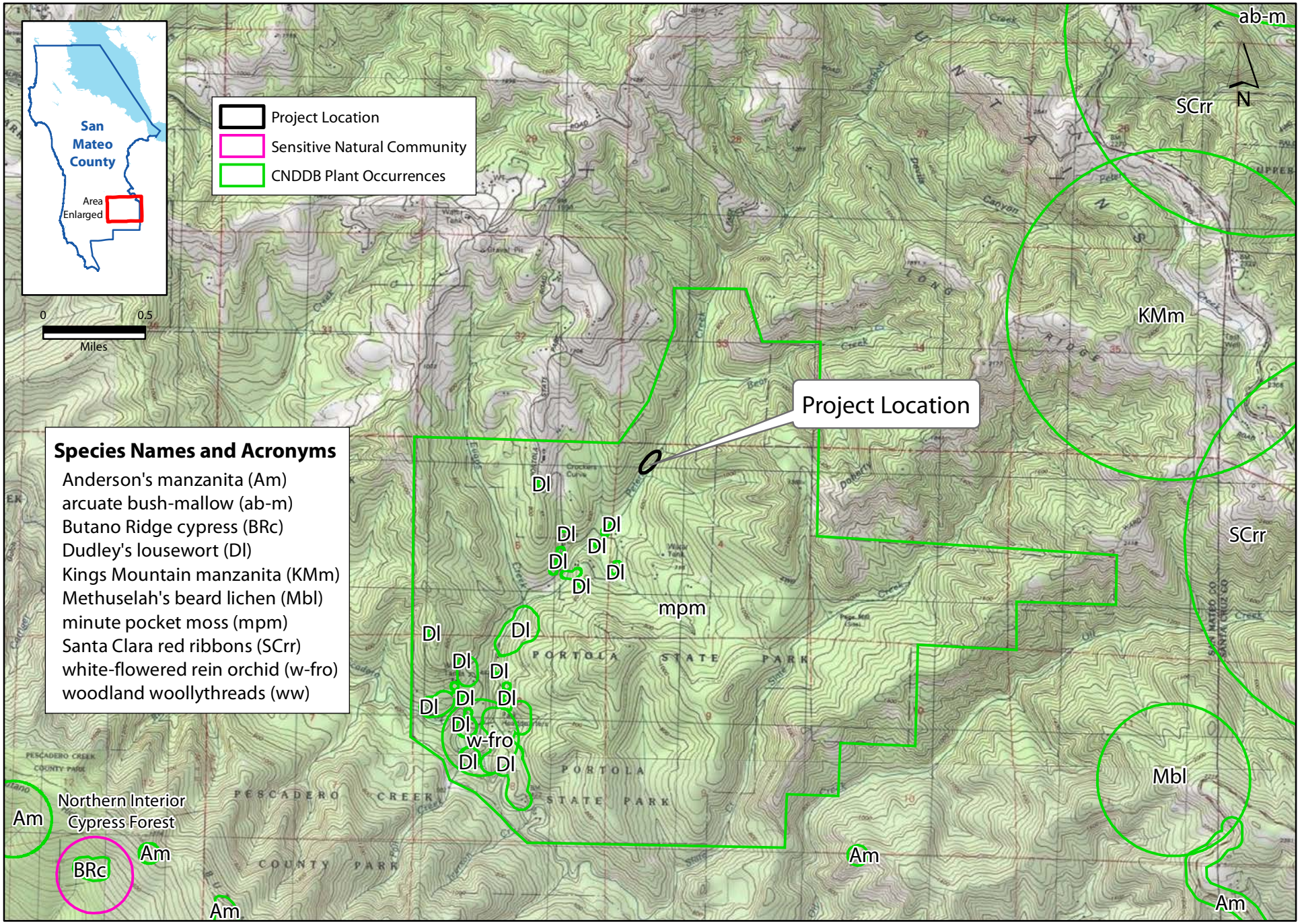
The report was prepared by Environmental Collaborative under contract to PlaceWorks. Persons involved in report preparation include the following:

Environmental Collaborative – Project Biologist
Jim Martin, Principal

Digital Mapping Solutions – GIS Mapping
Esther Mandeno, Principal

Figure 1: Special-Status Plant Species and Sensitive Natural Community

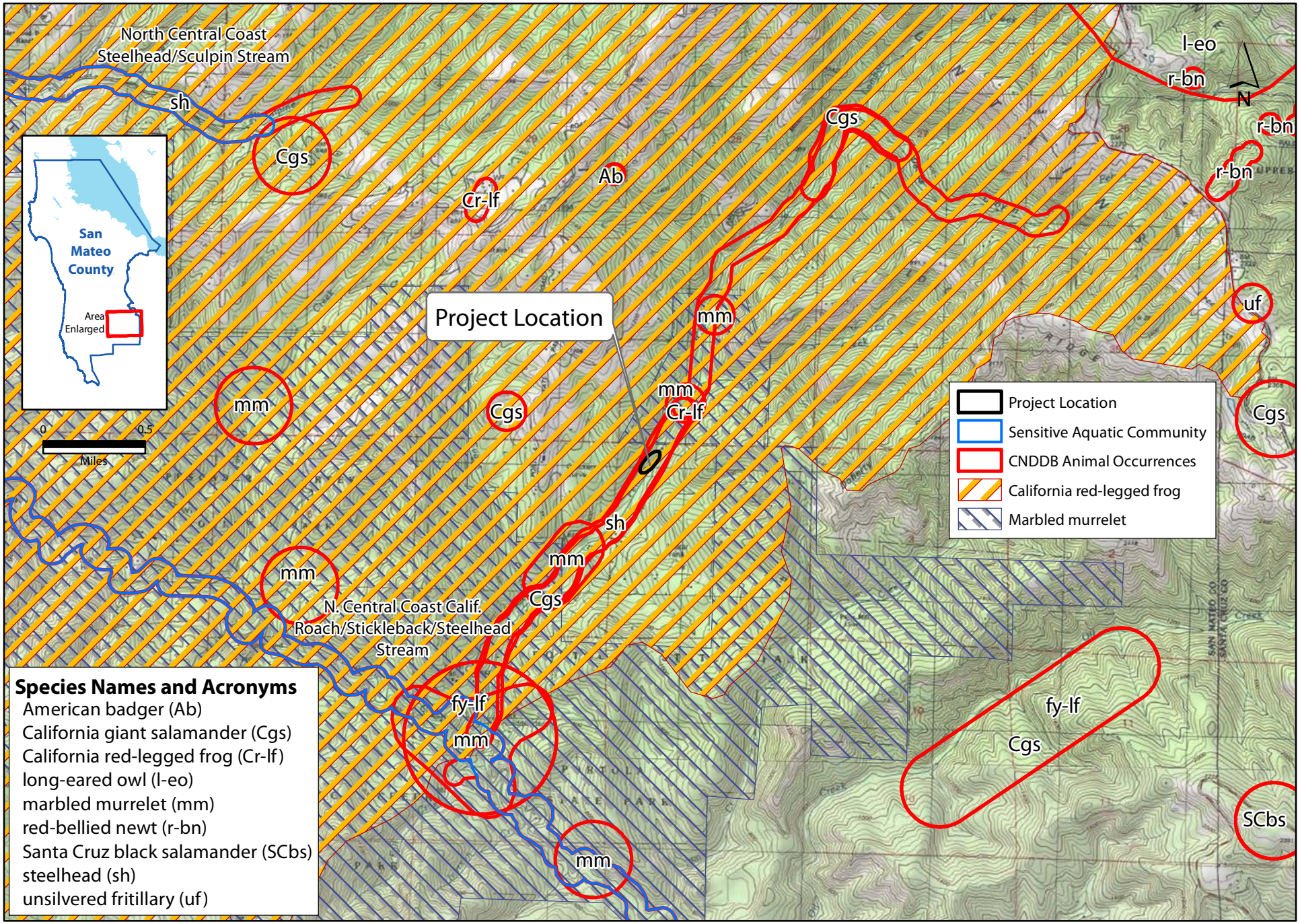
Peters Creek BRA



SOURCES: California Natural Diversity Database accessed on May 30, 2021; Service Layer Credits: Copyright:© 2013 National Geographic Society, i-cubed. Map produced by www.digitalmappingsolutions.com on 6/30/2021.

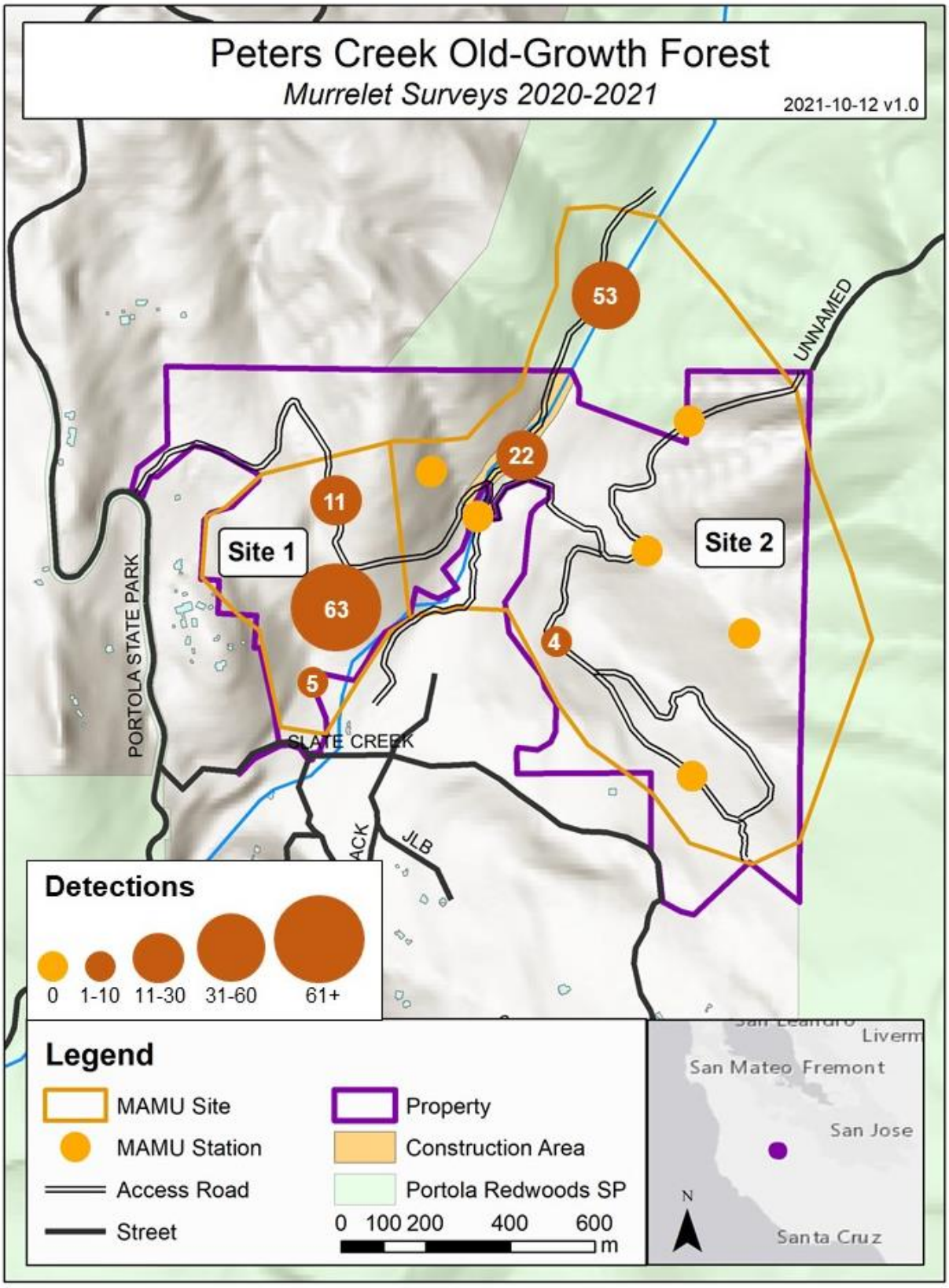
Figure 2: Special-Status Animals and Critical Habitat

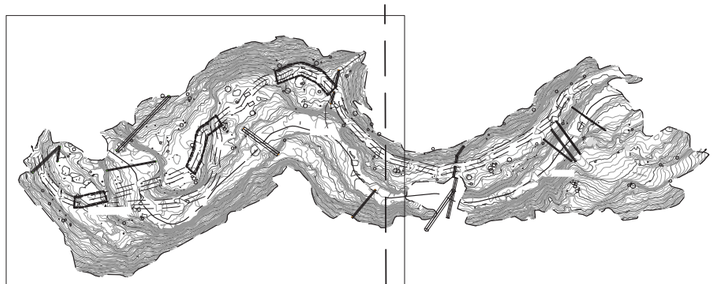
Peters Creek BRA



SOURCES: California Natural Diversity Database accessed on May 30, 2021; USFWS Critical Habitat accessed on May 18th, 2021. Service Layer Credits: Copyright:© 2013 National Geographic Society, i-cubed. Map produced by www.digitalmappingsolutions.com on 6/30/2021.

Figure 3. Murrelet detections at Peters Creek Old-Growth Forest in 2020 and 2021.





SITE OVERVIEW

LEGEND

- TREE LOCATION (DBH)
- 43" PROTECTED TREE
- 43" REMOVED TREE LOCATION DIAMETER (DBH)
- EXCLUSION / SILT FENCING
- STAGING AREA

CONSTRUCTION ACCESS ROUTE

BRIDGE 2 STAGING AREA

REMOVE EXISTING STUMP

FALLEN TREE MOVED OUT OF THE WAY

TEMPORARY COFFER DAM AND DIVERSION PIPE SEE

WATER DIVERSION

TRAIL REPAIR SHEET 6 (1)

See next sheet for these trees

SEE SHEET 5 FOR CONTINUATION

TEMPORARY ACCESS

PETER'S CREEK

TEMPORARY CONSTRUCTION ACCESS ROUTE
CREEK BED TO BE RESTORED UPON CONSTRUCTION COMPLETION

20 0 20 40
SCALE IN FEET
NTS

TREE LEGEND

- Sequoia sempervirens / Redwood
- Notholithocarpus densiflorus / Tan Oak
- Pseudotsuga menziesii / Douglas Fir
- Umbellularia californica / California Laurel
- Acer macrophyllum / Big Leaf Maple
- To be removed

Total trees to be removed: 20
Total Heritage Trees to be removed: 3

H Heritage Tree = Any bay (Umbellularia californica), buckeye (Aesculus spp.), oak (Quercus spp.), cedar (Cedrus) or redwood (Sequoia) tree that has a diameter of ten (10) inches or more measured at forty-eight (48) inches above natural grade, per San Mateo City Charter and Municipal Code, Title 13 Parks and Recreation, Chapter 13.52 Heritage Trees.

LAST SAVED: 11/18/2019 PLOT DATE: 11/18/2019 P:\2019\1900028_PORTOLA_REDWOODS_BRIDGES\CAD\MODELS\1900028_MODEL.DWG

PETER'S CREEK BRIDGES

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PETER'S CREEK BRIDGES
STAGING AND ACCESS 1
SAN MATEO COUNTY, CA

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Scale: NTS
Date: 11/18/2019
Sheet: 4 OF 10

TREE LEGEND

- Sequoia sempervirens / Redwood
- Notholithocarpus densiflorus / Tan Oak
- Pseudotsuga menziesii / Douglas Fir
- Umbellularia californica / California Laurel
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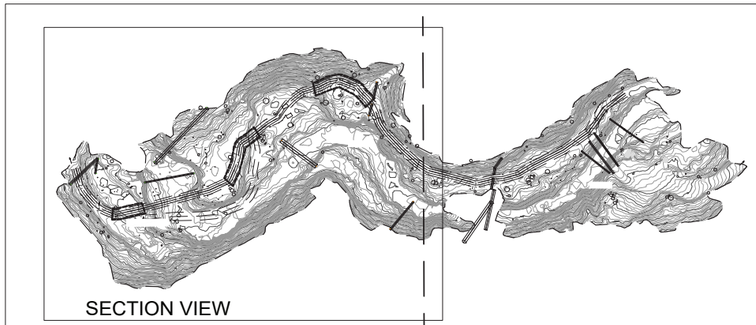
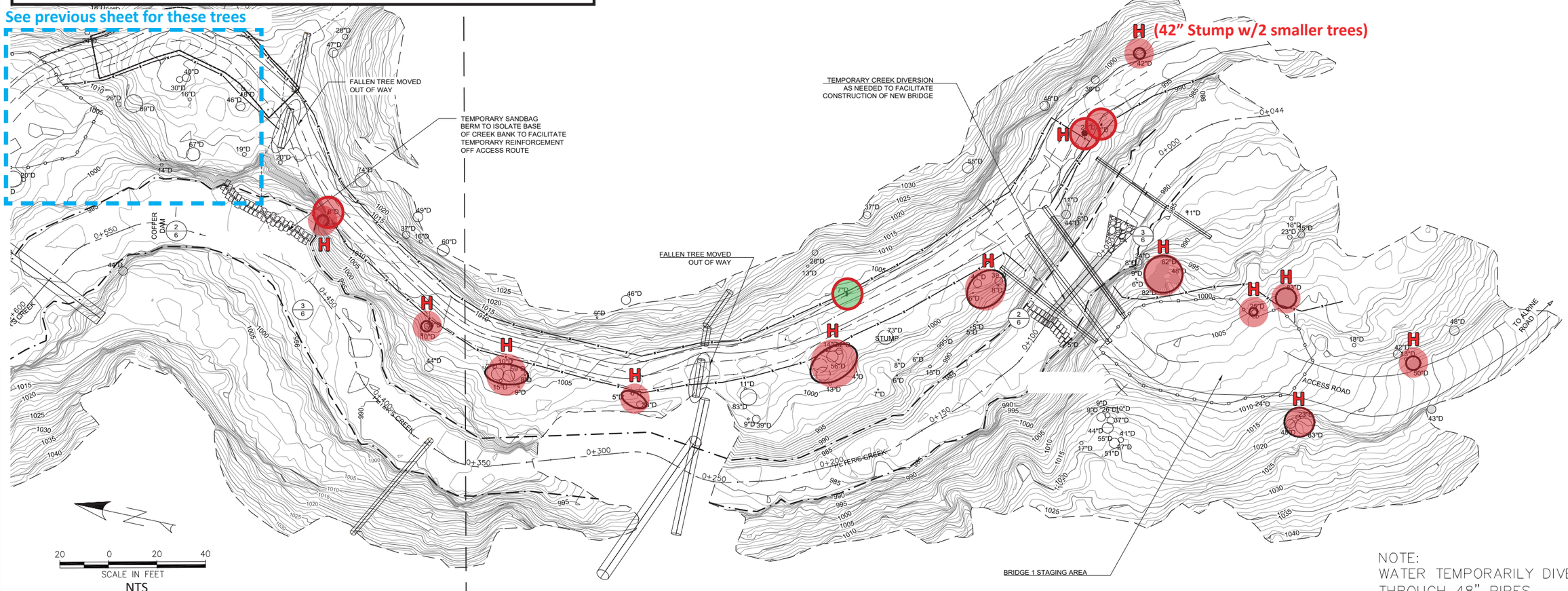
LEGEND

- TREE LOCATION
- 43" PROTECTED TREE
- 43" REMOVED TREE LOCATION (DBH)
- EXCLUSION/ SILT FENCING
- STAGING AREA





NOTE:
WATER TEMPORARILY DIVERTED THROUGH 48" PIPES

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PETER'S CREEK BRIDGES
STAGING AND ACCESS 2
SAN MATEO COUNTY, CA

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Scale: NTS
Date: 11/18/2019
Sheet: 5 OF 10

APPENDIX A

Project Description

PETER'S CREEK PROJECT DESCRIPTION – OCTOBER 25, 2019

The goal of this project is to rebuild an existing bridge and construct a new bridge across Peter's Creek on property that is owned and managed by Save the Redwoods League. These bridges will be a part of an access improvement program that allows safe and low impact access to property as well as adjacent state park lands and trails. The project area is shown on **Figure 1**. The bridges will be clear span structures that are 50 feet and 100 feet in span. Bridge 1 is the shorter of the bridges and entails replacing what appears to be a rusting, old railroad flat car bridge. Bridge 2 is a new bridge will be placed between two high banks about 800 feet upstream of the first bridge. The existing site plans and general project layout is shown in the attached plan set. The existing bridge provides the only possible construction access to the second bridge site. Currently, that bridge is unsafe to carry construction equipment and materials. The bridge will either need to be temporally reinforced or replaced prior to construction of the second bridge.

The access route to the second bridge is a historic road that was likely constructed in the early 1900's as part of logging operations in the area. The road is generally wider than 15 feet but slight improvements will need to be completed in specific areas to make it safe for construction access. Several large downed logs will need to be moved. A short area of the roadway has been narrowed by bank erosion. This area will need a temporary fix to provide a minimum width of 12 feet to allow safe equipment and material access. A second area of the road is narrowed by a very large stump. This stump will need to be removed and the access way re-graded.

Two separate staging areas will be developed at or near each bridge site. These staging areas will be separated from the surrounding area with silt fencing and/or exclusionary fencing. All trees in around active construction zones will be protected by exclusionary fencing or timber trunk wraps whichever is more suitable for the location and application. Vegetation will be cleared within the project area for grading, resulting in the loss of approximately 10 trees of diameters ranging from 6 to 10 inches.

General construction access is good at the first site but is more challenging at the second site. To reach the far bridge abutment location of Bridge 2, a portion of the existing creek bed will need to be used. Coffer dams will be constructed upstream of the proposed bridge to channel summer low flows into a diversion pipe which would be laid on the bed of creek. The coffer dam will be constructed of sand bags filled with clean rock fill. Plastic sheeting will be laid down prior to sandbags to make it water tight and to facilitate clean, easy removal. Where necessary, along the creek bed access route clean fill material will be placed over the pipe to allow equipment and

vehicle movement. A second flow diversion is proposed at the first bridge site as well. This diversion may or may not be necessary depending on how the contractor chooses to construct the first bridge. A third smaller creek diversion/exclusion dam is needed at the area where the access road is to be temporarily widened. The design for this feature will ultimately be the responsibility of the building contractor, but it is likely that some shoring will be needed along the toe of the creek bank within ordinary high water to support the road extension. This area will be isolated from the active creek flow to reduce impacts.

Cut and fills will be limited on the project. Cuts will occur for improvements to access roads and excavations for bridge foundations. The small amounts of fill may be placed to provide smooth trail grades. The largest fill area will be at the north side of the Bridge 2, where an existing depression creates an awkward transition from the bridge landing to the existing trail connection. All cuts and fills are expected to generally balance on the site, but small amounts of unsuitable material maybe off hauled.

AREAS OF IMPACT: **Figures 2** and **3** shown in the area of impact on the site. These areas are broken down into several categories.

Total Area of impact: 27,275 square feet or 0.63 acres

Area of Upland impact: 19,736 square feet or 0.45 acres

Area of temporary impacts below Ordinary High Water (OHW) as defined by modeled 2-year creek flow water surface profile: 7,535 square feet; 0.17 acres

The project will permanently affect 12,650 square feet or 0.29 acres.

CONSTRUCTION DURATION:

Construction may occur over two summer construction seasons. The first bridge needs to be able to carry equipment and supplies for the construction of the second bridge. Therefore, it is likely that the first bridge will be constructed and then, the following year the second bridge will be installed. Each bridge

will take 2-3 months to complete. Construction should start no later than August 1 and will be completed and/or winterized by October 15th of that construction season.

CONSTRUCTION EQUIPMENT AND SEQUENCING:

The project is expected to utilize a variety light trucks and heavy equipment. Workers will likely have ½ ton pickups or greater. On site heavy equipment may include a 130 excavator or larger, backhoe/skip loaders, small dozer (D3 or less), Truck or track mounted drilling rigs, and small compact front end loaders. A small crane maybe needed briefly. Portable generators will be used to supply electric power on the site.

First season, first bridge construction sequencing

1. Mobilization and staging: This is the start of the project construction. The staging area are established and the site is isolated from the surrounding area by install of silt fence and tree protection. As necessary a coffer dam and diversion will be installed beneath the bridge.

2. Clearing and grubbing: The new bridge foundation sites will be cleared of vegetation and any tree removals will occur.

3. Portions of the old bridge and log structure may be demolished and removed from the site.

4. Foundation installation: This will involve excavation, forming and steel placement and concrete pours

5. Bridge structure installation: This includes placement of steel stingers and lateral bracing that will make the structural supports of the bridge.

6. Bridge deck and railing installation. Installation of concrete deck (maybe precast off site) and safety rails on bridge.

7. Bridge approach grading: The final grading and establish of the bridge approaches will be completed this may involve minor amounts of fill road bed improvement

8. Erosion control: The temporary erosion control and winterization measures will be installed. This may include installation of temporary straw wattles and seeding and mulching for site winterization.

9. Closeout and demobilization.

10. Periodic site checks throughout the winter.

Second season, second bridge and trail construction

1. Mobilization and staging: This is the start of the project construction season. The staging area(s) are established and is isolated from the surrounding area. Silt fences and tree protection is installed as needed.

2. Site clearing grubbing: The new bridge foundation sites and permanent trail alignments will be cleared of vegetation and any tree removals will occur.

3. Water Management and access routes: Installation of the bridge site coffer dam and diversion pipe, also installation of exclusionary bank toe features at the trail width improvement site.

4. Installation of temporary trail width shoring

5. Rough Trail grading including removal of large stump and installation of creek bed access route and tree removal as needed.

6. Foundation preparation and cable anchor installation: This may include drilling or excavate counterweights for cable suspension.

7. Cable tower installation: Cable towers would be installed on appropriate foundations. Towers may be prefabricated offsite and assembled and erected on site.

8. Cable bridge deck and railing installation

9. Bridge approach trail grading and filling

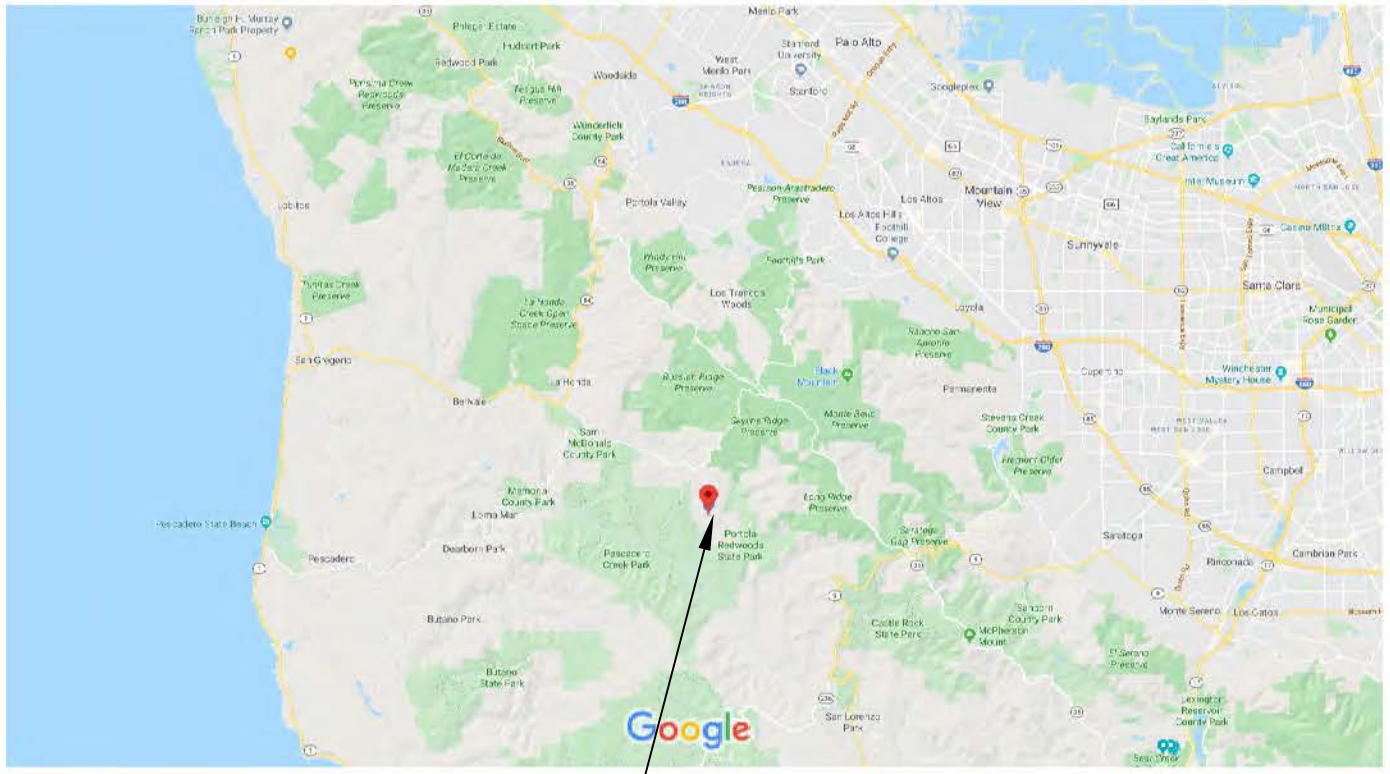
10. Coffer Dam Removal and Streambed restoration

11. Erosion control installation of temporary straw wattles and seeding and mulching for site winterization

12. Closeout and site clean up

13. Periodic site checks throughout the winter.

PETER'S CREEK BRIDGES



PROJECT LOCATION

TOTAL PROJECT AREA
(SQ FT)

	BELOW OHW	UPLAND	TOTAL AREA
Temporary	7,535	7,087	14,622
Permanent	0	12,650	12,650
Total	7,535	19,737	27,272

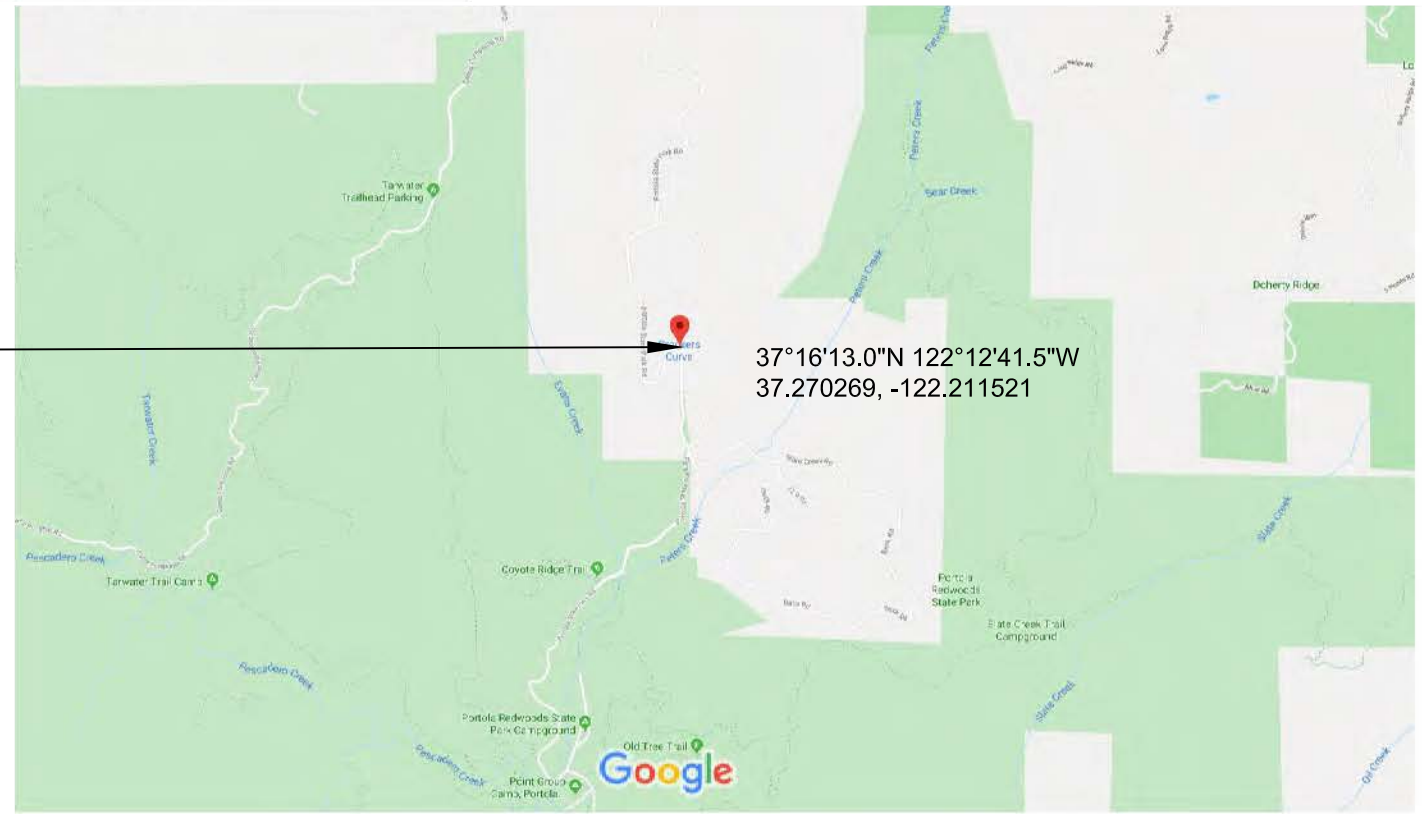


FIGURE 1

PETER'S CREEK BRIDGES

SAVE THE REDWOODS LEAGUE
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PETER'S CREEK BRIDGES
PROJECT LOCATION
SAN MATEO COUNTY, CA

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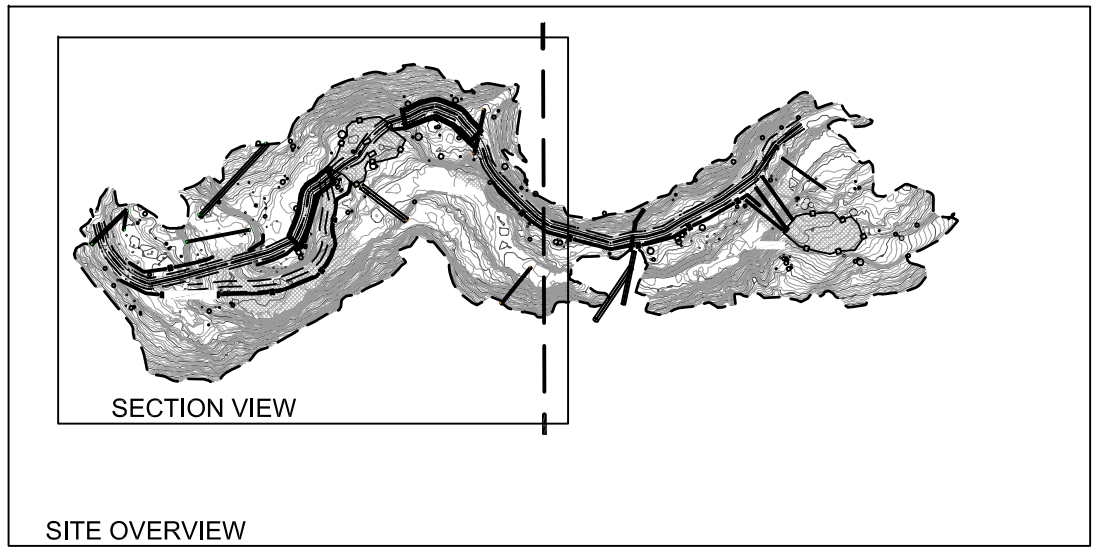
Scale: NTS
Date: 10/25/2019



SITE OVERVIEW

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(SQ FT)

	BELOW OHW	UPLAND	TOTAL AREA
Temporary	7,535	7,087	14,622
Permanent	0	12,650	12,650
Total	7,535	19,737	27,272

PERMANENT IMPROVEMENT AREA

TEMPORARY CONSTRUCTION AREA

20 0 20 40
SCALE IN FEET
1 inch = 20 feet

TRAIL GRADING
CUT AREA

1 TRAIL REPAIR
SHEET 6

1 SUSPENSION BRIDGE SITE
SHEET 10

FILL AREA

FILL AREA

OHW LINE

SEE SHEET 8 FOR CONTINUATION

FIGURE 2

PETER'S CREEK BRIDGES

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PETER'S CREEK BRIDGES
PROJECT AREA
SAN MATEO COUNTY, CA

Size D | Project 1900028
Scale: 1" = 20'
Date: 10/25/2019

IF BAR DOES NOT MEASURE 1" DRAWING IS NOT TO SCALE – ADJUST ACCORDINGLY

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TOTAL PROJECT AREA
(SQ FT)

	BELOW OHW	UPLAND	TOTAL AREA
Temporary	7,535	7,087	14,622
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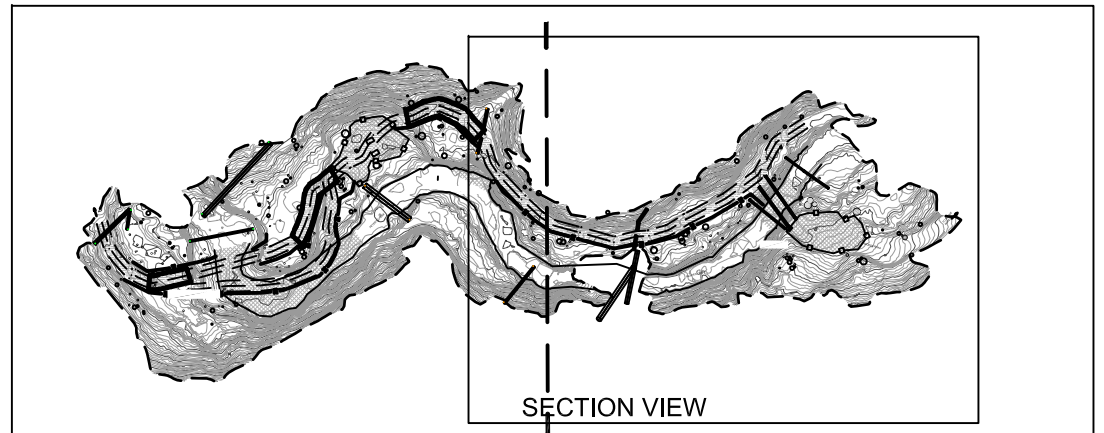

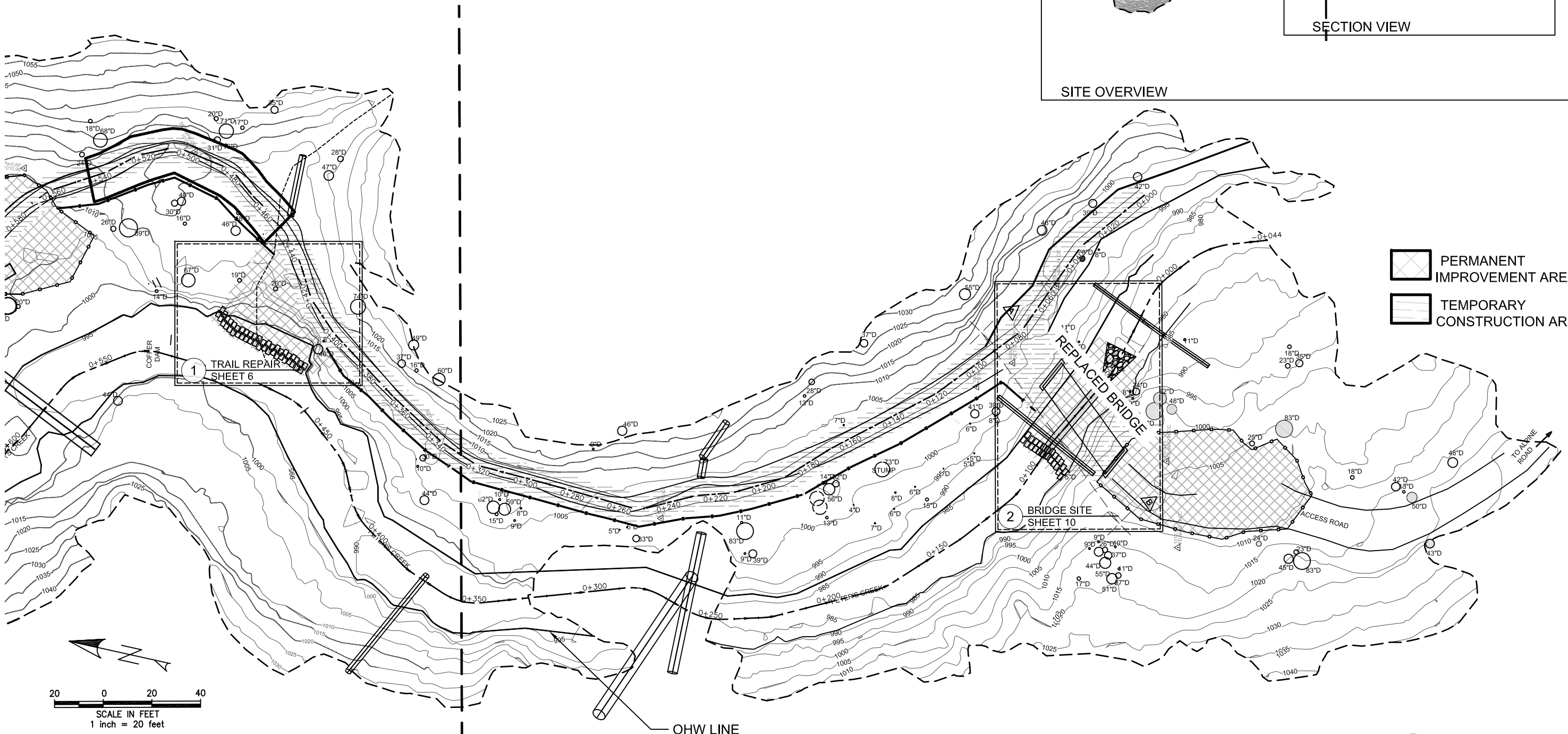

FIGURE 3

PETER'S CREEK BRIDGES

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PETER'S CREEK BRIDGES
PROJECT AREA
SAN MATEO COUNTY, CA

Size	Project
D	1900028
Scale:	1" = 20'
Date:	10/25/2019

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APPENDIX B

Species Lists from CNDDB Record Search and IPaC Report

Summary Table Report

California Department of Fish and Wildlife

California Natural Diversity Database

Query Criteria: Quad IS (La Honda (3712233) OR Franklin Point (3712223) OR Big Basin (3712222) OR Mindego Hill (3712232))

Name (Scientific/Common)	CNDDB Ranks	Listing Status (Fed/State)	Other Lists	Elev. Range (ft.)	Total EO's	Element Occ. Ranks						Population Status		Presence		
						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extirp.	Extirp.
Aneides niger Santa Cruz black salamander	G3 S3	None None	CDFW_SSC-Species of Special Concern	49 2,300	78 S:14	0	0	0	0	0	14	8	6	14	0	0
Anomobryum julaceum slender silver moss	G5? S2	None None	Rare Plant Rank - 4.2		13 S:1	0	0	0	0	0	1	1	0	1	0	0
Antrozous pallidus pallid bat	G4 S3	None None	BLM_S-Sensitive CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern USFS_S-Sensitive WBWG_H-High Priority	240 240	420 S:1	0	0	0	0	0	1	1	0	1	0	0
Arctostaphylos andersonii Anderson's manzanita	G2 S2	None None	Rare Plant Rank - 1B.2 SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden SB_UCSC-UC Santa Cruz	525 2,400	64 S:25	2	8	4	2	0	9	11	14	25	0	0
Arctostaphylos glutinosa Schreiber's manzanita	G1 S1	None None	Rare Plant Rank - 1B.2 SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden SB_UCSC-UC Santa Cruz SB_USDA-US Dept of Agriculture	1,800 2,230	7 S:2	1	0	0	1	0	0	1	1	2	0	0
Arctostaphylos ohloneana Ohlone manzanita	G1 S1	None None	Rare Plant Rank - 1B.1 SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden SB_USDA-US Dept of Agriculture	1,700 1,700	4 S:1	0	0	0	0	0	1	0	1	1	0	0
Arctostaphylos regismontana Kings Mountain manzanita	G2 S2	None None	Rare Plant Rank - 1B.2	2,000 2,300	17 S:3	0	1	0	0	0	2	2	1	3	0	0

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California Department of Fish and Wildlife

California Natural Diversity Database

Name (Scientific/Common)	CNDDB Ranks	Listing Status (Fed/State)	Other Lists	Elev. Range (ft.)	Total EO's	Element Occ. Ranks						Population Status		Presence		
						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extirp.	Extirp.
Arctostaphylos silvicola Bonny Doon manzanita	G1 S1	None None	Rare Plant Rank - 1B.2 SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden	900 900	16 S:1	1	0	0	0	0	0	0	1	1	0	0
Asio otus long-eared owl	G5 S3?	None None	CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern	2,000 2,000	48 S:1	0	0	0	0	0	1	1	0	1	0	0
Astragalus pycnostachyus var. pycnostachyus coastal marsh milk-vetch	G2T2 S2	None None	Rare Plant Rank - 1B.2 BLM_S-Sensitive SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden SB_SBBG-Santa Barbara Botanic Garden SB_UCBG-UC Botanical Garden at Berkeley	500 500	25 S:1	0	0	0	0	0	1	1	0	1	0	0
Athene cunicularia burrowing owl	G4 S3	None None	BLM_S-Sensitive CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern USFWS_BCC-Birds of Conservation Concern	713 2,253	2011 S:2	0	0	0	0	0	2	0	2	2	0	0
Bombus caliginosus obscure bumble bee	G4? S1S2	None None	IUCN_VU-Vulnerable	500 500	181 S:1	0	0	0	0	0	1	1	0	1	0	0
Bombus occidentalis western bumble bee	G2G3 S1	None Candidate Endangered	USFS_S-Sensitive	100 100	306 S:2	0	0	0	0	0	2	2	0	2	0	0
Brachyramphus marmoratus marbled murrelet	G3 S2	Threatened Endangered	CDF_S-Sensitive IUCN_EN-Endangered NABCI_RWL-Red Watch List	200 1,800	110 S:35	0	1	0	0	0	34	21	14	35	0	0
Calyptridium parryi var. hesseae Santa Cruz Mountains pussypaws	G3G4T2 S2	None None	Rare Plant Rank - 1B.1 BLM_S-Sensitive	2,300 2,600	11 S:2	0	0	0	0	0	2	2	0	2	0	0

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Name (Scientific/Common)	CNDDB Ranks	Listing Status (Fed/State)	Other Lists	Elev. Range (ft.)	Total EO's	Element Occ. Ranks						Population Status		Presence		
						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extirp.	Extirp.
Charadrius nivosus nivosus western snowy plover	G3T3 S2	Threatened None	CDFW_SSC-Species of Special Concern NABCI_RWL-Red Watch List USFWS_BCC-Birds of Conservation Concern	10 10	138 S:1	0	0	0	0	1	0	1	0	0	0	1
Chorizanthe pungens var. hartwegiana Ben Lomond spineflower	G2T1 S1	Endangered None	Rare Plant Rank - 1B.1 SB_UCSC-UC Santa Cruz	800 1,160	18 S:3	0	1	0	0	0	2	2	1	3	0	0
Cirsium andrewsii Franciscan thistle	G3 S3	None None	Rare Plant Rank - 1B.2	80 80	31 S:1	0	0	0	0	1	0	1	0	0	1	0
Clarkia concinna ssp. automixa Santa Clara red ribbons	G5?T3 S3	None None	Rare Plant Rank - 4.3	1,500 2,750	20 S:2	0	0	0	0	0	2	2	0	2	0	0
Corynorhinus townsendii Townsend's big-eared bat	G4 S2	None None	BLM_S-Sensitive CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern USFS_S-Sensitive WBWG_H-High Priority	30 2,250	635 S:9	0	1	1	0	0	7	5	4	9	0	0
Cypseloides niger black swift	G4 S2	None None	CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern NABCI_YWL-Yellow Watch List USFWS_BCC-Birds of Conservation Concern	540 540	46 S:1	0	0	0	0	0	1	1	0	1	0	0
Danaus plexippus pop. 1 monarch - California overwintering population	G4T2T3 S2S3	Candidate None	USFS_S-Sensitive	50 200	383 S:2	0	2	0	0	0	0	1	1	2	0	0
Dicamptodon ensatus California giant salamander	G3 S2S3	None None	CDFW_SSC-Species of Special Concern IUCN_NT-Near Threatened	80 2,400	234 S:22	0	0	0	0	0	22	9	13	22	0	0
Dirca occidentalis western leatherwood	G2 S2	None None	Rare Plant Rank - 1B.2 SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden	430 2,165	90 S:12	2	4	1	0	0	5	1	11	12	0	0

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						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extirp.	Extirp.
Emys marmorata western pond turtle	G3G4 S3	None None	BLM_S-Sensitive CDFW_SSC-Species of Special Concern IUCN_VU-Vulnerable USFS_S-Sensitive	45 949	1398 S:3	1	1	0	0	0	1	0	3	3	0	0
Eriophyllum latilobum San Mateo woolly sunflower	G1 S1	Endangered Endangered	Rare Plant Rank - 1B.1 SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden	2,000 2,000	8 S:2	0	0	0	0	1	1	2	0	1	1	0
Erysimum ammophilum sand-loving wallflower	G2 S2	None None	Rare Plant Rank - 1B.2 SB_CRES-San Diego Zoo CRES Native Gene Seed Bank SB_SBBG-Santa Barbara Botanic Garden	100 100	58 S:1	0	0	0	0	0	1	1	0	1	0	0
Falco peregrinus anatum American peregrine falcon	G4T4 S3S4	Delisted Delisted	CDF_S-Sensitive CDFW_FP-Fully Protected USFWS_BCC-Birds of Conservation Concern	1,871 1,871	58 S:1	0	0	0	0	0	1	0	1	1	0	0
Fissidens pauperculus minute pocket moss	G3? S2	None None	Rare Plant Rank - 1B.2 USFS_S-Sensitive	250 300	22 S:3	0	0	0	0	0	3	1	2	3	0	0
Fritillaria liliacea fragrant fritillary	G2 S2	None None	Rare Plant Rank - 1B.2 SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden USFS_S-Sensitive	33 33	82 S:1	0	1	0	0	0	0	0	1	1	0	0
Grimmia torenii Toren's grimmia	G2 S2	None None	Rare Plant Rank - 1B.3 BLM_S-Sensitive	1,970 2,325	13 S:4	0	0	0	0	0	4	0	4	4	0	0
Grimmia vaginulata vaginulate grimmia	G3 S1	None None	Rare Plant Rank - 1B.1 BLM_S-Sensitive	2,250 2,250	2 S:1	0	0	0	0	0	1	0	1	1	0	0
Hesperevax sparsiflora var. brevifolia short-leaved evax	G4T3 S3	None None	Rare Plant Rank - 1B.2 BLM_S-Sensitive	850 850	72 S:1	0	0	0	0	0	1	1	0	1	0	0

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						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extirp.	Extirp.
Hesperocyparis abramsiana var. abramsiana Santa Cruz cypress	G1T1 S1	Threatened Endangered	Rare Plant Rank - 1B.2 SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden SB_UCSC-UC Santa Cruz	1,000 2,000	7 S:2	0	1	0	0	0	1	0	2	2	0	0
Hesperocyparis abramsiana var. butanoensis Butano Ridge cypress	G1T1 S1	Threatened Endangered	Rare Plant Rank - 1B.2 SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden	1,400 1,400	1 S:1	0	0	0	0	0	1	0	1	1	0	0
Lasiurus cinereus hoary bat	G3G4 S4	None None	IUCN_LC-Least Concern WBWG_M-Medium Priority		238 S:2	0	0	0	0	0	2	2	0	2	0	0
Legenere limosa legenere	G2 S2	None None	Rare Plant Rank - 1B.1 BLM_S-Sensitive SB_UCBG-UC Botanical Garden at Berkeley	1,200 1,200	83 S:1	0	0	0	0	0	1	1	0	1	0	0
Limnanthes douglasii ssp. sulphurea Point Reyes meadowfoam	G4T1 S1	None Endangered	Rare Plant Rank - 1B.2	240 240	12 S:1	0	0	1	0	0	0	1	0	1	0	0
Malacothamnus arcuatus arcuate bush-mallow	G2Q S2	None None	Rare Plant Rank - 1B.2 SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden	450 2,400	30 S:4	0	0	0	0	0	4	3	1	4	0	0
Margaritifera falcata western pearlshell	G4G5 S1S2	None None		50 50	78 S:1	0	0	0	0	0	1	1	0	1	0	0
Monolopia gracilens woodland woollythreads	G3 S3	None None	Rare Plant Rank - 1B.2	400 1,850	68 S:8	0	0	0	0	1	7	5	3	7	1	0
Monterey Pine Forest Monterey Pine Forest	G1 S1.1	None None		400 400	11 S:1	0	0	0	0	0	1	1	0	1	0	0
N. Central Coast Calif. Roach/Stickleback/Steelhead Stream N. Central Coast Calif. Roach/Stickleback/Steelhead Stream	GNR SNR	None None		130 200	2 S:2	0	2	0	0	0	0	2	0	2	0	0

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						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extirp.	Extirp.
North Central Coast Drainage Sacramento Sucker/Roach River North Central Coast Drainage Sacramento Sucker/Roach River	GNR SNR	None None		400 400	4 S:1	0	1	0	0	0	0	1	0	1	0	0
North Central Coast Short-Run Coho Stream North Central Coast Short-Run Coho Stream	GNR SNR	None None		50 50	2 S:1	0	0	1	0	0	0	1	0	1	0	0
North Central Coast Steelhead/Sculpin Stream North Central Coast Steelhead/Sculpin Stream	GNR SNR	None None		160 160	1 S:1	0	1	0	0	0	0	1	0	1	0	0
Northern Interior Cypress Forest Northern Interior Cypress Forest	G2 S2.2	None None		1,000 2,100	22 S:3	0	0	0	0	0	3	3	0	3	0	0
Oncorhynchus kisutch pop. 4 coho salmon - central California coast ESU	G5T2T3Q S2	Endangered Endangered	AFS_EN-Endangered	40 400	23 S:2	0	0	1	1	0	0	2	0	2	0	0
Oncorhynchus mykiss irideus pop. 8 steelhead - central California coast DPS	G5T2T3Q S2S3	Threatened None	AFS_TH-Threatened	40 1,200	44 S:7	0	1	0	0	0	6	5	2	7	0	0
Orthotrichum kellmanii Kellman's bristle moss	G1 S1	None None	Rare Plant Rank - 1B.2 USFS_S-Sensitive	2,133 2,247	4 S:2	0	0	0	0	0	2	0	2	2	0	0
Pedicularis dudleyi Dudley's lousewort	G2 S2	None Rare	Rare Plant Rank - 1B.2 SB_UCSC-UC Santa Cruz USFS_S-Sensitive	500 500	11 S:2	0	1	0	0	0	1	1	1	2	0	0
Penstemon rattanii var. kleei Santa Cruz Mountains beardtongue	G4T2 S2	None None	Rare Plant Rank - 1B.2	2,000 2,000	5 S:1	0	0	0	0	0	1	1	0	1	0	0
Pentachaeta bellidiflora white-rayed pentachaeta	G1 S1	Endangered Endangered	Rare Plant Rank - 1B.1 SB_UCBG-UC Botanical Garden at Berkeley	680 2,000	14 S:3	0	0	0	0	2	1	3	0	1	2	0
Pinus radiata Monterey pine	G1 S1	None None	Rare Plant Rank - 1B.1 SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden SB_UCSC-UC Santa Cruz	400 400	5 S:1	1	0	0	0	0	0	0	1	1	0	0

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						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extirp.	Extirp.
Piperia candida white-flowered rein orchid	G3 S3	None None	Rare Plant Rank - 1B.2	500 1,300	222 S:4	0	0	0	0	0	4	2	2	4	0	0
Plagiobothrys chorisianus var. chorisianus Choris' popcornflower	G3T1Q S1	None None	Rare Plant Rank - 1B.2 BLM_S-Sensitive SB_UCSC-UC Santa Cruz	40 2,300	42 S:13	1	2	1	0	0	9	7	6	13	0	0
Plagiobothrys diffusus San Francisco popcornflower	G1Q S1	None Endangered	Rare Plant Rank - 1B.1 SB_UCSC-UC Santa Cruz	160 160	17 S:1	0	0	1	0	0	0	1	0	1	0	0
Rana boylii foothill yellow-legged frog	G3 S3	None Endangered	BLM_S-Sensitive CDFW_SSC-Species of Special Concern IUCN_NT-Near Threatened USFS_S-Sensitive	192 1,654	2468 S:13	0	1	0	0	4	8	13	0	9	2	2
Rana draytonii California red-legged frog	G2G3 S2S3	Threatened None	CDFW_SSC-Species of Special Concern IUCN_VU-Vulnerable	17 1,872	1659 S:42	12	11	4	6	0	9	13	29	42	0	0
Senecio aphanactis chaparral ragwort	G3 S2	None None	Rare Plant Rank - 2B.2 SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden SB_CRES-San Diego Zoo CRES Native Gene Seed Bank	1,200 1,200	98 S:1	0	0	0	0	0	1	1	0	1	0	0
Silene scouleri ssp. scouleri Scouler's catchfly	G5T4T5 S2S3	None None	Rare Plant Rank - 2B.2		23 S:1	0	0	0	0	0	1	0	1	1	0	0
Speyeria adiaste adiaste unsilvered fritillary	G1G2T1 S1	None None		1,600 2,300	2 S:2	0	1	0	0	0	1	2	0	2	0	0
Speyeria zerene myrtleae Myrtle's silverspot butterfly	G5T1 S1	Endangered None		28 28	17 S:1	0	0	0	0	1	0	1	0	0	0	1
Spirinchus thaleichthys longfin smelt	G5 S1	Candidate Threatened		20 20	46 S:1	0	0	0	0	0	1	1	0	1	0	0

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						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extirp.	Extirp.
Stebbinsoseris decipiens Santa Cruz microseris	G2 S2	None None	Rare Plant Rank - 1B.2 SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden SB_UCSC-UC Santa Cruz	875 875	19 S:2	0	0	0	0	0	2	2	0	2	0	0
Stuckenia filiformis ssp. alpina slender-leaved pondweed	G5T5 S2S3	None None	Rare Plant Rank - 2B.2	50 50	21 S:1	0	0	0	0	0	1	1	0	1	0	0
Taricha rivularis red-bellied newt	G2 S2	None None	CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern	1,800 2,000	136 S:2	0	0	0	0	0	2	0	2	2	0	0
Taxidea taxus American badger	G5 S3	None None	CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern	359 2,542	594 S:18	0	0	0	0	0	18	1	17	18	0	0
Thamnophis sirtalis tetrataenia San Francisco gartersnake	G5T2Q S2	Endangered Endangered	CDFW_FP-Fully Protected	60 2,030	66 S:24	4	6	4	0	0	10	17	7	24	0	0
Trifolium buckwestiorum Santa Cruz clover	G2 S2	None None	Rare Plant Rank - 1B.1 BLM_S-Sensitive SB_SBBG-Santa Barbara Botanic Garden SB_UCSC-UC Santa Cruz SB_USDA-US Dept of Agriculture		64 S:1	0	0	0	0	0	1	1	0	1	0	0
Trifolium polyodon Pacific Grove clover	G1 S1	None Rare	Rare Plant Rank - 1B.1 BLM_S-Sensitive SB_USDA-US Dept of Agriculture	870 870	21 S:1	0	0	0	0	0	1	1	0	1	0	0
Usnea longissima Methuselah's beard lichen	G4 S4	None None	Rare Plant Rank - 4.2 BLM_S-Sensitive	2,040 2,040	206 S:1	0	0	0	0	1	0	1	0	0	0	1

IPaC resource list

This report is an automatically generated list of species and other resources such as critical habitat (collectively referred to as *trust resources*) under the U.S. Fish and Wildlife Service's (USFWS) jurisdiction that are known or expected to be on or near the project area referenced below. The list may also include trust resources that occur outside of the project area, but that could potentially be directly or indirectly affected by activities in the project area. However, determining the likelihood and extent of effects a project may have on trust resources typically requires gathering additional site-specific (e.g., vegetation/species surveys) and project-specific (e.g., magnitude and timing of proposed activities) information.

Below is a summary of the project information you provided and contact information for the USFWS office(s) with jurisdiction in the defined project area. Please read the introduction to each section that follows (Endangered Species, Migratory Birds, USFWS Facilities, and NWI Wetlands) for additional information applicable to the trust resources addressed in that section.

Project information

NAME

Peters Creek Bridges Project

LOCATION

San Mateo County, California

DESCRIPTION

Some(The Project consists of rebuilding an existing bridge and constructing a new pedestrian bridge over Peter's Creek on property owned and managed by Save the Redwoods League. These bridges would be part of an access improvement program to allow for safe and low impact access to the property as well as the adjacent Portola Redwoods State Park lands and trails. The bridges would be clear span structures that are approximately 50 feet and 100 feet in span, respectively. Construction would be timed during the dry period when stream flows are lowest to minimize impacts on aquatic habitat and is estimated to take two years to complete.)

Local office

Sacramento Fish And Wildlife Office

(916) 414-6600
(916) 414-6713

Federal Building
2800 Cottage Way, Room W-2605
Sacramento, CA 95825-1846

Endangered species

This resource list is for informational purposes only and does not constitute an analysis of project level impacts.

The primary information used to generate this list is the known or expected range of each species. Additional areas of influence (AOI) for species are also considered. An AOI includes areas outside of the species range if the species could be indirectly affected by activities in that area (e.g., placing a dam upstream of a fish population even if that fish does not occur at the dam site, may indirectly impact the species by reducing or eliminating water flow downstream). Because species can move, and site conditions can change, the species on this list are not guaranteed to be found on or near the project area. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

Section 7 of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency. A letter from the local office and a species list which fulfills this requirement can **only** be obtained by requesting an official species list from either the Regulatory Review section in IPaC (see directions below) or from the local field office directly.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list by doing the following:

1. Log in to IPaC.
2. Go to your My Projects list.
3. Click PROJECT HOME for this project.
4. Click REQUEST SPECIES LIST.

Listed species[1] and their critical habitats are managed by the Ecological Services Program of the U.S. Fish and Wildlife Service (USFWS) and the fisheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries[2]).

Species and critical habitats under the sole responsibility of NOAA Fisheries are **not** shown on this list. Please contact NOAA Fisheries for species under their jurisdiction.

1. Species listed under the Endangered Species Act are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the listing status page for more information. IPaC only shows species that are regulated by USFWS (see FAQ).
2. 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.

The following species are potentially affected by activities in this location:

Birds

NAME	STATUS

California Least Tern Sterna antillarum browni — Endangered
Wherever found
No critical habitat has been designated for this species.
https://ecos.fws.gov/ecp/species/8104

Marbled Murrelet Brachyramphus marmoratus — Threatened
There is **final** critical habitat for this species. Your location overlaps the critical habitat.
https://ecos.fws.gov/ecp/species/4467

Reptiles

NAME	STATUS

Green Sea Turtle Chelonia mydas — Threatened
No critical habitat has been designated for this species.
https://ecos.fws.gov/ecp/species/6199

San Francisco Garter Snake Thamnophis sirtalis tetrataenia — Endangered
Wherever found
No critical habitat has been designated for this species.
https://ecos.fws.gov/ecp/species/5956

Amphibians

NAME	STATUS

California Red-legged Frog Rana draytonii — Threatened
Wherever found
There is **final** critical habitat for this species. Your location overlaps the critical habitat.
https://ecos.fws.gov/ecp/species/2891

California Tiger Salamander Ambystoma californiense — Threatened
There is **final** critical habitat for this species. The location of the critical habitat is not available.
https://ecos.fws.gov/ecp/species/2076

Fishes

NAME	STATUS

Delta Smelt Hypomesus transpacificus — Threatened
Wherever found
There is **final** critical habitat for this species. The location of the critical habitat is not available.
https://ecos.fws.gov/ecp/species/321

Tidewater Goby Eucyclogobius newberryi Wherever found There is **final** critical habitat for this species. The location of the critical habitat is not available. https://ecos.fws.gov/ecp/species/57	Endangered

Flowering Plants

NAME	STATUS
San Mateo Woolly Sunflower Eriophyllum latilobum Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/7791	Endangered

Critical habitats

Potential effects to critical habitat(s) in this location must be analyzed along with the endangered species themselves.

This location overlaps the critical habitat for the following species:

NAME	TYPE
California Red-legged Frog Rana draytonii https://ecos.fws.gov/ecp/species/2891#crithab	Final
Marbled Murrelet Brachyramphus marmoratus https://ecos.fws.gov/ecp/species/4467#crithab	Final

Migratory birds

Certain birds are protected under the Migratory Bird Treaty Act[1] and the Bald and Golden Eagle Protection Act[2].

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described below.

1. The Migratory Birds Treaty Act of 1918.
2. The Bald and Golden Eagle Protection Act of 1940.

Additional information can be found using the following links:

- Birds of Conservation Concern http://www.fws.gov/birds/management/managed-species/birds-of-conservation-concern.php

- Measures for avoiding and minimizing impacts to birds http://www.fws.gov/birds/management/project-assessment-tools-and-guidance/conservation-measures.php
- Nationwide conservation measures for birds http://www.fws.gov/migratorybirds/pdf/management/nationwidestandardconservationmeasures.pdf

The birds listed below are birds of particular concern either because they occur on the USFWS Birds of Conservation Concern (BCC) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ below. This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the E-bird data mapping tool (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found below.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON (IF A BREEDING SEASON IS INDICATED FOR A BIRD ON YOUR LIST, THE BIRD MAY BREED IN YOUR PROJECT AREA SOMETIME WITHIN THE TIMEFRAME SPECIFIED, WHICH IS A VERY LIBERAL ESTIMATE OF THE DATES INSIDE WHICH THE BIRD BREEDS ACROSS ITS ENTIRE RANGE. "BREEDS ELSEWHERE" INDICATES THAT THE BIRD DOES NOT LIKELY BREED IN YOUR PROJECT AREA.)
Allen's Hummingbird Selasphorus sasin This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9637	Breeds Feb 1 to Jul 15
Black Swift Cypseloides niger This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/8878	Breeds Jun 15 to Sep 10

Common Yellowthroat Geothlypis trichas sinuosa This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/2084	Breeds May 20 to Jul 31
Golden Eagle Aquila chrysaetos This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1680	Breeds Jan 1 to Aug 31
Lawrence's Goldfinch Carduelis lawrencei This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9464	Breeds Mar 20 to Sep 20
Nuttall's Woodpecker Picoides nuttallii This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/9410	Breeds Apr 1 to Jul 20
Oak Titmouse Baeolophus inornatus This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9656	Breeds Mar 15 to Jul 15
Rufous Hummingbird selasphorus rufus This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/8002	Breeds elsewhere
Song Sparrow Melospiza melodia This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA	Breeds Feb 20 to Sep 5
Spotted Towhee Pipilo maculatus clementae This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/4243	Breeds Apr 15 to Jul 20
Wrentit Chamaea fasciata This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Mar 15 to Aug 10

Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read and understand the FAQ "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

Breeding Season (■)
Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

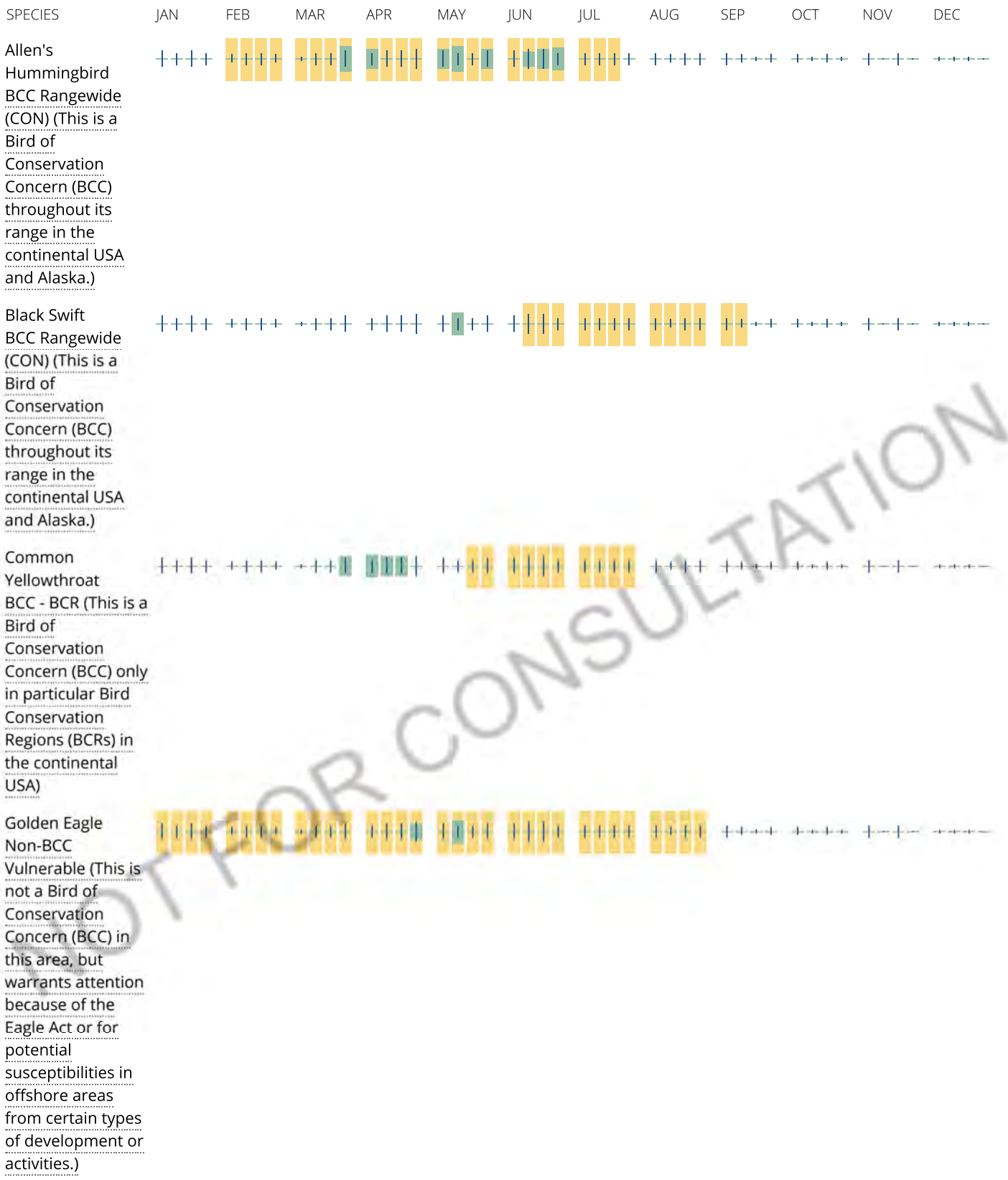
Survey Effort (|)
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

To see a bar's survey effort range, simply hover your mouse cursor over the bar.

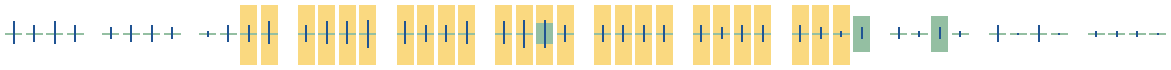
No Data (–)
A week is marked as having no data if there were no survey events for that week.

Survey Timeframe
Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.

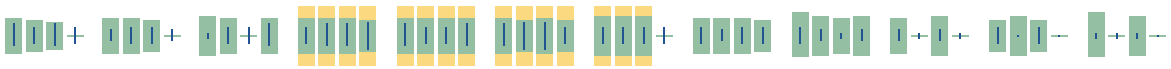
■ probability of presence ■ breeding season | survey effort – no data



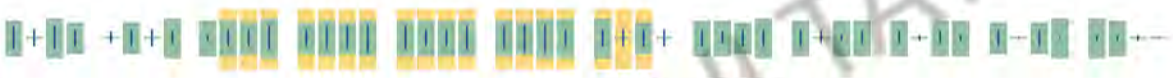
Lawrence's Goldfinch BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)



Nuttall's Woodpecker BCC - BCR (This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA)

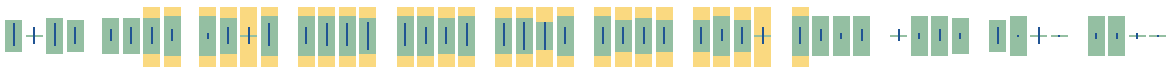


Oak Titmouse BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)

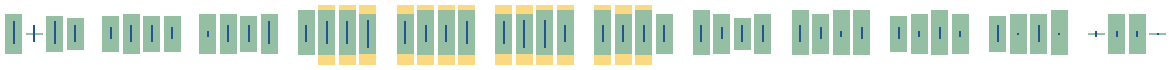


Rufous Hummingbird BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)

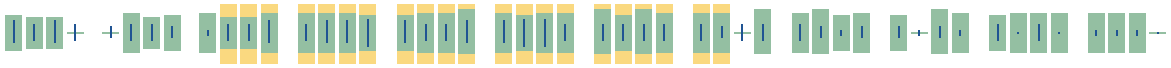
Song Sparrow BCC - BCR (This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA)



Spotted Towhee BCC - BCR (This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA)



Wrentit BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)



Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

Nationwide Conservation Measures describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. Additional measures or permits may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the migratory birds potentially occurring in my specified location?

The Migratory Bird Resource List is comprised of USFWS Birds of Conservation Concern (BCC) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (Eagle Act requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the AKN Phenology Tool.

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the Avian Knowledge Network (AKN). This data is derived from a growing collection of survey, banding, and citizen science datasets .

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering, migrating or present year-round in my project area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may refer to the following resources: The Cornell Lab of Ornithology All About Birds Bird Guide, or (if you are unsuccessful in locating the bird of interest there), the Cornell Lab of Ornithology Neotropical Birds guide. If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are Birds of Conservation Concern (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the Eagle Act requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the Northeast Ocean Data Portal. The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the Diving Bird Study and the nanotag studies or contact Caleb Spiegel or Pam Loring.

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to obtain a permit to avoid violating the Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting

point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

Facilities

National Wildlife Refuge lands

Any activity proposed on lands managed by the National Wildlife Refuge system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGE LANDS AT THIS LOCATION.

Fish hatcheries

THERE ARE NO FISH HATCHERIES AT THIS LOCATION.

Wetlands in the National Wetlands Inventory

Impacts to NWI wetlands and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local U.S. Army Corps of Engineers District.

Please note that the NWI data being shown may be out of date. We are currently working to update our NWI data set. We recommend you verify these results with a site visit to determine the actual extent of wetlands on site.

This location overlaps the following wetlands:

FRESHWATER FORESTED/SHRUB WETLAND

- PFOC
- PFOA

A full description for each wetland code can be found at the National Wetlands Inventory website

Data limitations

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

Data exclusions

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tuberficid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

Data precautions

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

APPENDIX C
Representative Photographs of Study Area

View 1. View to east of existing bridge crossing of Peters Creek.

View 2. View to the west of existing bridge.

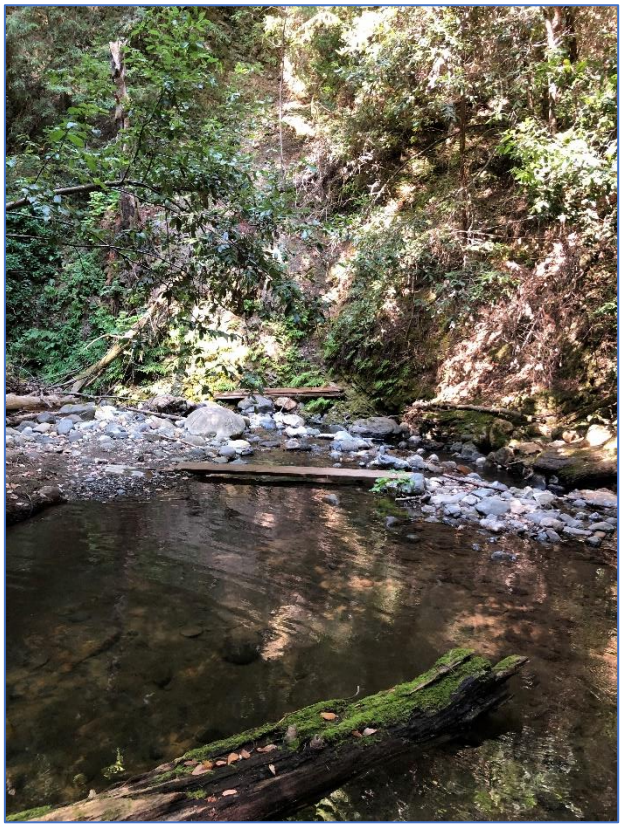
View 3. View of west bank of Peters Creek channel under existing bridge.

View 4. View of underside of existing bridge, showing old railroad car understructure.

View 5. View of south bank to be repaired and stabilized.

View 6. View of unvegetated ephemeral drainage along old roadbed, looking upslope into ravine.

View 7. View of upper crossing from southeast bank, near new bridge footing.



View 8. View upstream of the bridge crossing, where the temporary cofferdam would be located.

View 9. View upstream at the southeast bank of the upper bridge crossing.

View 10. View of mature old growth redwood forest further upstream on State Parks lands.

QUESTA
ENGINEERING CORP.

Peter's Creek Crossing and Trail Improvements Geotechnical Investigation

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Prepared for:

Save the Redwoods League
111 Sutter Street
San Francisco, CA 94104

Submitted by:

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Point Richmond, California 94807
(510) 236-6114

November 22, 2019

Civil,
Environmental
& Water
Resources

Peters Creek Crossing

Geotechnical Investigation Report

Prepared for:

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111 Sutter Street
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Questa Project Number 1900028

Sydney Temple, PE # 59695
Principal/Senior Engineer

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Senior Engineering Geologist
Expiration 7/31/2021

November 22, 2019

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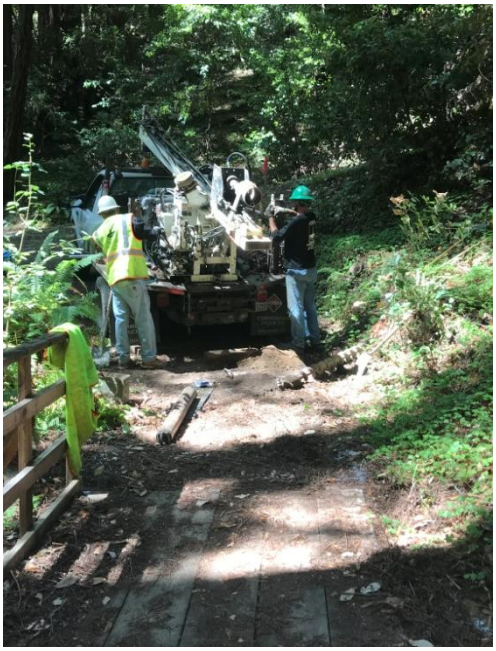
INTRODUCTION

This report presents the results of the Geotechnical Investigation for the construction of new trail and two bridges for vehicle and pedestrian use along Peter's Creek on the Save the Redwoods League property near the Portola Redwoods State Park in San Mateo County, California. Due to access constraints, the Bridge #1 site was the only area to undergo subsurface exploration. Borehole locations were chosen for existing bridge reconstruction to allow for vehicle crossings. Soil testing was accomplished for planning the construction of a new pedestrian bridge upstream from this site, and for the construction of a new trail that will connect the new pedestrian bridge to an existing trail portion located upstream. This investigation included review of geologic, soils, and seismic maps of the region and site vicinity, a subsurface exploration including the drilling, logging, and sampling of two boreholes completed by using a Simco 2400 SK-1 portable drilling rig and an auxiliary mobile limited access unit, laboratory soils testing, engineering analysis and report preparation.

Boreholes B-1 and B-2, were drilled 10' east and west, respectively, of the existing bridge, as shown on **Figure 1**, and the **Pictures 1** and **2** displayed below. Due to limited accessibility, borehole B-1 was drilling with an A-frame portable drilling set-up, while Borehole B-1 was drilled with a Simco 2400 SK-1.

Photograph 1. B-1, east of bridge, drilled with a portable rig



Photograph 2. B-2, west of bridge, drilled with Simco 2400 SK-1

REGIONAL SEISMICITY

The Project site lies in the tectonically active Coast Ranges Geomorphic Province of Northern California. The geologic and geomorphic structure of the northwest trending ridges and valleys in the region, including the Santa Cruz Mountains, Marin Headlands, the Hamilton-Diablo Range, and San Francisco Bay, are controlled by active tectonism along the boundary between the North American and Pacific Tectonic Plates, defined by the San Andreas Fault System. Regional faults have predominantly right-lateral strike-slip (horizontal) movement, with lesser dip-slip (vertical) components of displacement. Horizontal and vertical movement is distributed on the various fault strands within a fault zone. Throughout geologic time the fault strands experiencing active deformation change in response to regional shifts in stress and strain from plate motions.

The nearest known active fault is the San Andreas fault, located approximately 3.4 miles to the northeast (**Figure 2**). Other nearby active faults include the San Gregorio fault located approximately 11 miles to the southwest, the Seal Cove fault located approximately 22 miles to the northwest, the Hayward fault approximately 25 miles east-northeast and the Calaveras fault located approximately 25 miles to the east-northeast (CDMG 1994)[1]. A listing of active earthquake faults located in the project vicinity is presented in **Table 1,** on the following page.

Table 1. Active Earthquake Faults in Project Vicinity

Fault Name	Distance from Project Site (mi.)	Direction	Last Surface Rupture	Status	Maximum Characteristic Moment Magnitude[2]
Butano	2.4	SW	Quaternary	Potentially Active	--
San Andreas	3.4	NE	Historic	Active	7.9
San Gregorio	11	SW	Holocene	Active	6.9
Monte Vista	12	SE	Holocene	Active	--
Seal Cove	22	NW	Holocene	Active	6.7
Hayward	25	E/NE	Historic	Active	6.9
Calaveras	25	E/NE	Historic	Active	6.9
Monterey Bay	36	S	Holocene	Active	--
Greenville	45	E	Holocene	Active	6.9

Seismicity of the project region has resulted in several major earthquakes during the historic period, including the 1868 Hayward Earthquake, the 1906 San Francisco Earthquake, and most recently, the 1989 Loma Prieta Earthquake. Given this history, it is likely that major earthquakes will occur in the region in the future.

[1] California Division of Mines and Geology, 1996 and 2010, Fault Activity Map of California and Adjacent Areas, CDMG Geologic Data Map No. 6.

[2] 2007 Working Group on California Earthquake Probabilities (WGCEP). Uniform California Earthquake Rupture Forecast, Version 2. USGS Open File Report 2007-1437, CGS Special Report 20, 2008 and 2008 USGS National Seismic Hazards Maps – Source Parameters.

REGIONAL GEOLOGY

The project site lies in the tectonically active Santa Cruz Mountains within the Coast Ranges geomorphic province of Northern California. The northwest trending ridges and valleys of the Coast Ranges are characterized by northwest trending faults associated with and oriented sub-parallel to faults of the NW-SE trending San Andreas Fault System. This San Andreas fault is located ~4.5 miles northeast of the project location. In the San Francisco Bay area west of the San Andreas fault, regional geology is dominated by the Salinian Block granitic basement and overlying sedimentary rocks of Mesozoic and Cenozoic age.

Bedrock outcrops surrounding the site have been mapped as part of the Middle Miocene Monterey Formation, a medium to thick bedded laminated olive-gray bio-siliceous, organic rich mudstone and sandy siltstone deposit.[3] Bedrock is present in the creek channel in both of the proposed bridge locations as seen in Photographs 1 and 2 below.

Photograph 3. Bedrock exposed in channel bed near proposed Bridge Crossing 1.

Photograph 4. Bedrock exposed beneath existing bridge at proposed Bridge Crossing 2.

[3] California Geological Survey, 2017, Earthquake Zones of Required Investigation Mindego Hill Quadrangle, March, 2017.

SITE GEOLOGY

The geologic map of San Mateo County[4] (**Figure 3**) shows the site vicinity as underlain by the the Monterey Formation of middle Miocene age, consisting of grayish-brown, and brownish-black to very pale orange and white, porcelaneous shale with chert, porcelaneous mudstone, impure diatomite, calcareous claystone, and with small amounts of siltstone and sandstone near base. The Monterey is generally more silicious than the Santa Cruz Mudstone but closely resembles parts of the Purisima Formaition, especially the Pomponio Mudstone Member. Overlaying the site and bordering the entire east contacts with the Monterey Formation is what is known as the Lambert Shale (Oligocene and lower Miocene) which consists of a dark-gray to pinkish-brown, moderately well-cemented mudstone, siltstone, and claystone.

PRIMARY SEISMIC HAZARDS

Fault Rupture

Fault rupture is a seismic hazard that affects structures situated above an active fault. The hazard from fault rupture is the movement of the ground surface along a fault. Typically, this movement takes place during the short time of an earthquake, but can also occur slowly over many years in a process known as fault creep. As shown on the Earthquake Zones of Required Investigation (EZRI) map of the Mindego Hill Quadrangle[5] , the project site does not lie within an Alquist-Priolo Earthquake Fault Zone Boundary. The nearest Alquist-Priolo Earthquake Fault Zone Boundary to the site is for the San Andreas fault and is located approximately 3.4 miles northeast of the project site. Thus the potential for fault rupture at the site is considered very low.

SECONDARY SEISMIC HAZARDS

Ground Shaking

Strong ground, or seismic, shaking is a major hazard in the San Francisco Bay Region. The severity of ground shaking at any location depends on several variables such as earthquake magnitude, epicenter distance, local bedrock geology, thickness and seismic response of soil and sediment materials, ground water conditions, and topographic relief.

The active seismicity of the region also results in numerous earthquakes. Many of these earthquakes are too small to be felt by humans. The 1906 Great San Francisco Earthquake was a magnitude 7.9 earthquake which occurred along the San Andreas fault resulting in widespread damage in the San Mateo County area. The recent USGS Working Group on Earthquake Hazards (2014) indicates a greater than 70-percent chance of a M 7.0 or greater earthquake occurring in the San Francisco region (72%) and Northern California region (76%) between 2014 and 2043. For

[4] United States Geological Survey, 1996, Geology of the Onshore Parts of San Mateo County, California, USGS Open File Report 96-137.

[5] California Division of Mines and Geology, 2000, Digital Images of Alquist-Priolo Earthquake Fault Zone Map of the Richmond Quadrangle, California, 1982, 1:24,000.

the Northern San Andreas fault located east of the site, the probability for a M 6.7 or above earthquake occurring in the next 30 years (2014-2043) is 6.4 percent[6] (USGS, 2015).

The Peak Ground Accelaration (**PGA**) that is expected at the site was calculated using the USGS Seismic Design data and the SEA/OSHPD Seismic Design Calculator Program. The **PGA** with a 10 percent chance of exceedence in 50 years is 0.741 G, or 74.1% of the force of gravity. Violent ground shaking can be expected at the site if a major earthquake occurs on the San Andreas fault.

Seismically Induced Ground Failure

Seismically induced ground failure refers to a loss of ground strength and/or cohesion as a result of seismically induced ground shaking (generated by an earthquake). There are multiple types of ground failure hazards, including liquefaction, differential settlement, lurch cracking, lateral spreading and seismically induced landslides. Seismically induced ground failure could also result in landsliding on the adjacent steeply sloping areas. Large landslides could potentially cause changes to the drainage patterns within the creek as well as block access to the trail and proposed bridges. No active landslides were noted at either bridge site but there remains the possibility of larger deep seated or bedrock slides to impact the bridge sites as discussed below.

SLOPE INSTABILITY AND LANDSLIDES

The project site is a creek valley located adjacent to moderately to steeply sloping areas. The slopes in the area vary from 30 to 60 percent. Creek banks vary from 30 to 90 percent in steepness, with local instabilities caused by erosional forces in the stream and by the falling of trees in wind storms. These banks are subject to erosional and scour forces during storm events. Bank stability could also be affected by earthquake induced ground shaking resulting in bank failures. Based on potential for bank instability along Peters Creek, the abutments for the new bridges should be evaluated for active scour and shallow bank instabilities to impact the bridges. In addition, following removal of the existing bridge, the disturbed stream banks should be protected to prevent erosion and should be planted with appropriate native vegetation to provide long term stability and riparian habitat.

EXPANSIVE SOILS

Expansive soils are those that shrink and swell in response to changes in moisture content. Native soils on the site consist predominantly of clayey sand and sandy lean clay soils with a low to moderate expansion potential. The site is generally susceptible to low to moderate soil expansion due to soil moisture fluctuations. However, within a redwood forest environment moisture fluctuations seasonally are not as extreme as in open, non-coastal areas. Facility improvements at the site should be designed to resist the effects of soil heave and settlement in

[6] United States Geological Survey, 2015, UCERF3: A New Earthquake Forecast for California's Complex Fault System, USGS Fact Sheet 2015-3009

response to seasonal moisture fluctuations in underlying soils, in areas where moisture fluctuations are expected.

FIELD INVESTIGATION

Questa Engineering performed a subsurface investigation including the drilling, logging and sampling of four boreholes on September 9, 2019. Drilling was performed by Cenozoic Exploration of Aptos, California, using a Simco 2400 SK-1 drilling rig and an auxiliary mobile limited access unit powered with hydraulic hoses from the drilling rig. Hollow stem and solid stem continuous flight augers were used to drill the holes.

Two sampler types were employed, a California Modified Sampler (CA Mod.) with a 2.45-inch inside diameter (I.D.) and a Standard Penetration Test Sampler (SPT) with a 1.38-inch I.D. Blow counts were based on a 30-inch free fall with a 140-pound hammer driving the sampler into the ground. The blow count used to drive the SPT sampler one foot, also known as the N-value, is reported on the logs of boreholes. Blow counts from the California Modified Sampler were converted to the N-value by multiplying the number of blow counts taken to drive the bottom foot of the sampler by 0.67 (i.e., the ratio of the outside diameters of the SPT to the CA Mod. sampler). Boreholes were completed to depths of 7.5 feet to 20 feet BGS.

Locations of the boreholes are presented on **Figure 1.** The logs of boreholes are presented as **Figures 4** and **Figure 5.** Soils were logged in accordance with the Unified Soil Classification System (ASTM D 2487), which is summarized on **Figure 6**. Rocks were logged according to the Physical Properties Criteria for Description of Bedrock that is presented as **Figure 7**. Soil and rock colors were determined by use of a Munsell Soil Color Chart.

Borehole B-1 (**Figure 4**) penetrated medium dense clayey sand to a depth of 1.5 feet below ground surface (BGS), underlain by yellow brown siltstone from 1.5 feet BGS to 2.5 feet and dark yellow brown siliceous siltstone from 2.5 to 5 feet BGS. From 5 feet BGS to the bottom of the borehole at 7.5 feet BGS, yellowish brown siliceous mudstone with thin interbedded siltstone was encountered.

Borehole B-2 (**Figure 5**) penetrated dark brown clayey sand from the ground surface to a depth of 1.5 feet BGS. From 1.5 to 3.0 feet BGS, dark grayish brown clayey gravel with mudstone clasts was encountered. From 3.0 to 6.0 feet BGS, brown sandy, clayey gravel with pinkish white mudstone clasts was encountered. From 6.0 feet to 7.0 feet, fine-grained sandstone was found. From 7.0 feet BGS to 12.5 feet BGS very dark grayish-brown mudstone was penetrated. Black siliceous shale was found from 12 to 12.5 feet BGS and was underlain by very dark grayish brown mudstone to the bottom of the hole at 20 feet BGS.

No groundwater was present in either of the boreholes.

LABORATORY TESTING

Laboratory testing was performed on selected soil samples from the boreholes. Laboratory testing was performed in Questa's laboratory in general accordance with American Society for Testing and Materials (ASTM) standards for moisture content, dry density, particle size analysis, and liquid and plastic limits (including plasticity index), and compressive strength using the pocket penetrometer. Corrosion testing was performed in accordance with Caltrans standards by Cooper Testing of Palo Alto, California, with the testing report included as **Appendix A.** A brief explanation of testing performed follows.

Moisture-Density

Moisture content and dry density testing were performed on selected soil samples to characterize the moisture content and dry density of material throughout the soil column. Testing was performed in accordance with ASTM 2937. In this test, the dry density of the soil is determined by a mathematical relationship between moisture content and wet density of the soil sample. Results of moisture-density testing are summarized on the borehole logs (**Figures 4** and **5**).

Particle Size Analysis

Particle size analysis testing was performed in accordance with ASTM D 422. Samples were washed through the number 200 sieve to determine the percentage of silt plus clay. Following drying, samples were analyzed for particle size using the dry sieve method to determine various gravel and sand fraction percentages. Results are presented on **Figures 8** and **9**.

Liquid Limit, Plastic Limit and Plasticity Index

Testing of liquid limit, plastic limit and plasticity index were performed in accordance with ASTM D 4318. Results are presented on **Figures 10** and summarized on the borehole logs.

Corrosion Testing

Soil samples were obtained for corrosion analyses from borehole B-2 at 1.5 to 2.0 feet BGS. Based on the results of the corrosion analyses, the site soils are considered not corrosive to concrete by Caltrans standards (Caltrans Corrosion Guidelines version 2.0). The chloride concentration is less than 500 mg/kg (result is 7 mg/kg), and resistivity is greater than 1,000 Ohm-cm (result is 2,110 Ohm-cm), and pH was 6.5. Testing was also performed for sulfate concentration (53 mg/kg), redox (566 mv), and percent moisture (32.8 percent). The full laboratory test report by Cooper Testing Labs is presented in **Appendix A**.

GEOTECHNICAL RECOMMENDATIONS

Site Preparation and Grading

Areas to be graded for road and bridge construction should be cleared and grubbed to a minimum depth of 4 to 6 inches to remove vegetation and surface organic soils, or to the depth of subgrade soil preparation at the base of the structural section which includes aggregate base (AB) and trail or road surfacing. Subgrade soils should be scarified to a depth of six to ten inches, moisture conditioned (wetted or dried) to a moisture content of 2 to 4 percent above the optimum, and recompacted to a minimum of 95 percent of the maximum dry density. A woven geotextile segregation fabric could be placed at the top of the compacted subgrade soils where needed to provide subgrade stabilization and segregation from the overlying aggregate base and surface treatment. The woven geotextile fabric should consist of Mirafi HP 370 or approved equivalent.

Bridge #1

Based on results of our preliminary geotechnical investigation, the soils and bedrock at the proposed Bridge #1 abutment locations have good supporting characteristics for the proposed bridge foundation at the location of borehole B-1 and moderately good characteristics at borehole B-2.

The pedestrian bridge can be founded on spread footings provided that the soils and bedrock underlying the proposed bridge abutments are excavated to a minimum depth of 3.0 feet below ground surface at B-1 and 7.0 feet at borehole B-2, and replaced with Controlled Low Strength Material (CLSM), a low strength Portland cement, sand and gravel mix, or with lean cement concrete. The CLSM or lean cement-concrete should have a minimum strength of 100 psi at 28 days.

Spread Footings

For spread footings founded on CLSM over bedrock, allowable bearing pressure of 3,000 pounds per square foot (psf) can be used for dead plus live loads, and can be increased by 33 percent for total loads, including wind or seismic forces. Resistance to lateral loads should be based on a passive pressure of 250 psf on the face of the footing in soil and bedrock. In addition, a friction coefficient of 0.23 can be used on the base of the footing on CLSM/lean cement concrete. If water is present in footings, it should be pumped out prior to placement of the concrete.

The footing steel rebar reinforcements should be placed with a minimum of 3 inches clearance from the bottom and sidewalls of the footings using dobees or other approved spacers. Concrete should be Type II/V, a corrosion resistant concrete.

Bridge #2

The soils and bedrock appear to be similar at Bridge #2 to those found at Bridge #1. Relatively shallow bedrock depths are anticipated at the Bridge #2 location based on the observed exposures of bedrock in the channel and locally along the creek banks. This site will be further evaluated and a subsurface investigation will be performed when access to the site is improved.

Retaining Wall Design Parameters

Retaining walls at the site must be designed to resist lateral earth pressures plus additional lateral pressures that may be caused by surcharge loads such as seismic forces. Walls that are free to rotate should be designed for active lateral earth pressures. If walls are restrained by rigid elements to prevent rotation, then they should be designed for at-rest earth pressures. Retaining walls backfilled with granular soils should be designed to resist lateral earth pressures due to an equivalent fluid having unit weight as shown in **Table 2**.

Table 2. Retaining Wall Design Parameters

	Active Pressure pounds per cubic foot (pcf)	At-Rest Earth Pressure (pcf)	Seismic Pressure (psf)
Level Backfill	45	65	20H

Retaining walls should be designed to be fully drained and include a backdrain can be designed for active pressures or at-rest earth pressure in accordance with the values given in **Table 2** for the above design groundwater condition. Retaining walls that are designed to be located below the design groundwater table or that do not include a backdrain should be designed to withstand the pressure of saturated soils as presented in **Table 2** for below design groundwater table elevation.

The seismic conditions should be determined by adding the pressures from earthquake loading to active pressure on the retaining walls. All walls greater than 6 feet in height should include seismic pressure. We recommend an incremental seismic pressure of 20H in pounds per square foot (psf), where H is the height of the retaining wall in feet. The pressure distribution may be considered to be an inverted triangle with the maximum pressure at the top and zero on the bottom. The resultant of this force may be assumed to be located at 1/3 the height of the wall below the top of the wall.

Unit weight (total) of the existing soils and weathered rock is approximately 110 pcf. Unit weight (total) of aggregate base granular backfill is approximately 135 pcf for recycled and 145 pcf for quarried material. The effective internal angle of friction of the existing soils can be assumed to be 25 degrees and the aggregate base or gravel backfill 40 degrees for design purposes.

Seismic Design Criteria

The project seismic design criteria were calculated in accordance with provisions of 2010 ASCE 7-10 (with 2013 errata) in accordance with the 2016 California Building Code, using the OSHPD Seismic Design Maps calculator on 10/30/2019. This is based on United States Geological Survey data. The project site was assigned to Site Class C, very dense soil and soft rock conditions based on results of our Geotechnical Investigation. This information is summarized in **Table 3**, along with seismic design criteria for design of project elements required to be designed in accordance with the 2016 California Building Code seismic design criteria and 2010 ASCE 7-10 (with 2013 errata).

Table 3. Seismic Design Criteria in accordance with ASCE 7-10 and 2016 CBC

Site Class	C
Soil Profile Name	Very Dense soil and soft rock
Seismic Design Category	E
Mapped Spectral Response for Short Periods- 0.2 Sec (S_s)	1.882 g
Mapped Spectral Response for Long Periods- 1 Sec (S_1)	0.878 g
Adjusted Maximum Considered EQ Spectral Response for Short Periods (S_{MS})	1.882
Adjusted Maximum Considered EQ Spectral Response for Long Periods (S_{M1})	1.141
Design (5-percent damped) Spectral Acceleration Parameters at short periods (S_{DS})	1.254
Design (5-percent damped) Spectral Acceleration Parameters at long periods (S_{D1})	0.761
F_a Site amplification factor at 0.2 second	1.0
F_v Site amplification factor at 1.0 second	1.3
T_L Long-period Transition period in seconds	12 seconds
PGA MCE_G Peak Ground Acceleration	0.741
F_{PGA} Site Amplification factor at PGA	1.0
PGA_M Site-modified Peak Ground Acceleration	0.741
C_{RS} Mapped value of the risk coefficient at short periods	0.956
C_{R1} Mapped value of the risk coefficient at a period of 1 second	0.908

CONCLUSIONS

The project is feasible from a Geotechnical standpoint, provided that our recommendations are followed during design and construction of the project. Provided that the site is properly prepared and the structures and foundations are designed and constructed as recommended, we estimate that normal post-construction settlement for the bridge #1 will be relatively small, less than 1.5 inches. Differential settlements from the west abutment to the east abutment could be as much as 1.0 inches.

CONSTRUCTION OBSERVATIONS AND TESTING

We should review the project plans and specifications for conformance with the intent of our recommendations. During construction we should observe and test all site preparation and grading to check the results of work by your contractor. This will allow us to observe that subsurface conditions are as anticipated and to make supplemental recommendations when needed. These services during construction should include:

X Site preparation and fill placement should be observed and tested.

X Subgrade for all fill and concrete should be tested and approved before placing fill or rock.

X The excavation of footings should be observed on a continuous basis to confirm that firm supporting material is encountered and to develop/verify depth criteria in accordance with building code requirements.

X Cylinders of CLSM or lean cement concrete should be collected at the time of pouring and should be tested at 7 and 28 days.

X We should be present during concrete pouring to verify that the water is pumped and concrete is placed correctly in footings.

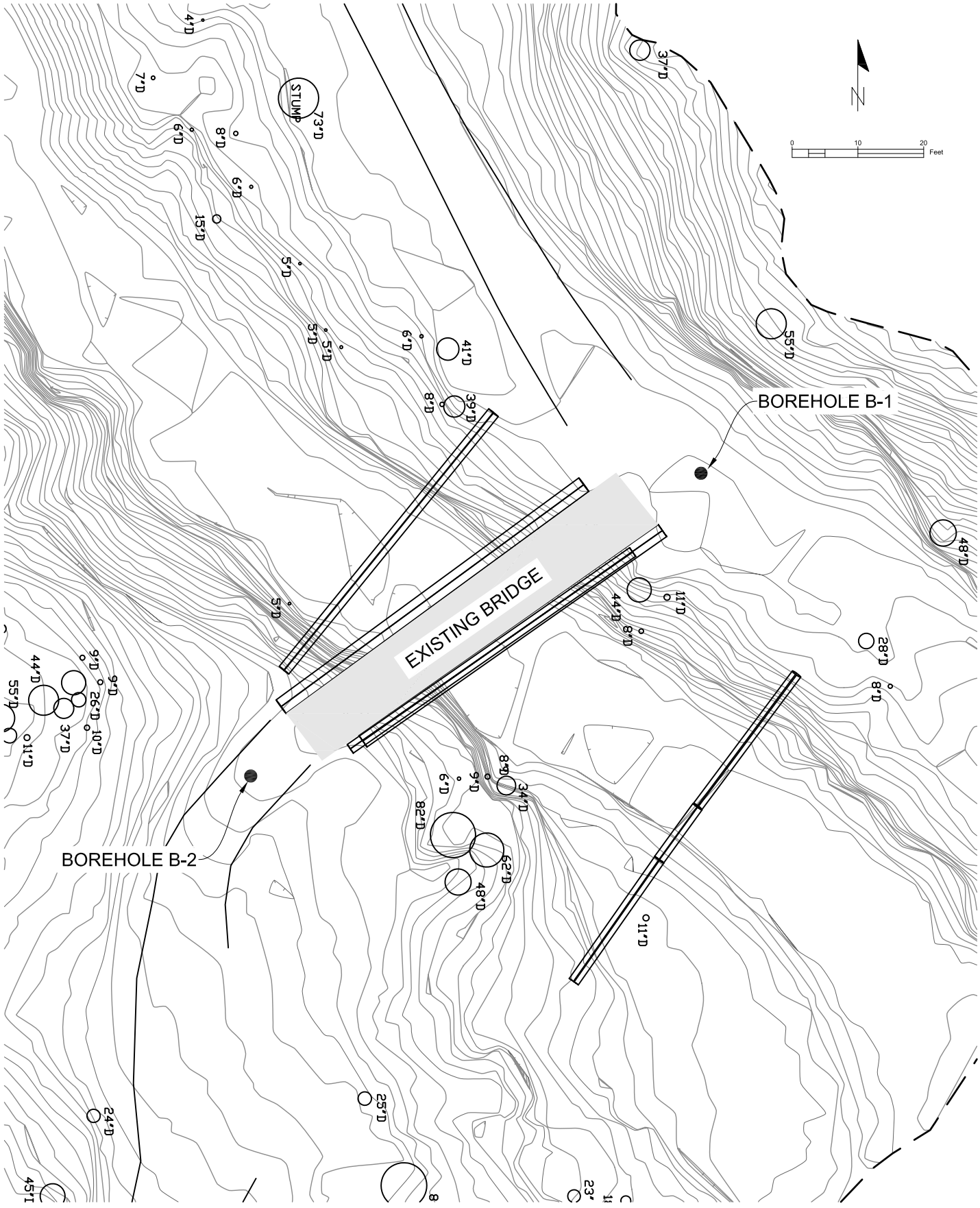
LIMITATIONS

This investigation was performed in accordance with present geotechnical and engineering geologic standards applicable to this project. In our opinion, the scope of services adequately supports the conclusions and recommendations presented. The findings are valid now, but should not be relied upon after two years without our review.

The recommendations of this report are based upon the assumption that the conditions do not deviate from those interpreted from the surface observations of this investigation and review of available subsurface information developed by others. If any variation or undesirable conditions are encountered during construction, or if the proposed construction differs from that planned at the present time, we should be notified so that supplemental recommendations can be given. The recommendations of this report are intended for the site described only, and must not be extended to adjacent areas.

This report is issued with the understanding that it is the responsibility of the owner to ensure that contractors and subcontractors carry out the recommendations presented.

Figures



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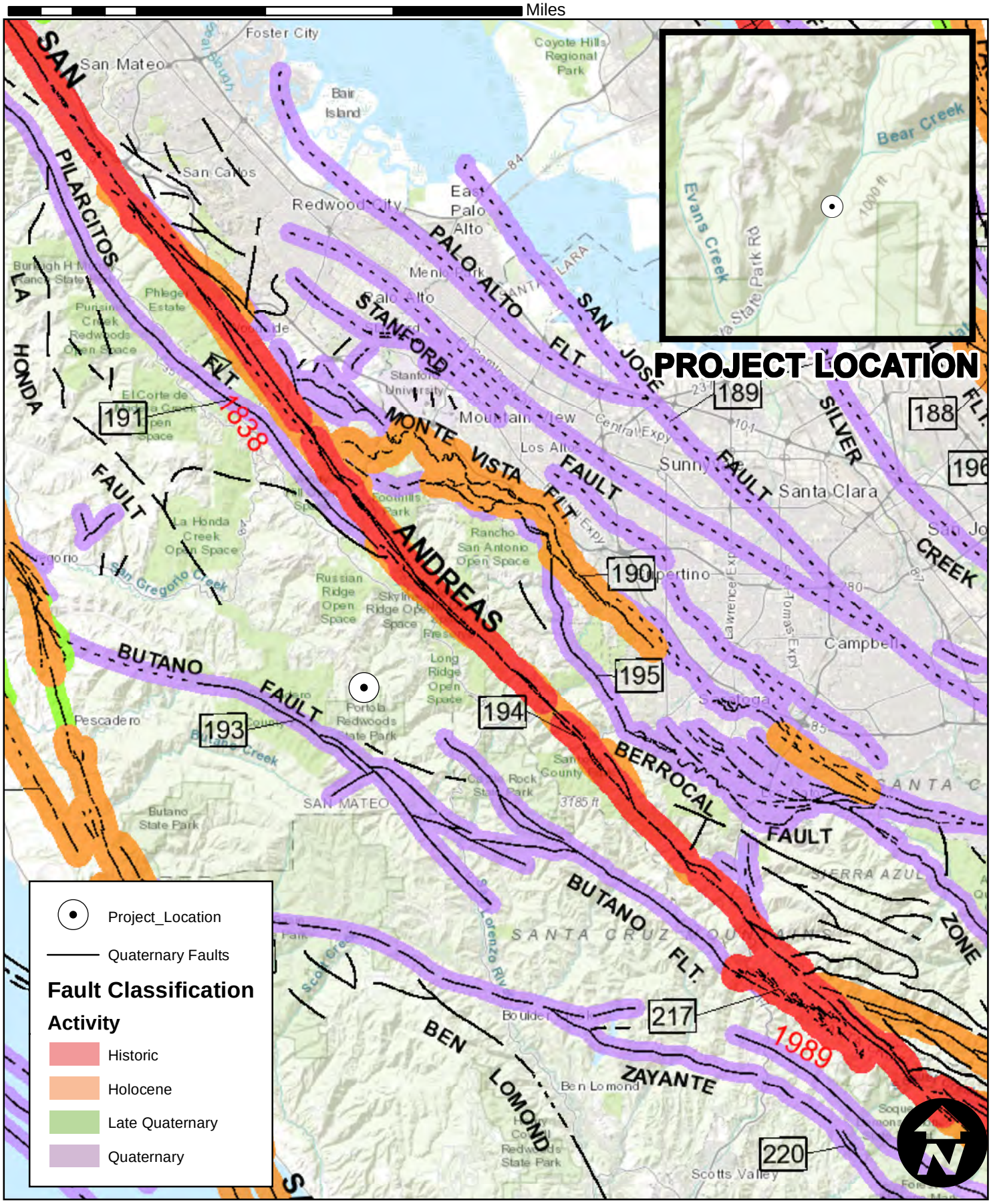
Design:	AM
Drawn:	AM
Checked:	ST
Appr'd:	ST

PETERS CREEK CROSSING
LOCATION MAP

LA HONDA, CALIFORNIA

FIGURE
1



PROJECT NO. 1900028

DRAWN BY TJC 9-30-2019

FAULT ZONE MAP

PORTOLA REDWOODS STATE PARK
SAN MATEO, CALIFORNIA

SOURCE: CALIFORNIA GEOLOGICAL SURVEY (2010), MAPS OF THE ALIQUIST PRIOLO FAULT ZONES

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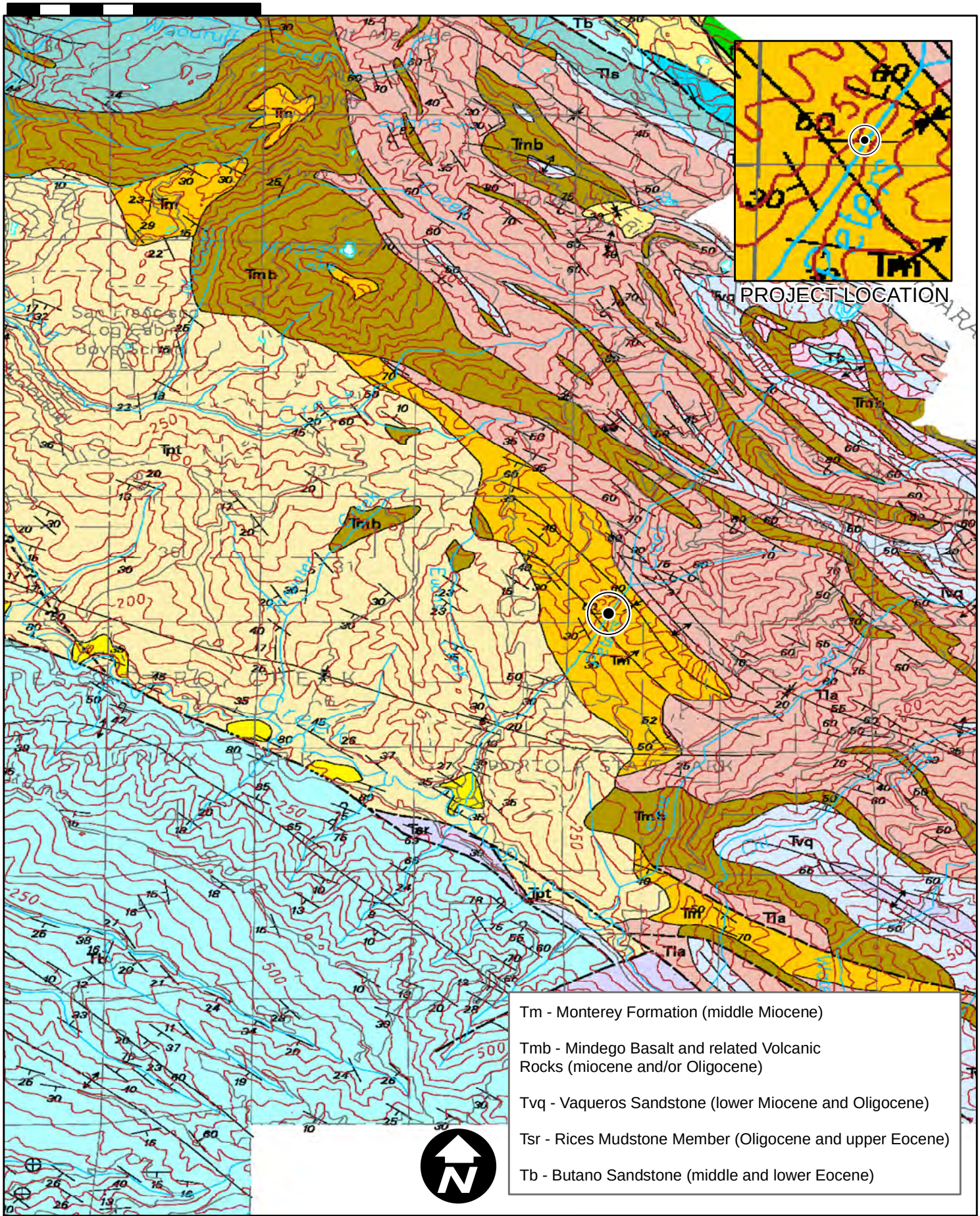
FIGURE 2



GEOLOGIC MAP

PORTOLA REDWOODS STATE PARK

SAN MATEO, CALIFORNIA

SOURCE: GEOLOGY OF THE ONSHORE PART OF SAN MATEO COUNTY, CALIFORNIA
OPEN FILE REPORT 98-137

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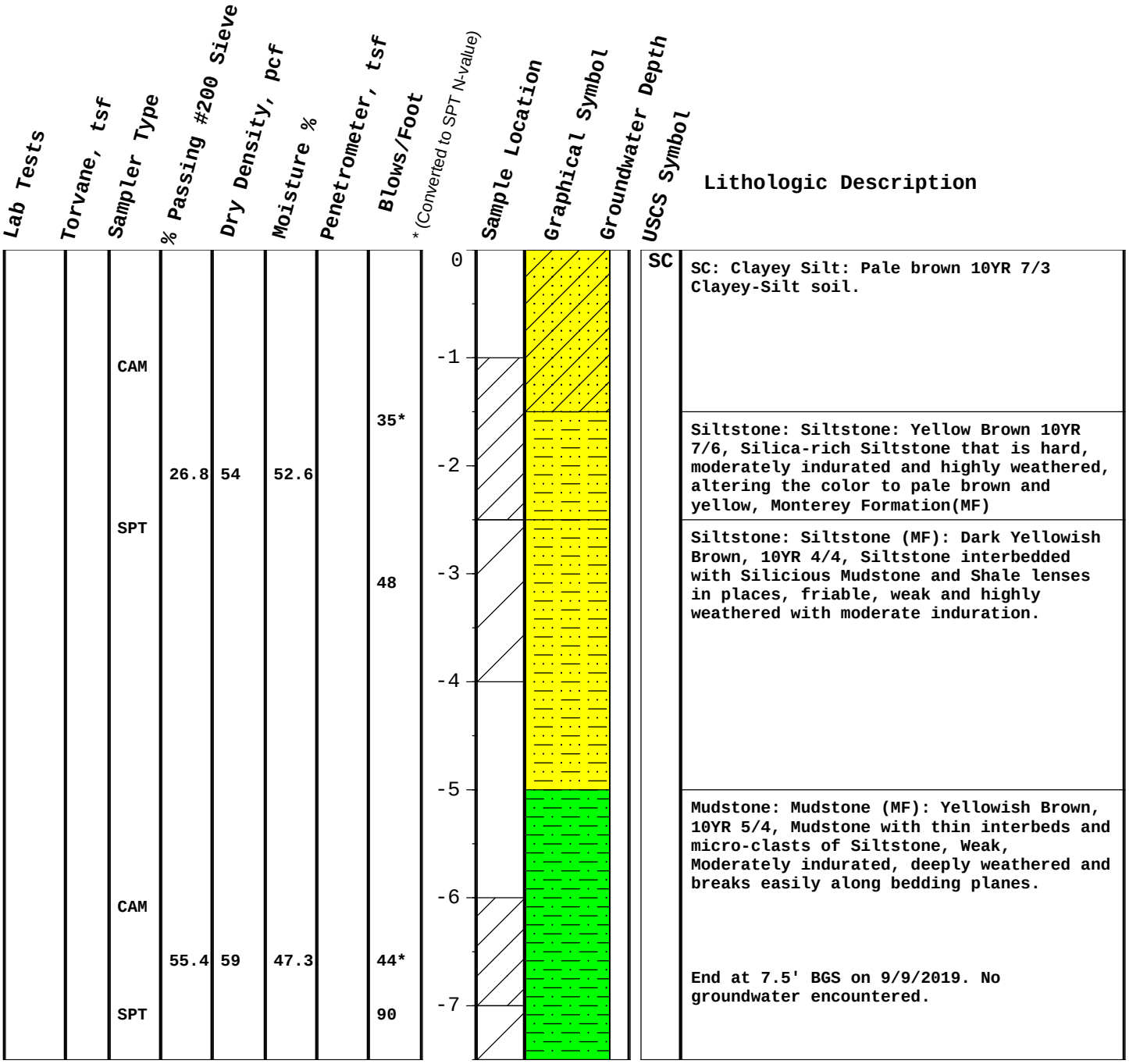
FIGURE 3

DRAWN BY TJC ON 9/16/2019



***Sampling was performed by Denovo Drilling using a hydraulic portable drill rig equipped with solid flight augers.**

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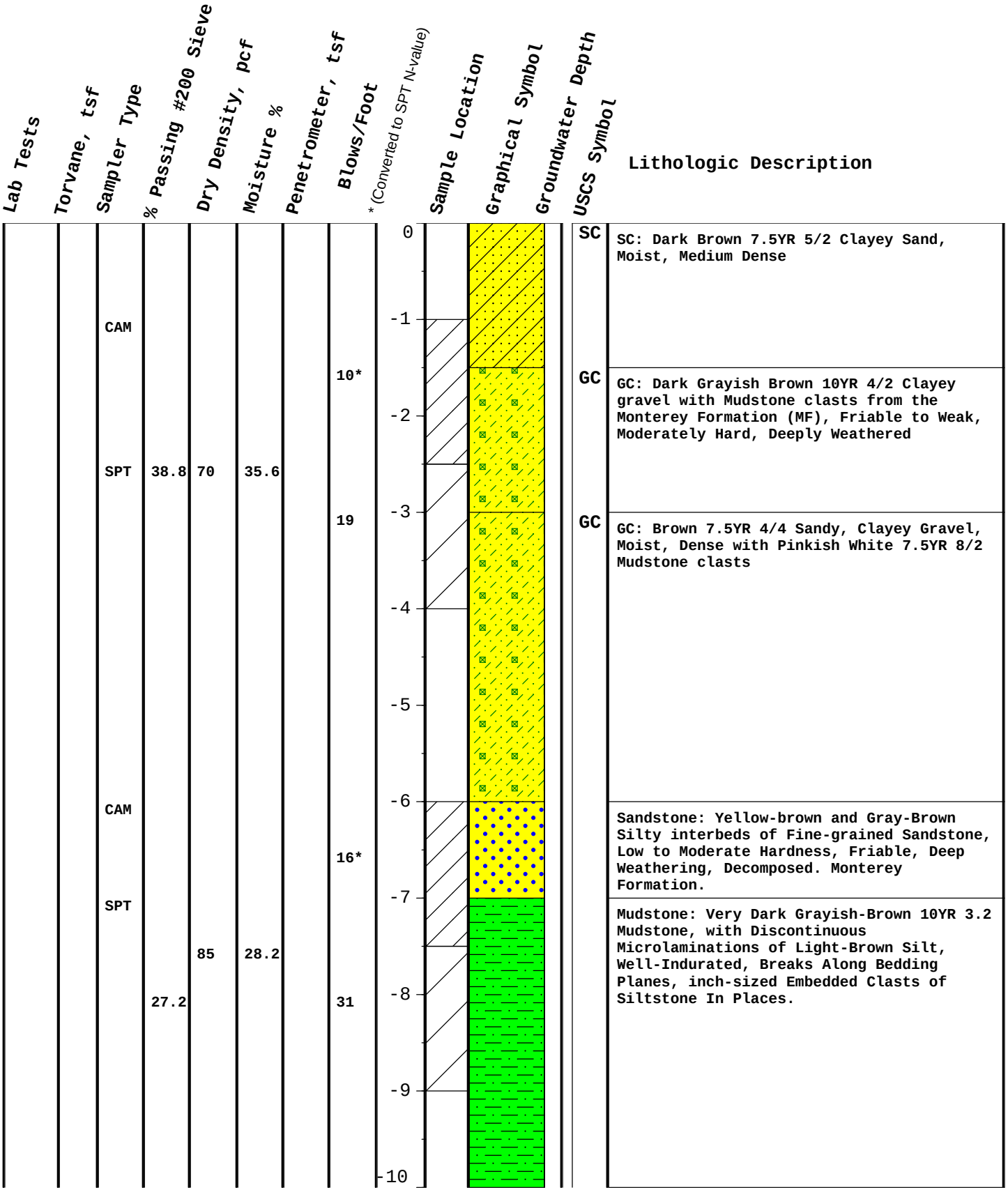
LOG OF BOREHOLEB-1

Portola Redwoods Bridge

La Honda, CA

Figure 4



***Sampling was performed by Denovo Drilling using a hydraulic portable drill rig equipped with solid flight augers.**

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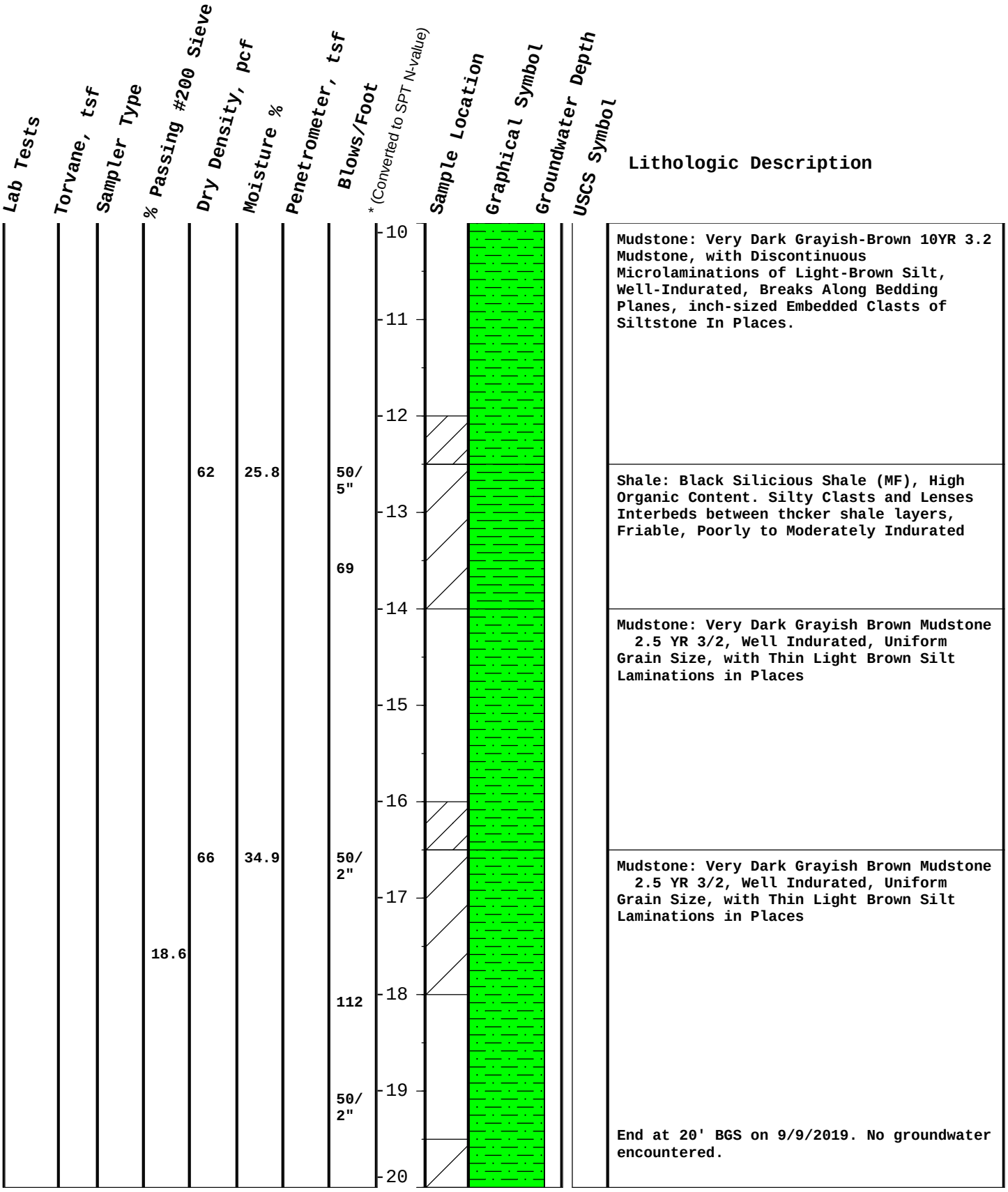
LOG OF BOREHOLEB-2

Portola Redwoods Bridge

La Honda, CA

Figure 5



***Sampling was performed by Denovo Drilling using a hydraulic portable drill rig equipped with solid flight augers.**

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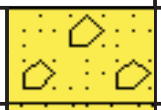
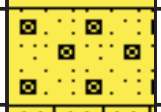
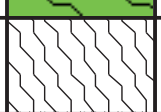
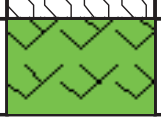
LOG OF BOREHOLEB-2

Portola Redwoods Bridge

La Honda, CA

Figure 5

MAJOR DIVISION					TYPICAL NAMES
COARSE GRAINED SOILS MORE THAN HALF IS LARGER THAN #200 SIEVE	GRAVELS MORE THAN HALF COARSE FRACTION IS LARGER THAN #4 SIEVE SIZE	CLEAN GRAVELS WITH LITTLE OR NO FINES	GW		Well graded Gravels, Gravel-Sand mixtures
			GP		Poorly graded Gravels, Gravel-Sand mixtures
		GRAVELS WITH OVER 12% FINES	GM		Silty Gravels, poorly graded, Gravel-Sand-Silt mixtures
			GC		Clayey Gravels, poorly graded Gravel-Sand-Clay mixtures
	SANDS MORE THAN HALF COARSE FRACTION IS LARGER THAN #4 SIEVE SIZE	CLEAN SANDS WITH LITTLE OR NO FINES	SW		Well graded Sands, Gravelly-Sands
			SP		Poorly graded Sands, Gravelly-Sands
		SANDS WITH OVER 12% FINES	SM		Silty Sands, poorly graded, Sand-Silt mixtures
			SC		Clayey Sands, poorly graded, Sand-Clay mixtures
FINE GRAINED SOILS MORE THAN HALF IS SMALLER THAN #200 SIEVE	SILTS AND CLAYS LIQUID LIMIT LESS THAN 50		ML		Inorganic Silts and very fine Sands, rock flour, Silty or Clayey fine Sands, or Clayey-Silts with slight plasticity
			CL		Inorganic Clays of low to medium plasticity, Gravelly Clays, Sandy Clays, Silty Clays, lean Clays
			OL		Organic Clays and Organic Silty Clays of low plasticity
	SILTS AND CLAYS LIQUID LIMIT GREATER THAN 50		MH		Inorganic Silts, micaceous or diatomaceous fine Sandy or Silty Soils,elastic Silts
			CH		Inorganic Clays of high plasticity, fat Clays
			OH		Organic Clays of medium to high plasticity, organic Silts
HIGHLY ORGANIC SOILS			Pt		Peat and other highly organic soils

BOH	Bottom of hole	140 #	140 pound hammer dropped 30“
SPT	Standard Penetration Test Sampler (1.0“ inside diameter)	70 #	70 pound hammer dropped 30“
CAM	California Modified Sampler (S & H) (2.5“ inside diameter)	LL, PL, PI	Liquid Limit, Plastic Limit, Plasticity Index

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UNIFIED SOIL CLASSIFICATION SYSTEM AND KEY TO ABBREVIATIONS

FIGURE 6

PHYSICAL PROPERTIES CRITERIA FOR EVALUATING CONDITIONS OF BEDROCK

I. **INDURATION** - The process of hardening or consolidating of sediments or other rock aggregates through cementation, pressure, heat, or other cause.

U = unindurated P = poorly indurated M = moderately indurated W = well indurated

II. **BEDDING**

Splitting Property		Thickness (feet)	Stratification
massive	greater than 4.0	very thick bedded	
blocky		2.0 to 4.0	thick bedded
slabby		0.2 to 2.0	thin bedded
flaggy		0.05 to 0.2	very thin bedded
shaly or platy	0.01 to 0.05	laminated	
papery		less than 0.01	thinly laminated

III. **FRACTURING**

Intensity	Frequencies of Fractures (feet)
little fractured	greater than 4.0
occasionally fractured	1.0 to 4.0
moderately fractured	0.5 to 1.0
closely fractured	0.1 to 0.5
intensely fractured	0.05 to 0.1
crushed	less than 0.05

IV. **HARDNESS**

soft - Reserved for plastic material

low hardness - Can be gouged deeply or carved easily with a knife blade

moderately hard - Can be readily scratched by a knife blade; scratch leaves a heavy trace of dust and is readily visible after the powder has been blown away

hard - Can be scratched with difficulty; scratch produces little powder and is often faintly visible

very hard - Cannot be scratched with knife blade; leaves a metallic streak

V. **STRENGTH**

plastic - Very low strength, similar to soil

friable - Crumbles easily by rubbing with fingers

weak - An unfractured specimen will crumble under light hammer blows

moderately strong - Specimen will withstand a few heavy hammer blows before breaking

strong - Specimen will withstand a few heavy ringing hammer blows before breaking into large fragments

very strong - Specimen will resist heavy ringing hammer blows and will yield with difficulty only dust and small flying fragments

VI. **WEATHERING** - The physical and chemical disintegration and decomposition or rocks and minerals by natural processes such as oxidation, reduction, hydration, solution, carbonation, and freezing and thawing.

deep - Moderate to complete mineral decomposition; extensive disintegration; deep and thorough discoloration; many fractures, all extensively coated or filled with oxides, carbonates and/or clay or silt

moderate - Slight change or partial decomposition of minerals; little disintegration; cementation is little to unaffected; moderate to occasionally intense discoloration; moderately coated fractures

little - No megascopic decomposition of minerals; little to no effect on normal cementation; slight and intermittent or localized discoloration; a few stains on fracture surfaces

fresh - Unaffected by weathering agents; no disintegration or discoloration; fractures usually less numerous than joints

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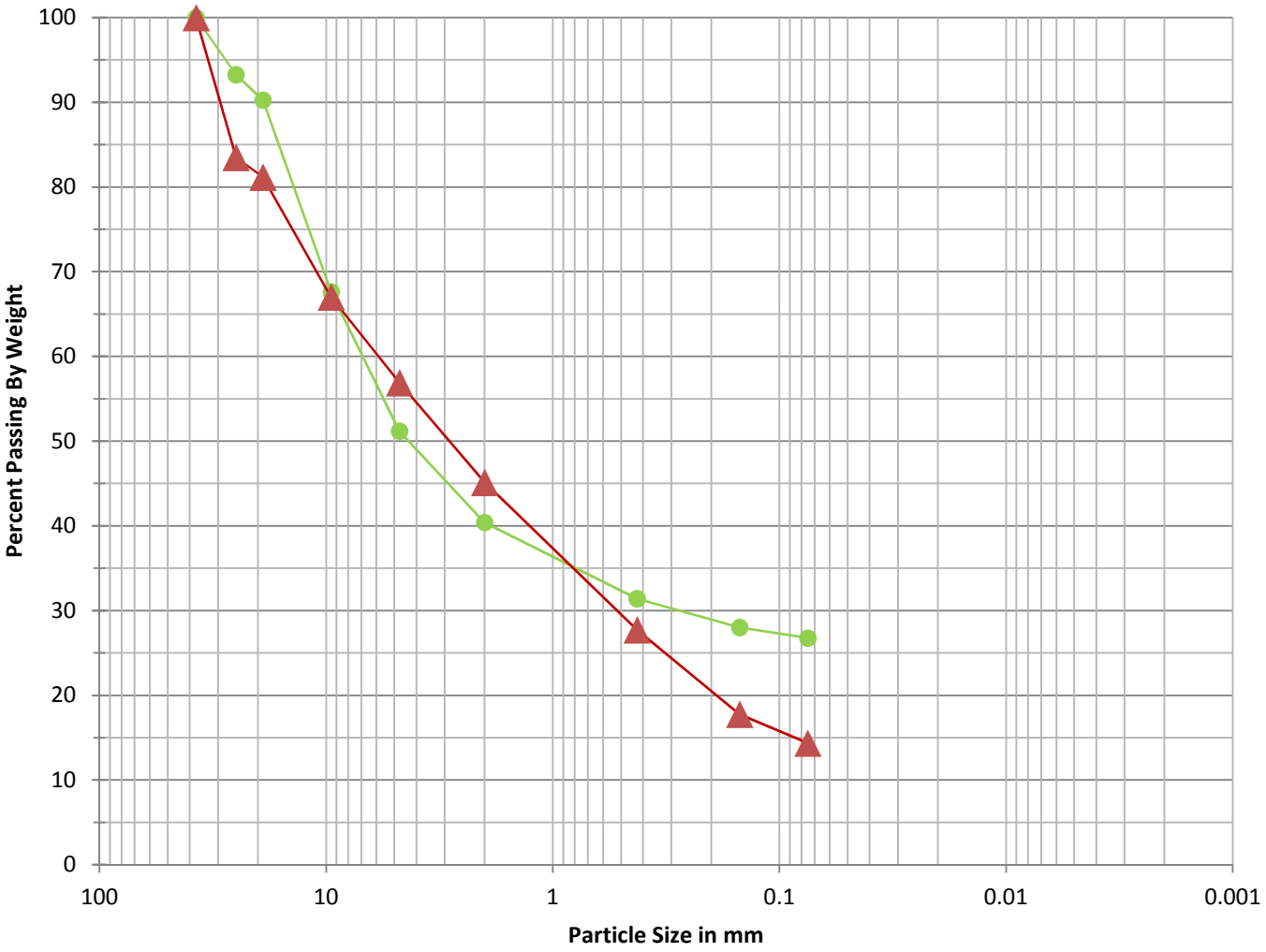
PHYSICAL PROPERTIES CRITERIA FOR EVALUATING CONDITIONS OF BEDROCK

FIGURE **7**

Particle Size Analysis



Gravel		Sand			Silt	Clay
Coarse	Fine	Coarse	Medium	Fine		

Symbol	Source
●	B-1, 1.5' - 2'
▲	B-2, 2' - 2.5'

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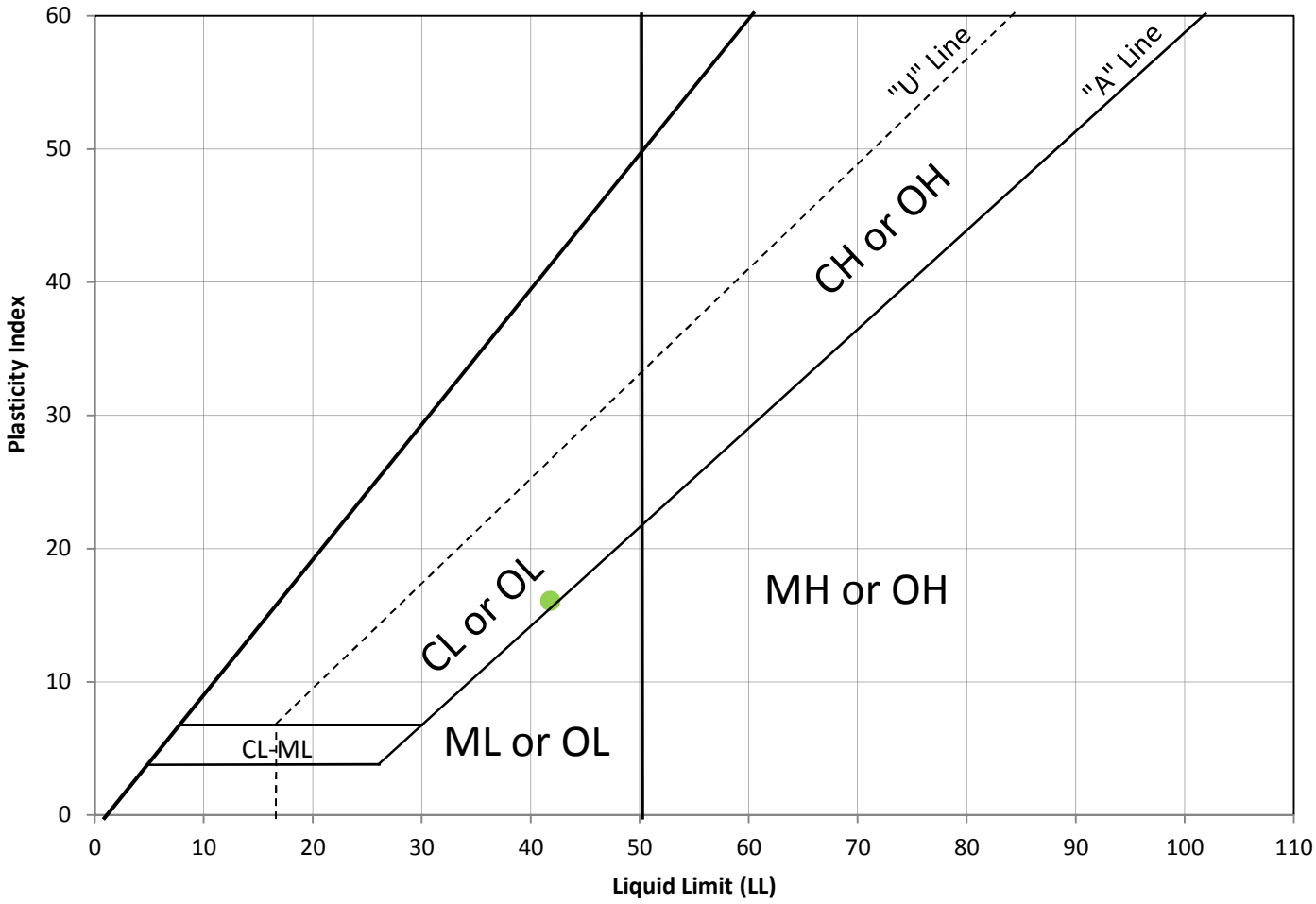
Particle Size Analysis	Figure
Geotechnical Investigation Portola Redwoods Bridge La Honda, CA	8

Atterberg Limits



Symbol	Classification & Source	Liquid Limit	Plastic Limit	Plasticity Index	% Passing #200 Sieve
●	Very dark grayish-brown Mudstone, B-2, 7'-7.5'	42	26	16	50.7

QUESTA ENGINEERING CORP.
Civil Environmental & Water Resources
P.O. Box 70356 1220 Brickyard Cove Road Point Richmond, CA 94807

Atterberg Limits (ASTM D4318)	Figure
Geotechnical Investigation Portola Redwoods Bridge La Honda, CA	9

Appendix A

Corrosivity Tests Summary

CTL # 606-036 **Date:** 11/12/2019 **Tested By:** PJ **Checked:** PJ

Client: Questa Engineering **Project:** Portola Redwoods Bridge **Proj. No:** 1900028

Remarks:

Sample Location or ID			Resistivity @ 15.5 °C (Ohm-cm)			Chloride	Sulfate		pH	ORP (Redox)		Sulfide Qualitative	Moisture At Test	Soil Visual Description
			As Rec.	Min	Sat.	mg/kg	mg/kg	%						
						Dry Wt.	Dry Wt.	Dry Wt.		E_H (mv)	At Test	by Lead	%	
Boring	Sample, No.	Depth, ft.	ASTM G57	Cal 643	ASTM G57	ASTM D4327	ASTM D4327	ASTM D4327	ASTM G51	ASTM G200	Temp °C	Acetate Paper	ASTM D2216	
B-2	-	1.5-2	-	-	2,110	7	59	0.0059	6.5	566	22	-	32.8	Dark Yellowish Brown Clayey SAND w/ Gravel (Claystone)