



COUNTY OF SANTA BARBARA

Planning and Development

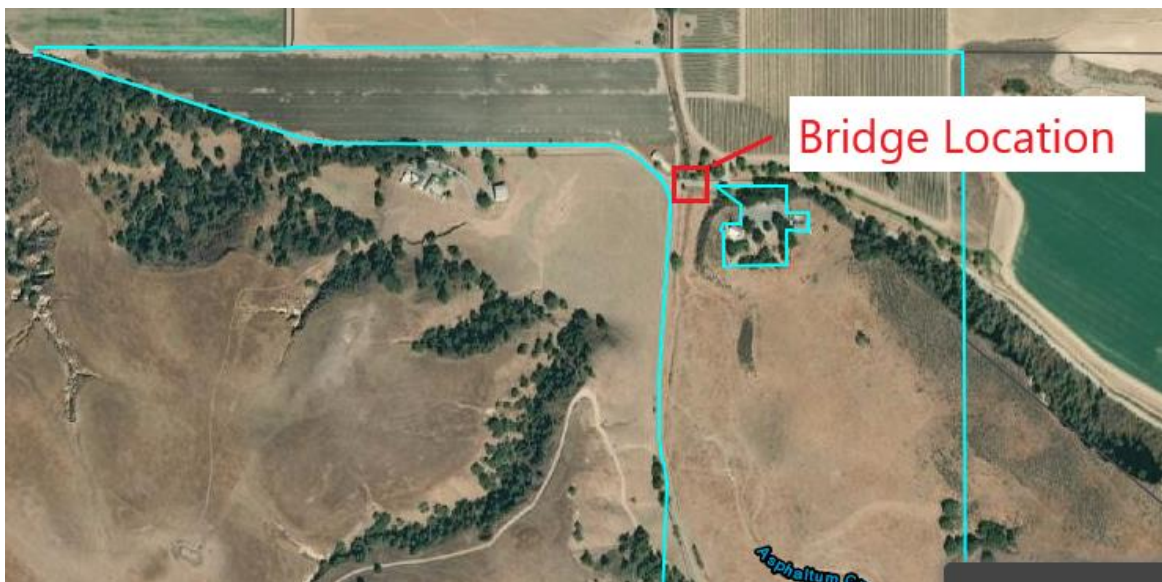
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Draft Mitigated Negative Declaration

Flood Ranch Bridge Replacement

Case No. 20LUP-00277

June 18, 2021



For **Owner**

Flood Ranch Company –
Rancho Sisquoc
6600 Foxen Canyon Rd.
Sisquoc, CA 92454

Agent

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Engineer

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San Luis Obispo, CA 93401

More Information Contact Erick Gomez, Development Review Division, Planner, (805) 934-6291

1.0 REQUEST/PROJECT DESCRIPTION

The project is a request for a Land Use Permit to allow the replacement of an existing 19 ft. by 26 ft. bridge with a new 26 ft. by 40 ft. bridge. The scope of work includes removing the decking and railing from the existing bridge and protecting the existing support structure in place. The replacement bridge will be installed on two new concrete bridge abutments and span over the existing support structure. Access for the new bridge will require the construction of two approach ramps with associated retaining walls. The existing roadway will be regraded and replaced in-kind as necessary. Two pepper trees will be removed. Grading will involve approximately 66 cu. yds. of cut and 675 cu. yds. of fill. No work will occur within the creek bank. The subject property is a 180-acre parcel identified as APN 101-050-051 and located within the AG-II-100 zone in the Sisquoc area, Fifth Supervisorial District.

2.0 PROJECT LOCATION

The subject property is identified as Assessor's Parcel No. 101-050-051 in the Sisquoc area, Fifth Supervisorial District. The existing bridge is located at northern entrance to the subject property, directly east of the Foxen Canyon Road – Forest Route 10N06 intersection.

2.1 Site Information	
Comprehensive Plan Designation	Agricultural Commercial (AC)
Zoning District, Ordinance	Agriculture II, 100-acre minimum parcel size (AG-II-100)
Site Size	180 acres
Present Use & Development	Single Family Residence
Surrounding Uses/Zoning	North: Production Agriculture / AG-II-100 South: Rangeland, Single Family Residence / AG-II-100 East: Rangeland, Production Agriculture / AG-II-100 West: Rangeland, Single Family Residence / AG-II-100
Access	Private Driveways from Foxen Canyon Road
Public Services	Water Supply: <i>Private Well</i> Sewage: <i>Septic System</i> Fire: <i>County of Santa Barbara Fire Department</i> <i>No Services are required for this project.</i>

3.0 ENVIRONMENTAL SETTING

3.1 PHYSICAL SETTING

Slope/Topography:

The existing bridge will cross Asphaltum Creek in a topographically low-lying area at the northern end of the property. Existing grade is described as moderately sloping (10% - 30%). Slope from the project site steadily increases as it approaches a manmade berm and moderately sloping hills. The north and northeast areas are mostly flat due to ongoing cultivation of agricultural fields. To the west of the bridge is Foxen Canyon Road and rangeland that transitions into more moderately sloping hills approximately 500 ft. southwest of the property.

Fauna:

A biological resources assessment (BRA) was prepared for the Project by Kevin Merck Associates, LLC (KMA) (2020). Based on a review of special status species identified by the California Natural Diversity Database

(CNDDB), four amphibian and reptile, twenty-three bird and eight mammal special status species have the potential to occur on the subject property. CNDDB listings are mapped on Figure 5 of the BRA (KMA, 2020).

Flora:

The review of mapped special status species performed in the BRA (KMA, 2020) included special status plants. No special status plants were determined to have the potential to occur in the project area. Historic records indicated that more fieldwork would be needed to confirm the existence of any possible special status plants. However, the study found that special status plant species were unlikely to occur due to the amount of human disturbance at or around the site.

Soils:

According to the BRA prepared for the project, there are only two types of soils present in the study area where the existing bridge is located: Macho sandy loam, sandy substratum and Chamise loam. Both soils are well drained. Neither are considered to be hydric soils (KMA, 2020).

Surface Water Bodies:

The existing bridge crosses the northern portion of Asphaltum Creek on a low lying area of the subject property, approximately .5 miles south of the Sisquoc River. Asphaltum Creek is an ephemeral stream with headwaters that originate in the San Rafael Mountains. The creek traverses the entire subject property and is channelized under the existing bridge. The channel appears to have been modified downstream of the bridge to accommodate flows within a formerly active flood plain. Approximately 380 ft. southeast of the project site is a USGS-mapped fresh water pond. Presently, a berm prevents water from entering the basin where the pond is mapped and no signs of standing water or damp soils were indicated during the site visit conducted by KMA (KMA, 2020).

Surrounding Land Uses:

The surrounding area is primarily used for agricultural purposes. There are cultivated fields to the north and northeast and rangelands to southeast, south, and west of the subject property. A few of the surrounding parcels also have single-family residences developed on them.

Existing Structures:

According to the project application, the existing wooden bridge has been on the property for approximately 70 years. Aerial photography from 1956 shows the bridge at project site since at least 1956, prior to county planning entitlements being required for such structures.

The property is also developed with a single family residence that appears to have been present on the property since at least the 1950s. Southwest of the residence is a reservoir. The residence and reservoir are accessed from a separate access point at the southern end of the site.

3.2 ENVIRONMENTAL BASELINE

The environmental baseline from which the project's impacts are measured consist of the physical environmental conditions in the vicinity of the project, as described above.

4.0 POTENTIALLY SIGNIFICANT EFFECTS CHECKLIST

The following checklist indicates the potential level of impact and is defined as follows:

Potentially Significant Impact: A fair argument can be made, based on the substantial evidence in the file, that an effect may be significant.

Less Than Significant Impact with Mitigation: Incorporation of mitigation measures has reduced an effect from a Potentially Significant Impact to a Less Than Significant Impact.

Less Than Significant Impact: An impact is considered adverse but does not trigger a significance threshold.

No Impact: There is adequate support that the referenced information sources show that the impact simply does not apply to the subject project.

Reviewed Under Previous Document: The analysis contained in a previously adopted/certified environmental document addresses this issue adequately for use in the current case and is summarized in the discussion below. The discussion should include reference to the previous documents, a citation of the page(s) where the information is found, and identification of mitigation measures incorporated from the previous documents.

4.1 AESTHETICS/VISUAL RESOURCES

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

Impact Discussion:

No impacts are identified. The nearest public viewing area to the Project is Foxen Canyon Road. The nearest visual resource is San Ramon Chapel. The chapel is a designated County Historic Landmark and is located atop a knoll southeast of the existing bridge. The Project involves the dismantling of an existing bridge that crosses Asphaltum Creek and the installation of a pre-fabricated bridge. The support structures of the existing bridge will be protected in place in an effort to avoid any disturbance within the creek bank. To accomplish this the replacement bridge will need to be installed at approximately three feet above the grade of the existing bridge with approach ramps constructed to meet the new elevation. A three-foot increase in elevation for the new bridge is minimal and will not impact views of the chapel nor affect the surrounding visual character of the site. The Project does not include lighting or other obtrusive components that would affect neighboring areas. The replacement bridge is compatible with the existing setting and topography.

Mitigation and Residual Impact: No impacts are identified. No mitigations are necessary.

4.2 AGRICULTURAL RESOURCES

Will the proposal result in:	Poten. Signif.	Less than Signif. with Mitigation	Less Than Signif.	No Impact	Reviewed Under Previous Document
a. Convert prime agricultural land to non-agricultural use, impair agricultural land productivity (whether prime or non-prime) or conflict with agricultural preserve programs?				X	

Will the proposal result in:	Poten. Signif.	Less than Signif. with Mitigation	Less Than Signif.	No Impact	Reviewed Under Previous Document
b. An effect upon any unique or other farmland of State or Local Importance?				X	

The replacement bridge will be installed over an existing creek in a location that is surrounded by disturbed vegetation, grassland, and roads. The location is not viable for agriculture. The Project will benefit neighboring agricultural operations by improving a piece of transportation infrastructure that provides access to their respective properties.

Mitigation and Residual Impact: No impacts are identified. No mitigations are necessary.

4.3a AIR QUALITY

Will the proposal result in:	Poten. Signif.	Less than Signif. with Mitigation	Less Than Signif.	No Impact	Reviewed Under Previous Document
a. The violation of any ambient air quality standard, a substantial contribution to an existing or projected air quality violation, or exposure of sensitive receptors to substantial pollutant concentrations (emissions from direct, indirect, mobile and stationary sources)?		X			
b. The creation of objectionable smoke, ash or odors?				X	
c. Extensive dust generation?		X			

County Environmental Threshold:

Chapter 5 of the Santa Barbara County Environmental Thresholds and Guidelines Manual (as revised in September 2020) addresses the subject of air quality. The thresholds provide that a proposed project will not have a significant impact on air quality if operation of the project will:

- emit (from all project sources, mobile and stationary), less than the daily trigger for offsets for any pollutant (currently 55 pounds per day for NO_x and ROC, and 80 pounds per day for PM₁₀);
- emit less than 25 pounds per day of oxides of nitrogen (NO_x) or reactive organic compounds (ROC) from motor vehicle trips only;
- not cause or contribute to a violation of any California or National Ambient Air Quality Standard (except ozone);
- not exceed the APCD health risk public notification thresholds adopted by the APCD Board; and
- be consistent with the adopted federal and state Air Quality Plans.

No thresholds have been established for short-term impacts associated with construction activities. However, the County's Grading Ordinance requires standard dust control conditions for all projects involving grading activities. Long-term/operational emissions thresholds have been established to address mobile emissions (i.e., motor vehicle emissions) and stationary source emissions (i.e., stationary boilers, engines, and chemical or industrial processing operations that release pollutants).

Impact Discussion:

The project would not result in significant new vehicle emissions (i.e., new vehicular trips to or from the site would be fewer than 100). It would not involve new stationary sources (i.e., equipment, machinery, hazardous materials storage, industrial or chemical processing, etc.) that would increase the amount of

pollutants released into the atmosphere. The project would also not generate additional smoke, ash, odors, or long-term dust after construction. The project's contribution to global warming from the generation of greenhouse gases would be negligible.

a-c. Potential Air Quality Impacts

Short-Term Construction Impacts. Project-related construction activities would require grading that has been minimized to the extent possible under the circumstances. Earth moving operations at the project site would not have the potential to result in significant project-specific short-term emissions of fugitive dust and PM₁₀, with the implementation of standard dust control measures that are required for all new development in the County.

Emissions of ozone precursors (NO_x and ROC) during project construction would result primarily from the on-site use of heavy earthmoving equipment. Due to the limited period of time that grading activities would occur on the project site, construction-related emissions of NO_x and ROC would not be significant on a project-specific or cumulative basis. However, due to the non-attainment status of the air basin for ozone, the project should implement measures recommended by the APCD to reduce construction-related emissions of ozone precursors to the extent feasible. Compliance with these measures is routinely required for all new development in the County.

Long-Term Operation Emissions. The Project will replace an existing bridge with a prefabricated bridge. The Project is intended to provide a needed upgrade to existing infrastructure and is not tied to another use or intensification of any use. Therefore, no long-term operational emissions are expected to occur from this project.

Cumulative Impacts:

The County's Environmental Thresholds were developed, in part, to define the point at which a project's contribution to a regionally significant impact constitutes a significant effect at the project level.

In this instance, the project has been found not to exceed the significance criteria for air quality. Therefore, the project's contribution to regionally significant air pollutant emissions is not cumulatively considerable, and its cumulative effect is less than significant (Class III).

Mitigation and Residual Impact:

The following mitigation measures would reduce the project's air quality impacts to a less than significant level:

- (a) Implementation of standard conditions placed on the grading plan as implemented through Chapter 14 (Grading Ordinance) of the County Code, along with standard APCD conditions will reduce potential short-term dust impacts to a less than significant level. The project would not result in significant project-specific long-term air quality impacts. No further mitigation measures are required.

4.3b AIR QUALITY - GREENHOUSE GAS EMISSIONS— CHECK WITH SUPERVISOR FOR CURRENT APPROACH TO GHGS – NEW THRESHOLDS PENDING BOS APPROVAL IN EARLY 2021

Greenhouse Gas Emissions - Will the project:	Poten. Signif.	Less than Signif. with Mitigation	Less Than Signif.	No Impact	Reviewed Under Previous Document
a. Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?				X	

b. Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?				X	
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Impact Discussion:

The Project will replace an existing bridge with a new prefabricated bridge. The new bridge will meet applicable fire and building codes. Grading will involve approximately 66 cu. yds. of cut and 675 cu. yds. of fill. The installation of the replacement bridge is not tied to an expansion of another use and will continue to function at the same capacity as the existing bridge

Based on the project description above, the proposed project would not result in any greenhouse gas (GHG) emissions, either directly or indirectly, as compared to the existing environmental setting. As a result, no impacts related to GHG emissions are anticipated.

Mitigation and Residual Impact: No impacts are identified. Therefore, no mitigation is necessary.

4.4 BIOLOGICAL RESOURCES

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

Will the proposal result in:	Poten. Signif.	Less than Signif. with Mitigation	Less Than Signif.	No Impact	Reviewed Under Previous Document
k. Introduction of any factors (light, fencing, noise, human presence and/or domestic animals) which could hinder the normal activities of wildlife?			X		

Existing Plant and Animal Communities/Conditions:

Background and Methods:

Santa Barbara County has a wide diversity of habitat types, including chaparral, oak woodlands, wetlands and beach dunes. These are complex ecosystems and many factors are involved in assessing the value of the resources and the significance of project impacts. The project site is a 180-acre parcel agricultural parcel. The Project will replace an existing 19 ft. by 26 ft. bridge that crosses Asphaltum Creek in Sisquoc, CA with a 26 ft. by 40 ft. prefabricated bridge. The replacement bridge is located on the northern of the property directly east of where Foxen Canyon Road diverts southbound. For this project, a site visit was conducted by Kevin Merck Associates, LLC (KMA) on November 11, 2020 and a biological resources assessment (BRA) was issued by KMA on January 8, 2021. The report reviews available biological data conditions of the surrounding area and site and focuses the results into a defined study area for the project which includes 100 ft. buffer from the area of disturbance. The following analysis is based on this information.

Flora:

The site primarily consists of the following communities: 1) Annual Grassland; 2) Developed/Ruderal; 3) Mule Fat Scrub; 4) Ornamental; and, 5) Sycamore Riparian (KMA, 2020). The California Natural Diversity Database (CNDDB) indicates that the following special status plants have the potential to occur in the area: Hoover's Bent Grass, La Purisima Manzanita, Mesa Horkelia, Miles' milk-vetch, sand mesa manzanita, southern curly leaved monderalla, & Straight awned spine flower. Of these plants, only the Miles milk-vetch and Southern curly-leaved manzanita appear to have the potential of occurring within one mile of the bridge as measured from Figure 4 of the BRA (KMA, 2020) and none were observed on site. The site does not contain natural plant communities considered rare by the California Dept. of Fish and Game.

Fauna:

The BRA (KMA, 2020) indicates that the following special status animal species have the potential to occur in the area: Blainville's (=coast) horned lizard, California red-legged frog, northern California legless lizard, western spadefoot, California horned lark, Cooper's hawk, ferruginous hawk, golden eagle, great blue heron, great egret, loggerhead shrike, merlin, prairie falcon, sharp-shinned hawk, southern California rufous-crowned sparrow, tricolored blackbird, white-tailed kite, yellow-billed magpie, yellow warbler, American badger, fringed myotis, pallid bat, San Diego desert woodrat, Townsend's big-eared bat, western mastiff bat, western red bat, and Yuma myotis.

Thresholds:

Santa Barbara County's Environmental Thresholds and Guidelines Manual (2020) includes guidelines for the assessment of biological resource impacts. The following thresholds are applicable to this project:

Wetlands: Projects which result in a net loss of important wetland area or wetland habitat value, either through direct or indirect impacts to wetland vegetation, degradation of water quality, or would threaten the continuity of wetland-dependent animal or plant species are considered to have a potentially significant effect on the environment. Projects which substantially interrupt wildlife access, use and dispersal in wetland areas would typically be considered to have a potentially significant impact. Projects which disrupt the hydrology of wetlands systems would be considered to have a potentially significant impact.

Riparian Habitats: Project-created impacts may be considered significant due to: direct removal of riparian vegetation; disruption of riparian wildlife habitat, particularly animal dispersal corridors and or understory vegetation; or intrusion within the upland edge of the riparian canopy leading to potential disruption of animal migration, breeding, etc. through increased noise, light and glare, and human or domestic animal intrusion; or construction activity which disrupts critical time periods for fish and other wildlife species.

Other Rare Habitat Types: The Manual recognizes that not all habitat-types found in Santa Barbara County are addressed by the habitat-specific guidelines. Impacts to other habitat types or species may be considered significant, based on substantial evidence in the record, if they substantially: (1) reduce or eliminate species diversity or abundance; (2) reduce or eliminate the quality of nesting areas; (3) limit reproductive capacity through losses of individuals or habitat; (4) fragment, eliminate, or otherwise disrupt foraging areas and/or access to food sources; (5) limit or fragment range and movement; or (6) interfere with natural processes, such as fire or flooding, upon which the habitat depends.

Impact Discussion:

(a-b) The Project would affect developed areas consisting of the existing road and bridge footprint. The Study area for the BRA included a 100 ft. buffer from the developed area. No special-status plant species occur within developed areas, and the background review did not reveal any plants that would occur in the study area around the bridge. No special-status plant species will be affected by the project (KMA, 2020). Therefore, there is **no impact**.

(c, d, e, f, g,) Project related activities could result in impacts to Asphaltum Creek, including trimming of the surrounding mule fat scrub riparian community, removal of ornamental trees, and sediment and/or pollutants entering the creek channel that could degrade water quality. Since the project will remedy a failing bridge and install a better structure than is currently present, mitigation for project effects on trimming a small amount of riparian habitat is not expected to be required. In addition, the pepper trees along the road are not riparian and are planted ornamentals. Their removal would not require mitigation since they are a non-native invasive species. The projects impacts to the existing riparian vegetation and ornamental trees is considered **less than significant**. However, the project will involve a limited amount of soil excavation for the construction of the abutments and grading around the edges of the new roadway. Disturbed soils could erode into Asphaltum Creek if these areas are not stabilized prior to significant rainfall. Additionally, toxic substances from construction equipment such as oil, gas, diesel, and hydraulic fluid could leak or be spilled and be carried in stormwater runoff into the creek an indirect effect on downstream wetland, riparian, and aquatic habitats (KMA, 2020). The erosion and storm water runoff issues are considered **potentially significant but mitigable impacts**.

(h, k) Construction of the Project could result in reduction in numbers of California red-legged frogs, western spadefoots, Blainville's horned lizard, northern California legless lizard and American badger, as well as several species of nesting and roosting birds and bats (KMA, 2020). Impacts to these species are considered **potentially significant but mitigable impacts**.

Cumulative Impacts:

The incorporation of the mitigation measures described below would ensure that there are no significant effects on biological resources. Therefore, this project would not contribute to cumulative effects of other projects in the area.

Mitigation and Residual Impact:

The following mitigation measures would reduce the project's biological resource impacts to a less than significant level:

1. **MM 1: Erosion and sediment control methods.** The following BMPs are required to be implemented during and after the construction phases of the project.

- a. The project engineer and biologist must provide recommendations for the use of silt fence, straw wattles, erosion control blankets, straw bales, sandbags, and/or fiber rolls to protect the habitat of Asphaltum Creek and the Sisquoc River downstream from the project site. All sediment and erosion control measures shall be in place prior to October 15 and must be installed per the engineer's recommendations. Methods that are not biodegradable must be removed after vegetation has become established and following the end of the rainy season (late spring or summer).
- b. All project-related spills of hazardous materials within or adjacent to the project site must be cleaned up immediately. Spill kits shall be maintained on the site, and a Spill Response Plan shall be in place.
- c. No vehicles or equipment shall be refueled within 50 feet of the drainage feature unless a bermed and lined refueling area is constructed. No vehicles or construction equipment shall be stored overnight within 50 feet of these areas unless drip pans or ground covers are used. All equipment and vehicles must be checked and maintained on a daily basis to ensure proper operation and to avoid potential leaks or spills. Construction staging areas must attain zero discharge of stormwater runoff into these habitats.
- d. No concrete washout shall be conducted on the site outside of an appropriate containment system. Washing of equipment, tools, etc. will not be allowed in any location where the tainted water could enter onsite drainages.
- e. The use of chemicals, fuels, lubricants, or biocides shall be in compliance with all local, state, and federal regulations. All uses of such compounds shall observe label and other restrictions mandated by the U.S. Environmental Protection Agency, California Department of Food and Agriculture, and other state and federal legislation.
- f. Should any debris from the demolition of the existing bridge fall into the stream channel, it shall be removed immediately by hand. At no time shall equipment enter the stream channel to perform remedial measures that have not been anticipated without prior approval from the regulatory agencies.
- g. Areas with disturbed soils shall be restored under the direction of the project engineer in consultation with a qualified restoration ecologist, as needed. Methods shall include recontouring graded areas to blend in with existing natural contours and applying the native seed mix detailed below. The native seed mix shall be applied to the graded areas through either direct hand seeding or hydroseeding methods on the disturbed soil area prior to the onset of the rainy season (by October 15). The seed mix shall be consistent with the application rates provided in Table 1 of the Biological Resources assessment dated January 8, 2021.

Plans Requirements: This condition must be written on all grading and construction documents. All erosion control measures and runoff control measures must be graphically represented on the plans where applicable.

Timing: All erosion and run off control measures must be installed prior to the start of construction activities. The applicant will be required to provide a Lake and Streambed Alteration Agreement from the California Department of Fish and Game prior to the start of construction activities, as applicable.

Monitoring: Development Review staff will confirm that these requirements are written on all construction and grading plans prior to the issuance of construction and grading permits. Building, Grading, and Permit Compliance staff will ensure that the measures are in place prior to the start of construction activities. Permit Compliance staff will confirm that non-biodegradable are removed appropriately.

2. **MM 2. Avoid construction during the winter months.** Replacement of the bridge shall occur outside to the period in which CRLF and western spadefoot use upland habitats. Construction shall begin after May 1st and be completed by October 31st.

Plan Requirements: This condition will be written on all plans submitted to Planning and Development.

Monitoring: Permit Compliance staff shall perform inspections throughout the construction phase.

3. **MM 3. BIO-1b: Preconstruction Field Surveys for Special Status Species.** A qualified biologist shall conduct a preconstruction survey of all project impact areas for northern California legless lizards, yellow-billed magpie, and roosting bats, and American badgers. The survey must include surveying for badger dens within 50 ft. of construction areas. If any special-status animal species are found, the initiation of work shall be delayed until they move out of project impact areas on their own volition or measures are taken to exclude them from the site. Avoidance of yellow-billed magpie may be accomplished by conducting work activities during the day after the birds have left the area for foraging. For legless lizards, these measures could include habitat modifications in the impact area that would discourage their presence, such as removal of cover objects and leaf litter, and/or species relocation. Roosting bats can be excluded from the bridge structure after they take flight in the evening through the placement of netting to prevent their reoccupation of the bridge. A qualified biologist must work with CDFW on the methods to exclude bats. Wildlife cameras shall be used in the surveys to determine whether or not potential badger dens are active and whether active dens have young. The cameras shall be left in place a minimum of three days, or as long as necessary to determine the occupancy status of a den. No maternal dens shall be disrupted, and work shall not commence if at least a 200- foot buffer cannot be maintained during the work. Construction can proceed once the young have left the den. Dens occupied by individual badgers within a 50-foot buffer of construction activities shall be vacated. Eviction procedures involve blocking the den incrementally by placing sticks and debris over the entrance for three to five days, to discourage the badger from using the den. Only after the badger has left the den, as determined by the qualified biologist implementing the wildlife camera and/or tracking medium methods, can the den be excavated and work proceed. Destruction of a den must be done by incrementally excavating it until it is confirmed that no badgers are occupying the den. Dens must only be excavated or collapsed using hand tools, which is the recommended method for destroying a den. Use of excavating equipment can be done

with extreme caution and while being monitored by a qualified biologist. After the den is destroyed, the excavation is to be filled with dirt and compacted to make sure that badgers cannot re-enter or use the burrow during construction.

Timing: The preconstruction survey shall occur no more than 48 hrs. prior to the initiation of construction related activities. A report describing the survey results shall be submitted to Planning & Development prior to the start of grading activities.

Monitoring: P&D shall be given the name and contact information for the qualified biologist prior to initiation of the survey. Biologist shall contact P&D at the conclusion of the field survey to inform P&D in writing of the results of the surveys. If no sensitive species are found, P&D will allow grading activities to commence. All required mitigation shall be implemented prior to the start of proposed grading activities. Grading Inspectors shall inspect as needed.

4. **MM 4. Nesting Bird Preconstruction Field Survey.** Conduct a preconstruction nesting bird survey prior to the start of work and avoid active nests. Due to the seasonal restriction of the work period for federally listed amphibians and water quality protection, work is expected to occur during the nesting season. A qualified biologist shall conduct a preconstruction survey for nesting birds within a 250-foot buffer of the limits of disturbance. During this survey, the qualified biologist shall search for birds exhibiting nesting behavior and inspect all potential nest substrates in the impact and buffer areas. Any nests identified will be monitored to determine if they are active.

Timing: The preconstruction survey shall occur no more than seven days prior to the initiation of construction related activities. A report describing the survey results shall be submitted to Planning & Development prior to the start of grading activities.

Monitoring: P&D shall be given the name and contact information for the qualified biologist prior to initiation of the survey. Biologist shall contact P&D at the conclusion of the field survey to inform P&D in writing of the results of the surveys. If no sensitive species are found, P&D will allow grading activities to commence. If no active nests are found, construction may proceed. If an active nest is found within 50 feet (250 feet for raptors) of the construction area, the biologist, in consultation with the County, shall determine the extent of a buffer to be established around the nest. The buffer will be delineated with flagging, and no work shall take place within the buffer area until the young have left the nest, as determined by the qualified biologist.

5. **MM 5. Worker Training and Construction Monitoring.** Some special-status animal species may take cover under the existing bridge structure or in the two pepper trees to be removed along the road, and not be identified during the preconstruction surveys, such as California legless lizards, various birds and roosting bats. Prior to the start of construction activities, including staging and mobilization, all personnel must attend a worker education training intended to aid workers in recognizing special status species that may occur in the project area. Additionally, a qualified biologist must monitor the initial phases to remove the structure. Because the bridge is planned to be replaced in two phases to keep one of the lanes open, the biologist must be present during the initial stages of both of the phases. The biologist shall monitor construction activities from a safe distance using binoculars and walk through the site to look for disturbed wildlife during breaks. The monitor shall observe the behavior of birds such as the yellow-billed magpie that may be present, and assess any significant effects of the project activities on their behavior. Any animals found shall be moved out of harm's way or allowed to move to an undisturbed location on their own volition. If any federally listed species are

found within the work area, the USFWS shall be notified and work shall be halted until the animal has left the site or appropriate authorizations to capture and relocate the individual are received.

Plan Requirements: This condition shall be printed on all Land Use Permit plans prior to permit issuance.

Timing: The worker training must occur prior to the start of construction activities, including staging and mobilization.

Monitoring: The qualified biologist shall provide Permit Compliance staff a sign-in sheet of all employee orientation program attendees and a copy of materials. P&D staff shall ensure that a qualified biologist is present during inspections.

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

4.5 CULTURAL RESOURCES

Will the proposal:	Poten. Signif.	Less than Signif. with Mitigation	Less Than Signif.	No Impact	Reviewed Under Previous Document
a. Cause a substantial adverse change in the significance of any object, building, structure, area, place, record, or manuscript that qualifies as a historical resource as defined in CEQA Section 15064.5?				X	
b. Cause a substantial adverse change in the significance of a prehistoric or historic archaeological resource pursuant to CEQA Section 15064.5?			X		
c. Disturb any human remains, including those located outside of formal cemeteries?			X		

Will the proposal:	Poten. Signif.	Less than Signif. with Mitigation	Less Than Signif.	No Impact	Reviewed Under Previous Document
d. Cause a substantial adverse change in the significance of a tribal cultural resource, defined in the Public Resources Code Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is: 1) 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), or 2) 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 significance of the resource to a California Native American tribe.			X		

County Environmental Thresholds: Chapter 8 of the Santa Barbara County Environmental Thresholds and Guidelines Manual (2008, revised September 2020) contains guidelines for the identification, significance evaluation, and mitigation of impacts to cultural resources, including archaeological, historic, and tribal cultural resources. In accordance with the requirements of CEQA, these guidelines specify that if a resource cannot be avoided, it must be evaluated for importance under specific CEQA criteria. CEQA Section 15064.5(a)(3)A-D contains the criteria for evaluating the importance of archaeological and historic resources. Generally, a resource shall be considered by the lead agency to be “historically significant” if the resource meets the significance criteria for listing in the California Register of Historical Resources: (A) Is associated with events that have made a significant contribution to the broad patterns of California’s history and cultural heritage; (B) Is associated with the lives of persons important in our past; (C) Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or (D) Has yielded, or may be likely to yield, information important in prehistory or history. The resource also must possess integrity of at least some of the following: location, design, setting, materials, workmanship, feeling, and association. For archaeological resources, the criterion usually applied is (D).

CEQA calls cultural resources that meet these criteria “historical resources”. Specifically, a “historical resource” is a cultural resource listed in, or determined to be eligible for listing in, the California Register of Historical Resources, or included in or eligible for inclusion in a local register of historical resources, as defined in subdivision (k) of Section 5020.1, or deemed significant pursuant to criteria set forth in subdivision (g) of Section 5024.1. As such, any cultural resource that is evaluated as significant under CEQA criteria, whether it is an archaeological resource of historic or prehistoric age, a historic built environment resource, or a tribal cultural resource, is termed a “historical resource”.

CEQA Guidelines Section 15064.5(b) states that “a project that may cause a substantial adverse change in the significance of an historical resource is a project that may have a significant effect on the environment.” As defined in CEQA Guidelines Section 15064.5(b), substantial adverse change in the significance of an historical resource means physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of an historical resource would be materially impaired. The significance of an historical resource is materially impaired when a project: (1) demolishes or materially alters in an adverse manner those physical characteristics of an historical resource that convey its historical significance and that justify its inclusion in, or eligibility for, inclusion in the California Register of Historical Resources; (2) demolishes or materially alters in an adverse manner those physical characteristics that account for its inclusion in a local register of historical resources; or (3) demolishes or materially alters in an adverse manner those physical characteristics of a historical resource that convey its historical significance and that justify its eligibility for inclusion in the California Register of Historical Resources as determined by a lead agency for purposes of CEQA.

For the built environment, a project that follows the Secretary of the Interior’s Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring, and Reconstructing Historic Buildings or the Secretary of the Interior’s Standards for Rehabilitation and Guidelines for Rehabilitating Historic Buildings (Weeks and Grimmer 1995), is generally considered as mitigated to a less than a significant impact level on the historical resource.

Existing Setting:

The project site is located on a 180-acre agricultural parcel. The existing bridge is located on the north west end of the parcel and spans Asphaltum Creek. Asphaltum Creek runs northward through the property connecting to Sisquoc River approximately 600 ft. north of the subject property. Approximately 200 ft. south of the subject property is the San Ramon Chapel and Cemetery which is designated as County Historic Landmark. The Chapel and cemetery are located on a separate property which is accessed by the existing bridge. Based archeological mapping in existing County records, there do not appear to any known archeological resources within the area of disturbance or immediate vicinity. The existing topography and presence of surface water increases the possibility that the project site may have been subject to historical human habitation, including by historical habitation by indigenous communities.

On February 26, 2021, a formal notice of application completeness for the proposed project was sent to Julie Tumamait-Stenslie, Chair of the Barbareno/Ventureno Band of Mission Indians, and to Kenneth Kahn, Tribal Chairman of the Santa Ynez Band of Chumash Indians. The notice provided notification of the opportunity for consultation under AB 52, and included a description of the proposed project and a map indicating the location of the project. On March 16, 2021 a tribal request to participate in government-to-government consultation from one of the noticed Native American tribes, pursuant to Public Resources Code (PRC) Section 21080.3.1 and in accordance with the provisions of Assembly Bill (AB) 52. A cultural resources study was prepared for the project by Central Coast Archeological Research Consultants during the consultation period and issued on April 2021. The study found that no cultural resources were present in the project area and that discovery of buried material was unlikely. The Native American representatives subsequently ended the consultation on June 7, 2021.

Impact Discussion:

(a, b, c, d) As discussed above, no cultural resources were identified within or adjacent to the project area. As a result, the proposed project would not cause a substantial adverse change in the significance of any historical resource, cause a substantial adverse change in the significance of a prehistoric or historic archaeological resource, disturb any human remains, or cause a substantial adverse change in the significance of a tribal cultural resource. In order to comply with cultural resource policies, the development project would be conditioned with a standard archaeological discovery clause which requires that any previously unidentified cultural resources discovered during site development are treated in accordance with the

County's Cultural Resources Guidelines [Chapter 8 of the County's Environmental Thresholds and Guidelines Manual (rev.2/2018)]. Impacts would be less than significant.

Cumulative Impacts:

Since the project would not significantly impact cultural resources, it would not have a cumulatively considerable effect on the County's cultural resources with implementation of the mitigation measures described below.

Mitigation and Residual Impact:

The following mitigation measures would reduce the project's cultural resource impacts to a less than significant level:

- 1. MM 3. Stop Work at Encounter.** The Owner/Applicant and/or their agents, representatives or contractors shall stop or redirect work immediately in the event archaeological remains are encountered during grading, construction, landscaping or other construction-related activity. The Owner/Applicant shall immediately contact P&D staff, and retain a P&D approved archaeologist and Native American representative to evaluate the significance of the find in compliance with the provisions of the County Archaeological Guidelines and conduct appropriate mitigation funded by the Owner/Applicant.

PLAN REQUIREMENTS: This condition shall be printed on all building and grading plans.

MONITORING: P&D permit processing planner shall check plans prior to Approval of Land Use Permit and P&D compliance monitoring staff shall spot check in the field throughout grading and construction.

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

4.6 ENERGY

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

Impact Discussion: The County has not identified significance thresholds for electrical and/or natural gas service impacts (Thresholds and Guidelines Manual). Private electrical and natural gas utility companies provide service to customers in Central and Southern California, including the unincorporated areas of Santa Barbara County. The proposed project consists of replacing an existing vehicular bridge with a new prefabricated bridge. No permanent electrical or gas utilities will be installed or required as part of the ongoing operation of the bridge. Therefore, the project would have no impact of regional energy needs.

Cumulative Impacts:

The project's contribution to the regionally significant demand for energy is not considerable, and is therefore less than significant.

Mitigation and Residual Impact:

No mitigation is required. Residual impacts would be less than significant.

4.7 FIRE PROTECTION

Will the proposal result in:	Poten. Signif.	Less than Signif. with Mitigation	Less Than Signif.	No Impact	Reviewed Under Previous Document
a. Introduction of development into an existing high fire hazard area or exposure of people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?			X		
b. Project-caused high fire hazard?				X	
c. Introduction of development into an area without adequate water pressure, fire hydrants or adequate access for fire fighting?				X	
d. 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	
e. Introduction of development that will substantially impair an adopted emergency response plan, emergency evacuation plan, or fire prevention techniques such as controlled burns or backfiring in high fire hazard areas?				X	
f. Development of structures beyond safe Fire Dept. response time?				X	

County Standards

The following County Fire Department standards are applied in evaluating impacts associated with the proposed development:

- The emergency response thresholds include Fire Department staff standards of one on-duty firefighter per 4000 persons (generally 1 engine company per 12,000 people, assuming three firefighters/station). The emergency response time standard is approximately 5-6 minutes.
- Water supply thresholds include a requirement for 750 gpm at 20 psi for urban single family dwellings in urban and rural developed neighborhoods, and 500 gpm at 20 psi for dwellings in rural areas (lots larger than five acres).
- The ability of the County's engine companies to extinguish fires (based on maximum flow rates through hand held line) meets state and national standards assuming a 5,000 square foot structure. Therefore, in any portion of the Fire Department's response area, all structures over 5,000 square feet are an unprotected risk (a significant impact) and therefore should have internal fire sprinklers.
- Access road standards include a minimum width (depending on number of units served and whether parking would be allowed on either side of the road), with some narrowing allowed for driveways. Cul-de-sac diameters, turning radii and road grade must meet minimum Fire Department standards based on project type.
- Two means of egress may be needed and access must not be impeded by fire, flood, or earthquake. A potentially significant impact could occur in the event any of these standards is not adequately met.

Impact Discussion:

The project site is located within the County's designated High Fire Hazard area. The Project involves the dismantling of an existing bridge and installation of a new prefabricated bridge at the northern end of the subject property. The existing bridge is an over 70 year old wooden structure with a 16 ft. wide asphalt road. The new bridge will 26 ft. wide composed primarily of steel and concrete. The new bridge will result in improved access for the surrounding properties and a more structurally sound and fire resistant structure. Since the Project will result in improved access to properties in the high fire hazard area, then the impacts are less than significant.

Cumulative Impacts:

Since the project would not create significant fire hazards, it would not have a cumulatively considerable effect on fire safety within the County.

Mitigation and Residual Impact: No impacts are identified. No mitigations are necessary.

4.8 GEOLOGIC PROCESSES

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

Threshold

Pursuant to the County's Adopted Thresholds and Guidelines Manual, impacts related to geological resources may have the potential to be significant if the proposed project involves any of the following characteristics:

1. The project site or any part of the project is located on land having substantial geologic constraints, as determined by the Planning and Development or Public Works Department. Areas constrained by geology include parcels located near active or potentially active faults and property underlain by rock types associated with compressible/collapsible soils or susceptible to landslides or severe erosion. "Special Problems" areas designated by the Board of Supervisors have been established based on geologic constraints, flood hazards and other physical limitations to development.
2. The project results in potentially hazardous geologic conditions such as the construction of cut slopes exceeding a grade of 1.5 horizontal to 1 vertical.
3. The project proposes construction of a cut slope over 15 feet in height as measured from the lowest finished grade.
4. The project is located on slopes exceeding 20% grade.

Impact Discussion:

a. Potential to Result in Geologic Hazards. The project site is not underlain by any known fault. The nearest known fault is approximately 700 ft. north of the project site. Compliance with existing building regulations would reduce potential ground shaking impacts caused by movement along a distant fault to a less than significant level. Liquefaction potential in the area has been determined to be moderate based on an opinion provided by Pacific Coast Testing, Inc. (PCT) in a geotechnical investigation dated May 7, 2020. Any potential for expansive soils would be mitigated by the use of non-expansive engineered fill. All soils-related hazards would be less than significant through the normal building permit review and inspection process.

b, c, i. Potential for Grading-Related Impacts. The project would involve a 675 cu. yds. of fill on moderately sloping topography (10% -30%). The existing grade at the project site is largely a result of the creek that runs under the bridge and manmade berm to the southeast. Normal grading permit review requires the submittal of geotechnical investigation that provides recommendations to address necessary fill operations and excavation associated with replacing the existing bridge.

c. Exposure to Rising Sea Level. The project is located in the inland area and at a significant distance from the coast. Therefore, no impact will occur from exposure to rising sea levels.

e, f. Potential Erosion and Sedimentation Impacts. Grading operations that would occur on the project site would remove vegetative cover and disturb the ground surface, thereby increasing the potential for erosion and sedimentation impacts. However, the potential for the project to cause substantial erosion and sediment transport would be adequately mitigated by the County's standard erosion control and drainage requirements. Additional considerations for impacts possible impacts from erosion and run off are discussed in the biological resources section above.

d, g, h, j, k, l. Other Potential Geological Hazards. The project involves replacing an existing bridge will cross over Asphaltum Creek near? Sisquoc. The Project will not require the installation of a septic system or extraction of minerals or ores. Erosion of topsoil will be avoided to the extent feasible through the normal building and grading permit review as well as the BMP recommended as part of the biological resources discussion above.

Cumulative Impacts:

Since the project would not result in significant geologic impacts after mitigation, and geologic impacts are typically localized in nature, it would not have a cumulatively considerable effect on geologic hazards within the County.

Mitigation and Residual Impact: The project will result in no to less than significant. No mitigations are necessary.

4.9 HAZARDOUS MATERIALS/RISK OF UPSET

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

Impact Discussion:

There is no evidence that hazardous materials were used, stored or spilled on site in the past, and there are no aspects of the proposed use that would include or involve hazardous materials at levels that would constitute a hazard to human health or the environment.

Mitigation and Residual Impact: No impacts are identified. No mitigations are necessary.

4.10 LAND USE

Will the proposal result in:	Poten. Signif.	Less than Signif. with Mitigation	Less Than Signif.	No Impact	Reviewed Under Previous Document
a. Structures and/or land use incompatible with existing land use?				X	

Will the proposal result in:	Poten. Signif.	Less than Signif. with Mitigation	Less Than Signif.	No Impact	Reviewed Under Previous Document
b. Cause a significant environmental impact due to a conflict with any applicable land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?				X	
c. The induction of substantial unplanned population growth or concentration of population?				X	
d. The extension of sewer trunk lines or access roads with capacity to serve new development beyond this proposed project?				X	
e. Loss of existing affordable dwellings through demolition, conversion or removal?				X	
f. Displacement of substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?				X	
g. Displacement of substantial numbers of people, necessitating the construction of replacement housing elsewhere?				X	
h. The loss of a substantial amount of open space?				X	
i. An economic or social effect that would result in a physical change? (i.e. Closure of a freeway ramp results in isolation of an area, businesses located in the vicinity close, neighborhood degenerates, and buildings deteriorate. Or, if construction of new freeway divides an existing community, the construction would be the physical change, but the economic/social effect on the community would be the basis for determining that the physical change would be significant.)				x	
j. Conflicts with adopted airport safety zones?				x	

Impact Discussion:

The proposed project does not cause a physical change that conflicts with adopted environmental policies or regulations. The project is not growth inducing, and does not result in the loss of affordable housing, loss of open space, or a significant displacement of people. The project does not involve the extension of a sewer trunk line, and does not conflict with any airport safety zones. The project is compatible with existing land uses.

Mitigation and Residual Impact: No impacts are identified. No mitigation is necessary.

4.11 NOISE

Will the proposal result in:	Poten. Signif.	Less than Signif. with Mitigation	Less Than Signif.	No Impact	Reviewed Under Previous Document
a. Long-term exposure of people to noise levels exceeding County thresholds (e.g. locating noise sensitive uses next to an airport)?				X	

Will the proposal result in:	Poten. Signif.	Less than Signif. with Mitigation	Less Than Signif.	No Impact	Reviewed Under Previous Document
b. Short-term exposure of people to noise levels exceeding County thresholds?			X		
c. Project-generated substantial increase in the ambient noise levels for adjoining areas (either day or night)?				X	

Impact Discussion:

a., b., c.) The proposed project consists of replacing an existing bridge with a new prefabricated bridge and would not result in: 1) the generation of any noise exceeding County thresholds; 2) substantially increase ambient noise levels in adjoining areas; or 3) exposure of noise sensitive uses on the proposed project site to off-site noise levels exceeding County thresholds. No noise-related impacts would result.

Mitigation and Residual Impact: No mitigation is required. Residual impacts would be less than significant.

4.12 PUBLIC FACILITIES

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

Impact Discussion:

The proposed project would not result in the increase of houses within the surrounding area. This level of new development would not have a significant impact on existing police protection or health care services. Existing service levels would be sufficient to serve the proposed project. The proposed project would not generate solid waste in excess of County thresholds. The project will not require any sewer or water services.

Mitigation and Residual Impact: No impacts are identified. No mitigation is necessary.

4.13 RECREATION

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

Impact Discussion:

(a.,b.) The proposed project site is not located on or near any established recreational uses, including biking, equestrian or hiking trails. No adverse impacts would result.

(c.) The proposed project would not result in any population increase and would have no adverse impacts on the quality or quantity of existing recreational opportunities, either in the project vicinity or County-wide.

Mitigation and Residual Impact: No mitigation is required.

4.14 TRANSPORTATION

Will the proposal result in:	Poten. Signif.	Less than Signif. with Mitigation	Less Than Signif.	No Impact	Reviewed Under Previous Document
a. Conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadways, bicycle, and pedestrian facilities?				X	
b. Conflict or be inconsistent with CEQA Guidelines Section 15064.3(b)?				X	
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	
d. Result in inadequate emergency access?				X	

Setting:

The Project involves the replacement of an existing bridge that crosses Asphaltum Creek in Sisquoc with a new prefabricated bridge. The existing bridge is approximately 19 ft. wide by 26 ft. long and the replacement bridge will be 26 ft. wide by 40 ft. long. The bridge is located completely within the subject property and provides primary access to the neighboring properties including the Sisquoc Ranch Winery and historic San Ramon Chapel. Access to the bridge occurs from an approach from Foxen Canyon Drive.

Impact Discussion:

The Project will have no impact on Transportation. There will be no conflict with a local plan, program, or policy. Replacing the existing bridge will not impact current Vehicle Miles Travelled (VMT) rates. Installation of the new bridge will not result in hazardous traffic conditions. The new bridge will result in improved emergency

access because it will result in a slightly wider bridge that will meet County Fire Department private road standards.

Cumulative Impacts:

The County's Environmental Thresholds were developed, in part, to define the point at which a project's contribution to a regionally significant impact constitutes a significant effect at the project level. In this instance, the project has been found not to exceed the threshold of significance for transportation. Therefore, the project's contribution to the regionally significant transportation impacts is not considerable, and is less than significant.

Mitigation and Residual Impact: No impacts. No Mitigations are necessary.

4.15 WATER RESOURCES/FLOODING

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

Will the proposal result in:	Poten. Signif.	Less than Signif. with Mitigation	Less Than Signif.	No Impact	Reviewed Under Previous Document
I. Introduction of storm water pollutants (e.g., oil, grease, pesticides, nutrients, sediments, pathogens, etc.) into groundwater or surface water?			X		

Impact Discussion:

The project would not result in impacts on surface water quality, including storm water runoff, direction or course of surface or ground water or the direction, volume, or frequency of runoff. There is an adequate supply of water for the project and the project would not contribute to overdraft of groundwater resources.

Water Resources Thresholds

A project is determined to have a significant effect on water resources if it would exceed established threshold values which have been set for each overdrafted groundwater basin. These values were determined based on an estimation of a basin's remaining life of available water storage. If the project's net new consumptive water use [total consumptive demand adjusted for recharge less discontinued historic use] exceeds the threshold adopted for the basin, the project's impacts on water resources are considered significant.

A project is also deemed to have a significant effect on water resources if a net increase in pumpage from a well would substantially affect production or quality from a nearby well.

Water Quality Thresholds:

A significant water quality impact is presumed to occur if the project:

- Is located within an urbanized area of the county and the project construction or redevelopment individually or as a part of a larger common plan of development or sale would disturb one (1) or more acres of land;
- Increases the amount of impervious surfaces on a site by 25% or more;
- Results in channelization or relocation of a natural drainage channel;
- Results in removal or reduction of riparian vegetation or other vegetation (excluding non-native vegetation removed for restoration projects) from the buffer zone of any streams, creeks or wetlands;
- Is an industrial facility that falls under one or more of categories of industrial activity regulated under the NPDES Phase I industrial storm water regulations (facilities with effluent limitation; manufacturing; mineral, metal, oil and gas, hazardous waste, treatment or disposal facilities; landfills; recycling facilities; steam electric plants; transportation facilities; treatment works; and light industrial activity);
- Discharges pollutants that exceed the water quality standards set forth in the applicable NPDES permit, the Regional Water Quality Control Board's (RWQCB) Basin Plan or otherwise impairs the beneficial uses¹ of a receiving water body;

¹ Beneficial uses for Santa Barbara County are identified by the Regional Water Quality Control Board in the Water Quality Control Plan for the Central Coastal Basin, or Basin Plan, and include (among others) recreation, agricultural supply, groundwater recharge, fresh water habitat, estuarine habitat, support for rare, threatened or endangered species, and preservation of biological habitats of special significance.

- Results in a discharge of pollutants into an “impaired” water body that has been designated as such by the State Water Resources Control Board or the RWQCB under Section 303 (d) of the Federal Water Pollution Prevention and Control Act (i.e., the Clean Water Act); or
- Results in a discharge of pollutants of concern to a receiving water body, as identified by the RWQCB.

Impact Discussion

(a-e, g-k) The project would not result in long term impacts on surface course of surface or ground water or the direction, volume, or frequency of runoff. The project would not require water service and would not contribute to overdraft of groundwater resources.

The project would create minor amounts of additional storm water runoff as a result of newly constructed impermeable surfaces (i.e. structures, driveways, patios, etc.) Construction activities such as grading could also potentially create temporary runoff and erosion problems. Application of standard County grading, erosion, and drainage-control measures would ensure that no significant increase of erosion or storm water runoff would occur. Additionally,

(h, i) The project will not require water service. The project’s impact on water supplies is therefore less than significant.

(j) The project will not require installation of an onsite water treatment system.

(l) The project could adversely affect surface water quality by increasing the volume and decreasing the quality of stormwater runoff. The project will not involve the use of fertilizers, pesticides, or household cleaners and chemicals. Runoff during construction of the bridge could introduce oil and other substances into the Asphaltum Creek drainage and other sensitive area. These impacts are mitigated under the biological resources above. However, the project would be expected to generate only minor amounts of storm water pollutants during operation and are not expected to create a public hazard.

Cumulative Impacts:

The County’s Environmental Thresholds were developed, in part, to define the point at which a project’s contribution to a regionally significant impact constitutes a significant effect at the project level. In this instance, the project has been found not to exceed the threshold of significance for water resources. Therefore, the project’s contribution to the regionally significant issues of water supplies and water quality is not considerable, and is less than significant.

Mitigation and Residual Impact: Project Impacts are less than significant. No further mitigation is needed.

5.0 INFORMATION SOURCES

5.1 County Departments Consulted:

Police, Fire, Public Works, Flood Control, Parks, Environmental Health, Special Districts, Regional Programs

5.2 Comprehensive Plan

<u> X </u>	Seismic Safety/Safety Element	<u> </u>	Conservation Element
<u> </u>	Open Space Element	<u> X </u>	Noise Element
<u> </u>	Coastal Plan and Maps	<u> </u>	Circulation Element
<u> </u>	ERME	<u> </u>	

5.3 Other Sources

<u> X </u>	Field work	<u> </u>	Ag Preserve maps
	Calculations	<u> X </u>	Flood Control maps

☒	Project plans	☒	Other technical references (reports, survey, etc.)
	Traffic studies	☒	Planning files, maps, reports
☒	Records	☒	Zoning maps
☒	Grading plans	☒	Soils maps/reports
	Elevation, architectural renderings		Plant maps
	Published geological map/reports	☒	Archaeological maps and reports
	Topographical maps		Other

6.0 PROJECT SPECIFIC (*short- and long-term*) AND CUMULATIVE IMPACT SUMMARY

- I. Project-Specific Impacts which are of unknown significance levels (Class I): None
- II. Project Specific Impacts which are potentially significant but can be mitigated to less than significant levels (Class II): Biological Resources, Water Resources / Flooding
- III. Potentially significant adverse cumulative impacts: None

7.0 MANDATORY FINDINGS OF SIGNIFICANCE

Will the proposal result in:	Poten. Signif.	Less than Signif. with Mitigation	Less Than Signif.	No Impact	Reviewed Under Previous Document
1. Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal, contribute significantly to greenhouse gas emissions or significantly increase energy consumption, or eliminate important examples of the major periods of California history or prehistory?		X			
2. Does the project have the potential to achieve short-term to the disadvantage of long-term environmental goals?			X		
3. Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects and the effects of probable future projects.)			X		

Will the proposal result in:	Poten. Signif.	Less than Signif. with Mitigation	Less Than Signif.	No Impact	Reviewed Under Previous Document
4. Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?				X	
5. Is there disagreement supported by facts, reasonable assumptions predicated upon facts and/or expert opinion supported by facts over the significance of an effect which would warrant investigation in an EIR ?				X	

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

Zoning

The proposed project is consistent with the requirements of the Santa Barbara County Land Use and Development Code (Inland Zoning Ordinance). The AG-II-100 zoning of the site allows for the uses and development proposed.

Comprehensive Plan Policies

The project will be subject to all applicable requirements and policies under the Santa Barbara County Land Use and Development Code, and the County's Comprehensive Plan. The following are a list of applicable policies:

- Prior to issuance of a development permit, the County shall make the finding, based on information provided by environmental documents, staff analysis, and the applicant, that adequate public or private services and resources (i.e., water, sewer, roads, etc.) are available to serve the proposed development. The applicant shall assume full responsibility for costs incurred in service extensions or improvements that are required as a result of the proposed project. Lack of available public or private services or resources shall be grounds for denial of the project or reduction in the density otherwise indicated in the land use plan. Affordable housing projects proposed pursuant to the Affordable Housing Overlay regulations, special needs housing projects or other affordable housing projects which include at least 50% of the total number of units for affordable housing or 30% of the total number of units affordable at the very low income level shall be presumed to be consistent with this policy if the project has, or is conditioned to obtain all necessary can and will serve letters at the time of final map recordation, or if no map, prior to issuance of land use permits.
- Plans for development shall minimize cut and fill operations. Plans requiring excessive cutting and filling may be denied if it is determined that the development could be carried out with less alteration of the natural terrain.
- All developments shall be designed to fit the site topography, soils, geology, hydrology, and any other existing conditions and be oriented so that grading and other site preparation is kept to an absolute minimum. Natural features, landforms, and native vegetation, such as trees, shall be preserved to the maximum extent feasible. Areas of the site which are not suited to development because of known soil, geologic, flood, erosion or other hazards shall remain in open space.

- Degradation of the water quality of groundwater basins, nearby streams, or wetlands shall not result from development of the site. Pollutants, such as chemicals, fuels, lubricants, raw sewage, and other harmful waste, shall not be discharged into or alongside coastal streams or wetlands either during or after construction.
- All permitted construction and grading within stream corridors shall be carried out in such a manner as to minimize impacts from increased runoff, sedimentation, biochemical degradation, or thermal pollution.
- All development shall be reviewed in accordance with the requirements of County Code Chapter 15A-Floodplain Management and 15B-Development Along Watercourses

10.0 RECOMMENDATION BY P&D STAFF

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

- _____ Finds that the proposed project WILL NOT have a significant effect on the environment and, therefore, recommends that a Negative Declaration (ND) be prepared.
- X Finds that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because the mitigation measures incorporated into the REVISED PROJECT DESCRIPTION would successfully mitigate the potentially significant impacts. Staff recommends the preparation of an ND. The ND finding is based on the assumption that mitigation measures will be acceptable to the applicant; if not acceptable a revised Initial Study finding for the preparation of an EIR may result.
- _____ Finds that the proposed project MAY have a significant effect on the environment, and recommends that an EIR be prepared.
- _____ Finds that from existing documents (previous EIRs, etc.) that a subsequent document (containing updated and site-specific information, etc.) pursuant to CEQA Sections 15162/15163/15164 should be prepared.

Potentially significant unavoidable adverse impact areas:

_____ With Public Hearing X Without Public Hearing

PREVIOUS DOCUMENT: _____ N/A

PROJECT EVALUATOR: Erick S. Gomez

DATE: 06/16/2021

11.0 DETERMINATION BY ENVIRONMENTAL HEARING OFFICER

- ☒ I agree with staff conclusions. Preparation of the appropriate document may proceed.
☐ I DO NOT agree with staff conclusions. The following actions will be taken:
☐ I require consultation and further information prior to making my determination.

SIGNATURE:  INITIAL STUDY DATE: 06/16/2021

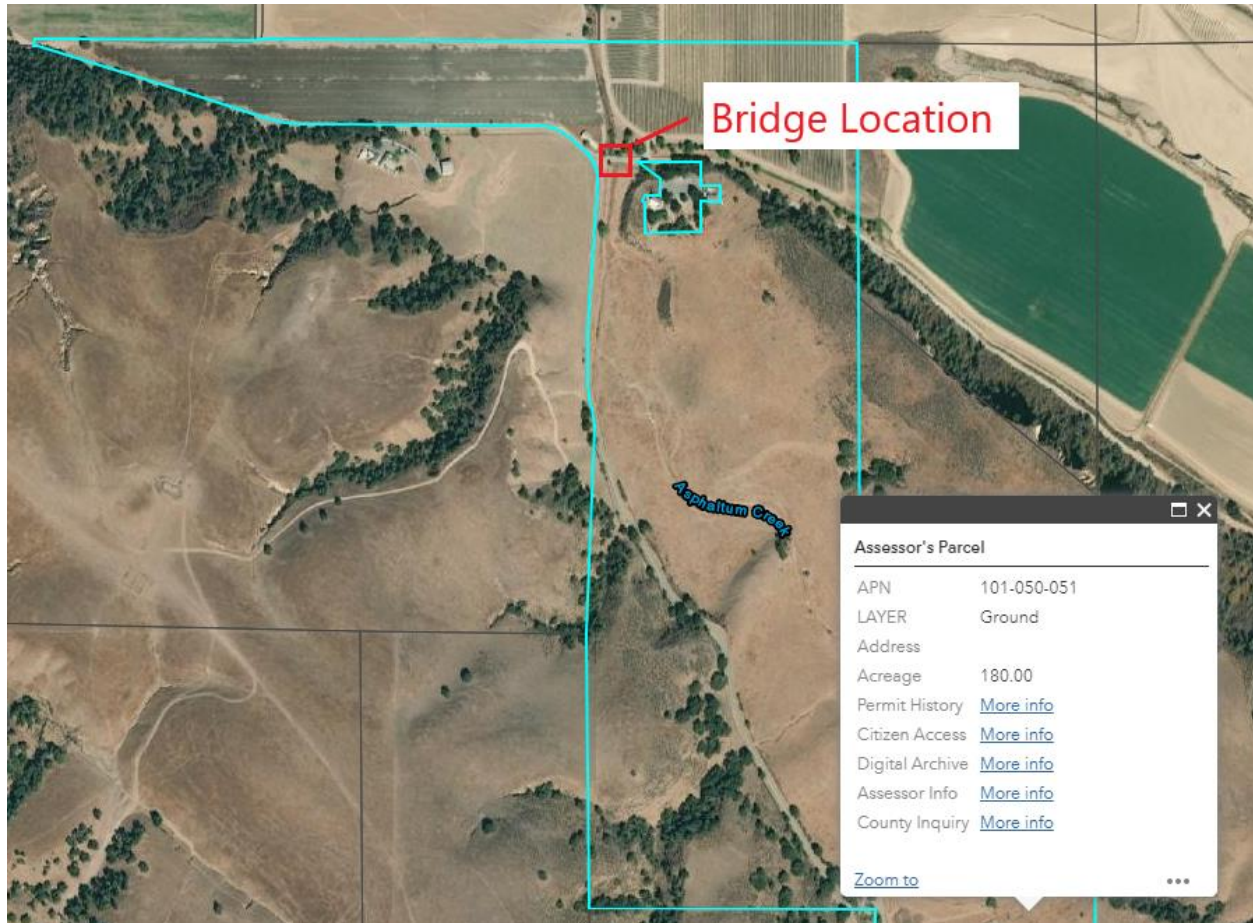
SIGNATURE:  NEGATIVE DECLARATION DATE: 06/18/2021

12.0 ATTACHMENTS

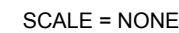
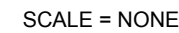
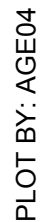
1. Vicinity Map
2. Project Plans
3. Biological Resources Assessment
4. Geotechnical Study

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ATTACHMENT 1: VICINITY MAP

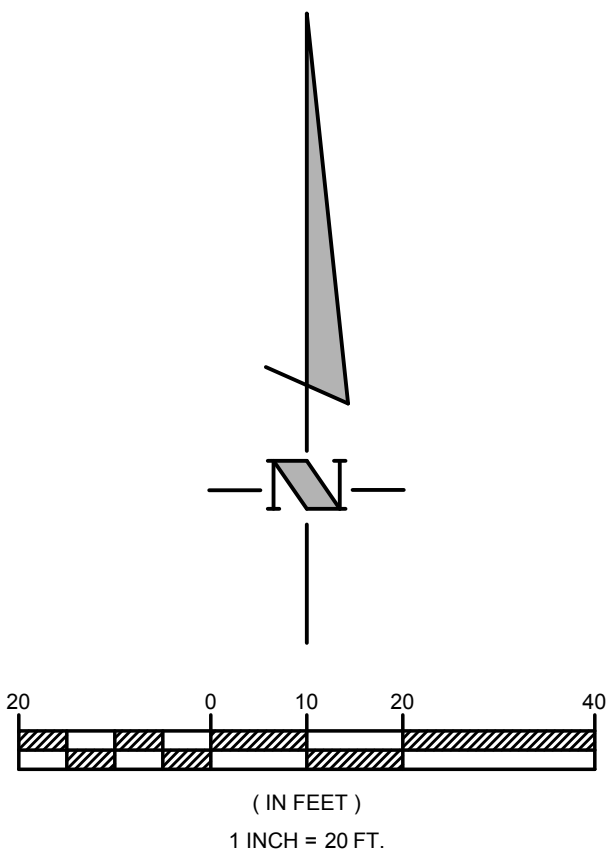


ATTACHMENT 2: Project Plans



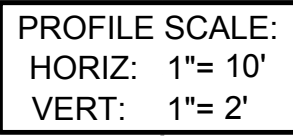
TITLE SHEET & GENERAL NOTES

DATE: JUNE 29, 2020



- 1 EXISTING SITE FEATURES TO REMAIN. CONTRACTOR TO PROTECT IN PLACE.
- 2 MATCH EXISTING. CONTRACTOR TO VERIFY MATCH LOCATION AND ELEVATION
3 PRIOR TO CONSTRUCTION TO ENSURE THEY ARE CONSISTENT WITH PLAN AND THAT
4 SLOPES MEET AGENCY REQUIREMENTS. CONTACT ENGINEER IF CONFLICTS ARE
5 DISCOVERED.
- 6 3 INSTALL ASPHALT CONCRETE (AC) PAVING PER DETAIL.
- 7 SAW CUT AND REMOVE EXISTING AC/CONCRETE PAVING AT LEAST 6 INCHES INTO A
8 COMPETENT STRUCTURAL SECTION. CONTRACTOR RESPONSIBLE FOR PROPER
9 DRAINAGE.
- 10 5 INSTALL BEARING & WING WALLS PER STRUCTURAL DETAIL. CONTRACTOR TO
11 COORDINATE CONNECTION OF WALL DRAIN TO DAYLIGHT.
- 12 REMOVE EXISTING BRIDGE RAILINGS & BRIDGE DECKING. EXISTING BRIDGE
13 STRINGERS TO REMAIN IN PLACE & NO DEMO WITHIN CREEK ARE. INSTALL 24"x40"
14 FIRM MANUFACTURED BRIDGE OVER TOP EXISTING BRIDGE STRINGERS PER
15 STRUCTURAL PLAN.
- 16 7 INSTALL 6" WIDE CONCRETE VALLEY GUTTER PER DETAIL.
- 17 8 PROVIDE ROADSIDE RIP-RAP DISSIPATER PER DETAIL.

N/A
N/A
A/C-0.1
N/A
S#
S#
B/C-0.1
C/C-0.1



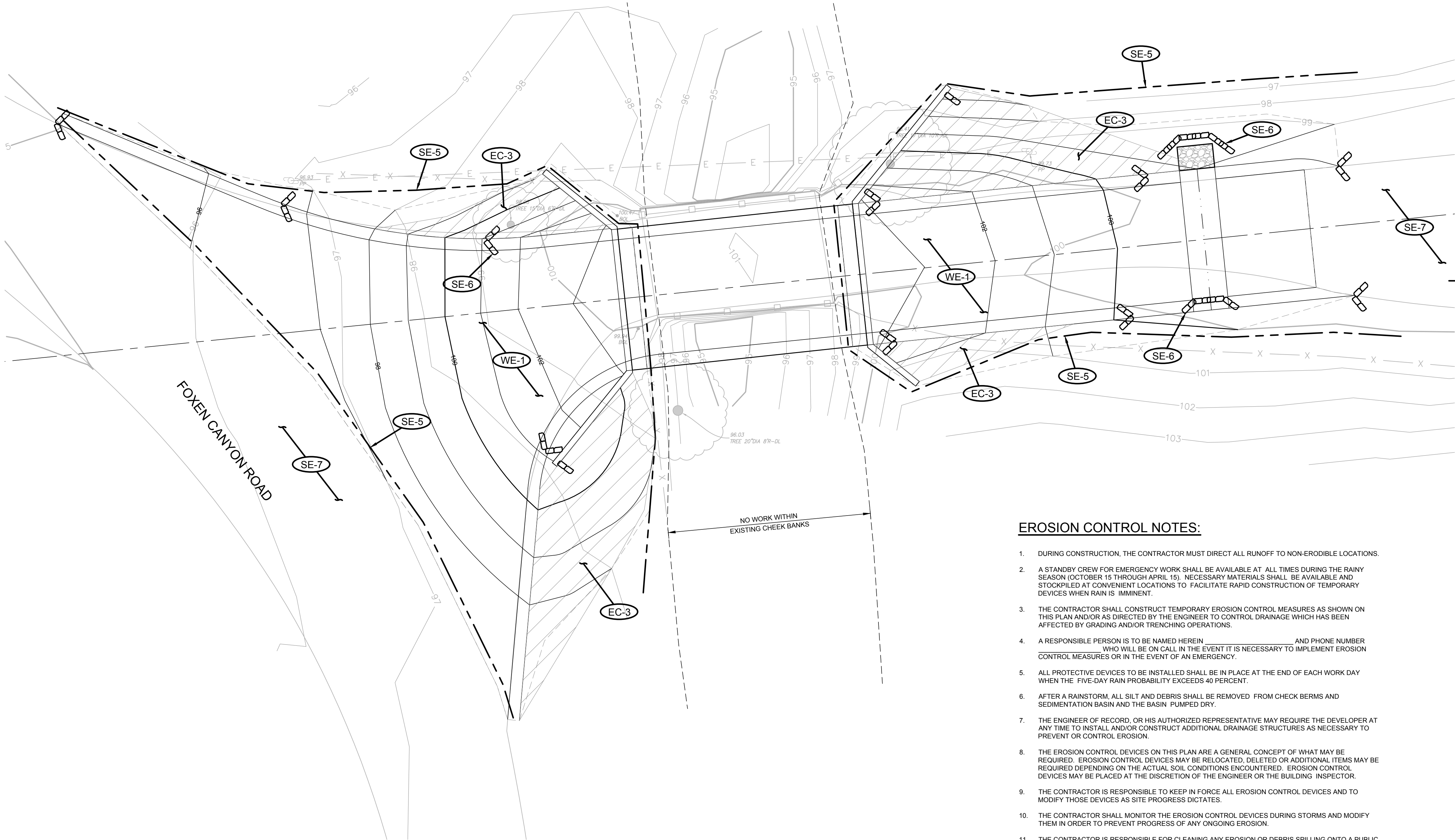
REGISTERED PROFESSIONAL ENGINEER
SCOTT J. STOFE
No. 58256
CIVIL
STATE OF CALIFORNIA

RANCHO SISQUOC WINERY BRIDGE
7000 FOXEN CANYON ROAD

GRADING & DRAINAGE PLAN

GRADING & DRAINAGE PLAN

[illegible]



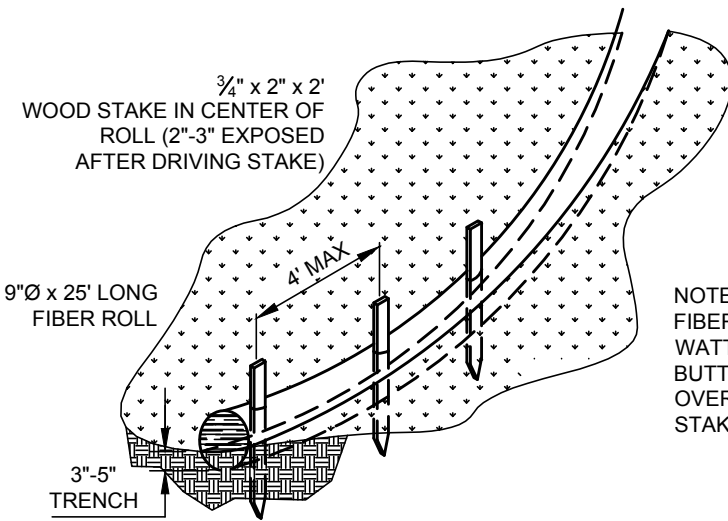
EROSION CONTROL NOTES:

SYMBOL	CASQA#	DESCRIPTION
	SE-5	INSTALL FIBER ROLLS PER MANUFACTURERS SPECIFICATIONS.
	EC-3	INSTALL HYDROMULCH TO DISTURBED SLOPES.
	SE-6	INSTALL GRAVEL BAG BERM.
	WE-1	PROVIDE WIND EROSION CONTROL.
	SE-7	PROVIDE STREET SWEEPING & VACUUMING.
	WM-1	MATERIAL DELIVERY & STORAGE
	WM-3	CONCRETE WASHOUT

* NOT ALL EROSION CONTROL MEASURES LISTED ABOVE ARE USED ON THIS PLAN, BUT ARE PROVIDED FOR THE FUTURE USE BY THE QUALIFIED SWPPP PRACTITIONER PRIOR OR DURING CONSTRUCTION.

EROSION CONTROL NOTES:

- DURING CONSTRUCTION, THE CONTRACTOR MUST DIRECT ALL RUNOFF TO NON-ERODIBLE LOCATIONS.
- A STANDBY CREW FOR EMERGENCY WORK SHALL BE AVAILABLE AT ALL TIMES DURING THE RAINY SEASON (OCTOBER 15 THROUGH APRIL 15). NECESSARY MATERIALS SHALL BE AVAILABLE AND STOCKPILED AT CONVENIENT LOCATIONS TO FACILITATE RAPID CONSTRUCTION OF TEMPORARY DEVICES WHEN RAIN IS IMMINENT.
- THE CONTRACTOR SHALL CONSTRUCT TEMPORARY EROSION CONTROL MEASURES AS SHOWN ON THIS PLAN AND/OR AS DIRECTED BY THE ENGINEER TO CONTROL DRAINAGE WHICH HAS BEEN AFFECTED BY GRADING AND/OR TRENCHING OPERATIONS.
- A RESPONSIBLE PERSON IS TO BE NAMED HEREIN _____ AND PHONE NUMBER _____ WHO WILL BE ON CALL IN THE EVENT IT IS NECESSARY TO IMPLEMENT EROSION CONTROL MEASURES OR IN THE EVENT OF AN EMERGENCY.
- ALL PROTECTIVE DEVICES TO BE INSTALLED SHALL BE IN PLACE AT THE END OF EACH WORK DAY WHEN THE FIVE-DAY RAIN PROBABILITY EXCEEDS 40 PERCENT.
- AFTER A RAINSTORM, ALL SILT AND DEBRIS SHALL BE REMOVED FROM CHECK BERMS AND SEDIMENTATION BASIN AND THE BASIN PUMPED DRY.
- THE ENGINEER OF RECORD, OR HIS AUTHORIZED REPRESENTATIVE MAY REQUIRE THE DEVELOPER AT ANY TIME TO INSTALL AND/OR CONSTRUCT ADDITIONAL DRAINAGE STRUCTURES AS NECESSARY TO PREVENT OR CONTROL EROSION.
- THE EROSION CONTROL DEVICES ON THIS PLAN ARE A GENERAL CONCEPT OF WHAT MAY BE REQUIRED. EROSION CONTROL DEVICES MAY BE RELOCATED, DELETED OR ADDITIONAL ITEMS MAY BE REQUIRED DEPENDING ON THE ACTUAL SOIL CONDITIONS ENCOUNTERED. EROSION CONTROL DEVICES MAY BE PLACED AT THE DISCRETION OF THE ENGINEER OR THE BUILDING INSPECTOR.
- THE CONTRACTOR IS RESPONSIBLE TO KEEP IN FORCE ALL EROSION CONTROL DEVICES AND TO MODIFY THOSE DEVICES AS SITE PROGRESS DICTATES.
- THE CONTRACTOR SHALL MONITOR THE EROSION CONTROL DEVICES DURING STORMS AND MODIFY THEM IN ORDER TO PREVENT PROGRESS OF ANY ONGOING EROSION.
- THE CONTRACTOR IS RESPONSIBLE FOR CLEANING ANY EROSION OR DEBRIS SPILLING ONTO A PUBLIC STREET.
- THE CONTRACTOR SHALL CONTACT THE ENGINEER IN THE EVENT THAT THE EROSION CONTROL PLAN AS DESIGNED REQUIRES ANY SUBSTANTIAL REVISIONS.
- NO CUT OR FILL SLOPES SHALL BE STEEPER THAN 2' HORIZONTAL TO 1' VERTICAL.
- ALL STRAW WATTLES TO BE INSTALLED AS INDICATED PER MANUFACTURER'S RECOMMENDATIONS.
- SILT FENCE SHALL BE INSTALLED AS INDICATED PER MANUFACTURER'S RECOMMENDATIONS.
- SPECIFIC EROSION CONTROL NOTES REFER TO THE CALIFORNIA STORMWATER BMP HANDBOOK AND CALTRANS STANDARD SPECIFICATIONS. THE CONTRACTOR IS RESPONSIBLE TO INSTALL AND MAINTAIN ADEQUATE EROSION CONTROL DEVICES AT ALL TIMES PER THE RECOMMENDATIONS SET FORTH IN SAID REFERENCES.
- TEMPORARY EROSION CONTROL MEASURES SHALL BE REMOVED WHEN PERMANENT IMPROVEMENTS, PLANTINGS, AND FACILITIES ARE IN PLACE. TEMPORARY MEASURES SHALL BE REMOVED PRIOR TO FINAL INSPECTION APPROVALS.



FIBER ROLLS

-NTS-

AIR QUALITY:

- REDUCE THE AMOUNT OF DISTURBED AREA WHERE POSSIBLE.
- USE OF WATER TRUCKS OR SPRINKLER SYSTEMS IN SUFFICIENT QUANTITIES TO PREVENT AIRBORNE DUST FROM LEAVING THE SITE. INCREASED WATERING FREQUENCY WOULD BE REQUIRED WHENEVER WIND SPEEDS EXCEED 15 MPH. RECLAIMED (NONPOTABLE) WATER SHOULD BE USED WHENEVER POSSIBLE.
- ALL DIRT STOCK-PILE AREAS SHOULD BE SPRAYED DAILY AS NEEDED.
- ALL ROADWAYS, DRIVEWAYS, SIDEWALKS, ETC. TO BE PAVED SHALL BE COMPLETED AS SOON AS POSSIBLE.
- BUILDING PADS SHALL BE LAID AS SOON AS POSSIBLE AFTER GRADING UNLESS SEEDING OR SOIL BINDERS ARE USED.
- DEVELOPMENTAL BURNING SHALL BE PROHIBITED UNLESS THE APPLICANT OBTAINS A BURN PERMIT FROM THE AIR POLLUTION CONTROL DISTRICT AND CALIFORNIA DEPARTMENT OF FORESTRY/COUNTY FIRE.

ENGINEER OF RECORD:



DATE:

RANCHO SISQUOC WINERY BRIDGE
7000 FOXEN CANYON ROAD

EROSION CONTROL PLAN

NO.	REVISION	DATE

DESIGNED: SJS
DRAWN: DWB
JOB NUMBER: 20061

SHEET:

C-2.1

DATE: JUNE 29, 2020

Sisquoc Bridge

Rancho Sisquoc Santa Maria, California

STANDARD SPECIFICATIONS			STANDARD DETAILS			ABBREVIATIONS			PROJECT INFORMATION																																																																																												
GENERAL NOTES 1. The following notes, details, schedules & specifications shall apply to all phases of this project unless specifically noted otherwise. Notes and details on the structural plans shall take precedence over general notes and typical details. Where no details are given, construction shall be as shown for similar work. 2. All drawings are considered to be part of the contract documents. The Contractor shall be responsible for the review and coordination of all drawings and specifications prior to the start of construction. Any discrepancies shall be brought to the attention of the Engineer prior to the start of construction so that a clarification can be issued. Any work performed in conflict with the contract documents or any applicable code requirements shall be corrected by the Contractor at no expense to the Owner or Engineer. 3. All information on existing conditions shown on the structural plans are based on best present knowledge available, but without guarantee of accuracy. The Contractor shall be responsible for the verifications of all dimension and conditions at the site. Any discrepancies between actual site conditions and information shown on the drawings or in the specifications shall be brought to the attention of the EOR prior to the start of construction. 4. Refer to the Architectural plans for the following: (a) Dimensions (b) Size and location of all interior and exterior wall locations. (c) Size and location of all floor, roof and wall openings (d) Size and location of all drains, slopes, depressions, steps, etc. (e) Specification of all finishes & waterproofing (f) All other non-structural elements 5. Refer to the mechanical, electrical and plumbing plans for the following: (a) Size and location of all equipment (b) Pipe runs, sleeves, hangers and trenches (c) All other mechanical, electrical or plumbing related elements 6. DO NOT scale structural plans. Contractor shall use all written dimensions on Architectural plans. 7. Construction materials shall be uniformly spread out if placed on floor or roof so as to not overload the framing. Load shall not exceed the design live load per square foot. It is the Contractor's responsibility to provide adequate shoring and/or bracing as required. 8. Specifications and detailing of all waterproofing and drainage items, while sometimes shown on the structural plans for general information purposes only, are solely the design responsibility of others. 9. The Engineer will not be responsible for and will not have control or charge of construction means, methods, techniques, sequences or procedures, or for safety precautions and programs in connection with the construction delineated by these plans. It should be understood that the Contractor or his/her agent(s) shall supervise and direct all work and shall be solely and completely responsible for all construction means, methods, techniques, sequences, procedures and conditions on the job site, including safety of all persons and property during the entire period of construction. Periodic observations by the Engineer, his staff or representatives are not intended to include verification of dimensions or review the adequacy of the Contractor's safety measures on or near the construction site. 10. Modifications of the plans, notes, details and specifications shall not be permitted without prior approval from the Engineer. 11. All workmanship shall conform to the best practice prevailing in the various trades performing the work. The Contractor shall be responsible for coordinating the work of all trades. 12. It is the Contractor's responsibility to ensure that only approved structural plans are used during the course of construction. The use of unapproved documents shall be at the contractor's own risk. Corrections of all work based on such documents shall be performed at the Contractor's expense. 13. These plans and specifications represent the structural design only. No information nor warranty is provided for the work of any other Consultant (Architect, Mechanical, Electrical, etc.). This includes, but is not limited to, waterproofing, drainage, ventilation, accessibility, or dimensions.			CONCRETE 1. All concrete shall have: (a) an ultimate compressive strength (f'c) of 3,000 psi at 28 days (UNO). (b) a maximum slump of 5" at point of placement. (c) a W/C ratio of 0.55 or less for all slabs, walls, and columns, and 0.60 or less for all foundations. (d) a normal dry-weight density (UNO). 2. Special inspection is NOT required as the foundations have been <i>designed</i> with f'c = 2,500 psi in accordance with the Governing Building Code, section 1705.3, exceptions 1, 2.1., and 2.3, unless explicitly specified herein, on the structural plans, or by the Building Department. As a minimum, special inspection is always required on: (a) structural slabs, flat plates (b) walls, columns, beams (c) piles, caissons (d) welding of reinforcement, installation of mechanical bar splice devices, epoxy application When required or specified, special inspection services shall conform to the Governing Building Code, Chapter 17 and shall be provided by an ICC certified inspector or Building Department approved engineer. The Building Department reserves the right to waive or require the special inspection requirements [Section 1704.1 and 1704.4] . Nothing in these plans waives the Building Department's right to require special inspection at any point and on any material. 3. Testing of materials used in concrete construction must be performed as noted on structural plans or at the request of the Building Department to determine if materials are quality specified. Tests of materials and of concrete shall be made by an approved agency and at the expense of the contractor; such tests shall be made in accordance with the standards listed in the Governing Building Code, Table 1704.4. When testing of concrete is required, four (4) test cylinders shall be taken from each 150 yards, or fraction thereof, poured in any one day. One (1) cylinder shall be tested at seven (7) days; two (2) at 28 days; one (1) shall be held in reserve. If Contractor elects to have additional tests performed for "early-break" results, additional test cylinders must be taken. At no time shall the Contractor instruct the testing agency to perform tests on a schedule different than above without the prior authorization of the Engineer. Contractor is responsible for complying with applicable testing requirements of the Building Department. Copies of all test reports shall be provided to Engineer and Building Department for review in a timely manner. 4. The Contractor shall remove and replace any concrete which fails to attain specified 28 day compressive strength if so directed by the Engineer. Any defects in the hardened concrete shall be repaired to the satisfaction of the Engineer and/or Architect or the hardened concrete shall be replaced at the Contractor's expense. 5. All concrete work shall conform with the Governing Building Code, Chapter 19. 6. All cement shall be Portland Cement Type I or II and shall conform to ASTM C 150. 7. All aggregates shall conform to ASTM C33. Maximum aggregate sizes: (a) Footings: 1-1/2" (b) All other work: 3/4" 8. Where not specifically detailed, the minimum concrete cover on reinforcing steel shall be: (a) Permanently exposed to earth or weather i. Cast against earth: 2" ii. Cast against forms: 2" (b) Not exposed to earth or weather i. Slabs, walls, joists: 3/4" ii. Beams, girders, columns: 1-1/2" 9. The minimum lap splice length for all reinforcing steel shall be as noted in the typical details on sheet S-1.1. All lap splices to be staggered. 10. All reinforcing steel, anchor bolts, dowels, inserts, and any other hardware to be cast in concrete shall be well secured in position prior to foundation inspection. All hardware to be installed in accordance with respective manufacturer's specifications. Refer to architectural and structural plans for locations of embedded items. 11. Locations of all construction joints, other than specified on the structural plans, shall be approved by the Architect and Engineer prior to forming. Construction joints shall be thoroughly air and water cleaned and heavily roughened so as to expose coarse aggregates. All surfaces to receive fresh concrete shall be maintained continuously wet at least three (3) hours in advance of concrete placement. Unless specifically detailed or otherwise noted, construction and control joints shall be provided in all concrete slabs-on-grade. Joints shall be located such that the area does not exceed 40 sq. feet. 12. The Architect, Engineer and appropriate inspectors shall be notified in a timely manner for a reinforcement inspection prior to the placement of any concrete. 13. The Contractor shall obtain approval from the Architect and the Engineer prior to placing sleeves, pipes, ducts, chases, coring and opening on or through structural concrete beams, walls, floors, and roof slabs unless specifically detailed or noted on the plans. All piles or conduits passing through concrete members shall be sleeved with standard steel pipe sections. 14. The Contractor is responsible for design, installation, maintenance and removal of all formwork. Forms shall be properly constructed, sufficiently tight to prevent leakage, sufficiently strong, and braced to maintain their shape and alignment until no longer needed for concrete support. Joints in formwork shall be tightly fitted and blocked, and shall produce a finished concrete surface that is true and free from blemishes. Forms for exposed concrete shall be pre-approved by the Architects to ensure conformance with design intent. 15. Remove form work in accordance with the following schedule: (a) Forms at slab edge: 1 day (b) Side forms at footings: 2 days (c) All other vertical surfaces: 7 days (d) Beams, columns, girders: 15 days (e) Elevated slabs: 28 days Engineer reserves the right to modify removal schedule above based on field observations, concrete conditions, and/or concrete test results. 16. Retaining walls shall not be backfilled until concrete has set a minimum of 14 days. Refer to structural plans for slab and/or framing installation sequencing. 17. All concrete (except slabs-on-grade 6" or less) shall be mechanically vibrated as it is placed. Vibrator to be operated by experienced personnel. The vibrator shall be used to consolidate the concrete. The vibrator shall not be used to convey concrete, nor shall it be placed on reinforcing and/or forms. 18. Concrete shall be maintained in a moist condition for a min. of five (5) days after placement. 19. Concrete shall not be permitted to free fall more than six (6) feet. For heights greater than six (6) feet, use tremie, pump or other method consistent with applicable standards. 20. When specified ultimate compressive strength is greater than 2500 psi, Contractor shall submit mix designs to Architect and Engineer for approval seven (7) days prior to placement. Mix designs shall be prepared by an approved testing laboratory. Sufficient data must be provided for all admixtures. 21. Refer to Architectural plans for locations of all dimensions, slab depressions, slopes, drains, curbs, and control joints.			STRUCTURAL STEEL 1. All structural steel and connections shall be fabricated and erected in accordance with AISC specifications, Seismic Provisions Supplements No. 1 and 2, and Code of Standard Practice as amended to date. 2. Steel fabrication shop drawings shall be submitted for review by the Architect and Engineer prior to fabrication. 3. Special Inspection: Continuous special inspection of structural welding is required by an inspector pre-qualified by the Building Department. The following exceptions are permitted for welds not in Special Moment-Resisting Frames: (a) Welding performed in an approved fabricator's shop in accordance with latest edition of the Governing Building Code, Section 1704.2. (b) The inspector need not be continuously present during welding of the following items, provided the materials, welding procedures, and welders qualifications are verified prior to the start of work; Periodic inspections are made of work in progress; and visual inspection of all completed welds is made prior to shipment: i. Single-pass fillet welds not exceeding 5/16" ii. Floor and roof steel deck welding iii. Welded studs (for nailers, diaphragms or composite deck systems) iv. Welded light gauge cold-formed framing members (studs, joists, etc.) v. Welding of stairs and railing systems 4. Testing Procedures: All complete joint penetration welds (aka full penetration, FP, or CJP) groove or butt welded joints and splices in Special Moment-Resisting Frames shall be tested 100 percent in accordance with AISC Seismic Part I, Section 16 by either ultrasonic testing ("UT") or radiography (x-ray). The following exceptions are permitted: (a) Ultrasonic or radiographic testing is not required for all complete joint penetration welds on material less than 5/16" thick; continuous visual inspection is required. (b) At the discretion of the Building Official, the ultrasonic or radiographic testing rate for an individual welder may be reduced to 25% provided the reject rate is no more than 5% for all welds tested for that individual welder. (c) At the discretion of the Building Official, the ultrasonic or radiographic testing may be performed in the shop of an approved fabricator by a qualified inspector of their employ. (d) It is the responsibility of the Contractor to verify all the testing requirements of the local Building Department as the requirements vary with each governing agency. The testing procedures outlined above apply only to those complete joint penetration welds specified in Special Moment-Resisting Frames only; Ordinary Moment-Resisting Frames are exempt. 5. Materials: (a) Wideflange (W) sections shall conform to ASTM A992. (b) Hollow Steel Sections (HSS) shall conform to ASTM A500 Gr. B. (c) Pipe sections shall be welded seamless pipe conforming to ASTM A53 Gr. B. i. STD indicates Standard Wall ii. EXT indicates Extra Strong iii. DBL indicates Double Extra Strong (d) All other material (plate, bars, etc.) shall conform to ASTM A36, UNO specifically. (e) All plate material specified in steel moment frame connections shall conform to ASTM A572 Gr. 50. 6. Bolts: (a) All bolts shall be ASTM A307 Gr. A, UNO specifically on the structural plans. (b) High strength bolts complying with ASTM A325 and A490, when specified, shall require special inspection in accordance with the Governing Building Code, Section 1705.2.6. (c) Threaded rod, where specified, shall conform with ASTM A307 unless specifically noted otherwise on the structural plans. (d) Bolt holes shall be drilled 1/32" to 1/16" larger than the specified bolt diameter. 7. Welding: (a) All welding shall be performed using SMAW, GMAW or FCAW processes. (b) All welded connections to be in accordance with the latest edition of the AWS D1.1. (c) All welding shall be performed by certified welders. (d) All welding shall be performed with E70XX electrodes with a minimum CVN toughness of 20 ft-lb at -20°F. (e) Weld lengths specified on the plans are the net effective length required. Where fillet weld symbol is given without indication of size, use the minimum size welds as specified in section 1.17.2 of the AISC Manual of Steel Construction 9th Ed. (f) No field welding shall be permitted, UNO specifically on the plans or details. 8. No holes other than those specifically detailed shall be allowed through structural steel members. Burning or torching of holes is not permitted under any circumstances. 9. All structural steel shall be painted one shop coat and touched-up in the field with read lead (or approved zinc chromate primer) as necessary. 10. Any steel member interfacing with wood framing shall have 1/2" diameter studs welded at 24" oc for attachment of wood nailers. Thru-bolting of nailers shall not be permitted unless specifically noted on the plans or details. 11. Provide hot dip galvanizing or 3" min. concrete cover around all structural steel below grade.			TYPICAL REINFORCING BAR BENDS STANDARD TIES & STIRRUPS <table><tr><th>Bar Size</th><th>D</th><th>H (Approx.)</th></tr><tr><td>#3</td><td>1-1/2"</td><td>3"</td></tr><tr><td>#4</td><td>2"</td><td>3"</td></tr><tr><td>#5</td><td>2-1/2"</td><td>3-3/4"</td></tr><tr><td>#6</td><td>4-1/2"</td><td>4-1/2"</td></tr><tr><td>#7</td><td>5-1/4"</td><td>5-1/4"</td></tr><tr><td>#8</td><td>6"</td><td>6"</td></tr></table> STANDARD END HOOKS <table><tr><th>Bar Size</th><th>D</th><th>J</th></tr><tr><td>#3</td><td>2-1/4"</td><td>3"</td></tr><tr><td>#4</td><td>3"</td><td>4"</td></tr><tr><td>#5</td><td>3-3/4"</td><td>5"</td></tr><tr><td>#6</td><td>4-1/2"</td><td>6"</td></tr><tr><td>#7</td><td>5-1/4"</td><td>7"</td></tr><tr><td>#8</td><td>6"</td><td>8"</td></tr></table> STD. DEVELOPMENT LENGTHS & LAP SPICES CONCRETE <table><tr><th>Bar Size</th><th>Length of Lap, L_l</th><th>Embed. of Hook, L_{eh}</th></tr><tr><td>#3</td><td>16"</td><td>21"</td></tr><tr><td>#4</td><td>22"</td><td>28"</td></tr><tr><td>#5</td><td>27"</td><td>35"</td></tr><tr><td>#6</td><td>32"</td><td>42"</td></tr><tr><td>#7</td><td>38"</td><td>49"</td></tr><tr><td>#8</td><td>43"</td><td>56"</td></tr></table> MASONRY <table><tr><th>Bar Size</th><th>Length of Lap, L_l</th><th>Embed. of Hook, L_{eh}</th></tr><tr><td>#3</td><td>15"</td><td>5"</td></tr><tr><td>#4</td><td>26"</td><td>7"</td></tr><tr><td>#5</td><td>40"</td><td>9"</td></tr><tr><td>#6</td><td>74"</td><td>10"</td></tr><tr><td>#7</td><td>101"</td><td>12"</td></tr><tr><td>#8</td><td>131"</td><td>13"</td></tr></table> FASTENERS 1. Bolts: (a) shall conform to ASTM A307, UNO specifically on plans and details. (b) shall be installed in pre-drilled holes a max of 1/16" larger than the specified bolt dia. (c) when installed against wood surfaces, shall have standard washers under the heads and nuts. (d) shall be hot-dipped zinc-coated galvanized steel or stainless steel when in contact with preservative-treated wood. i. When used in exterior applications, bolts shall have coating types and weights in accordance with the treated wood or bolt manufacturer's rec's. A minimum of ASTM A653, type G185 zinc-coated galvanized steel (or equal) shall be used. ii. When used in dry interior environments in SBX/DOT or zinc borate preservative-treated wood, plain carbon screws, nuts, and washers shall be permitted. 2. Anchor Bolts: (a) shall be installed at all exterior walls and all interior shear and/or bearing walls. (b) shall be 5/8" diameter with 3x30/229" steel plate washers at shearwalls. (c) shall be 5/8" diameter with 2x2x3/16" steel plate washers at non-shearwalls. (d) shall have 7" minimum embedment. (Contractor to coordinate length of bolts with sill plate thicknesses). (e) shall conform to ASTM F1554, Grade 36. (f) shall be hot-dipped zinc-coated galvanized steel or stainless steel when in contact with preservative-treated wood. i. When used in exterior applications, bolts shall have coating types and weights in accordance with the treated wood or bolt manufacturer's rec's. A minimum of ASTM A653, type G185 zinc-coated galvanized steel (or equal) shall be used. ii. When used in dry interior environments in SBX/DOT or zinc borate preservative-treated wood, plain carbon screws, nuts, and washers shall be permitted. (g) shall not be spaced greater than 72" oc Refer to shearwall schedule for specific anchor bolt spacing requirements. (h) shall be placed a maximum of 12" from wall corners, wall ends, and sill plate splices (but not less than 7 dia.), and a min. of two bolts per piece of sill plate is required. (i) shall be secured in place prior to foundation inspection.			Bar Size	D	H (Approx.)	#3	1-1/2"	3"	#4	2"	3"	#5	2-1/2"	3-3/4"	#6	4-1/2"	4-1/2"	#7	5-1/4"	5-1/4"	#8	6"	6"	Bar Size	D	J	#3	2-1/4"	3"	#4	3"	4"	#5	3-3/4"	5"	#6	4-1/2"	6"	#7	5-1/4"	7"	#8	6"	8"	Bar Size	Length of Lap, L _l	Embed. of Hook, L _{eh}	#3	16"	21"	#4	22"	28"	#5	27"	35"	#6	32"	42"	#7	38"	49"	#8	43"	56"	Bar Size	Length of Lap, L _l	Embed. of Hook, L _{eh}	#3	15"	5"	#4	26"	7"	#5	40"	9"	#6	74"	10"	#7	101"	12"	#8	131"	13"	AB Anchor Bolt A&B Above and Below Abv. Above Adn. Addition (al) Adj. Adjacent, Adjustable Alt. Alternate (ive) Appd. Approved Arch. Architect(ural) Avg. Average Bdry. Boundary Bldg. Building Blk(g). Block (ing) Bm. Beam BN Boundary Nailing B-O Bottom of BO By Others Bot. Bottom Brg. Bearing Btwn. Between BW Both Ways Cant. Cantilever(ed) CIP Cast in Place CJ Ceiling Joist CJP Complete Joint Penetration CL Center Line Clg. Ceiling CMU Conc. Masonry Unit Col. Column Com. Common Comp. Component Conc. Concrete Conn. Connection Const. Construction Cont. Continue (ous) Ctr. Center d Penny DBl. Double Defl. Deflection Deg. Degree Demo. Demolish (tion) Dep. Depressed(ed) DF Douglas Fir Dia. Diameter Diaph. Diaphragm Dif. Different Dim. Dimension Dist. Distance DJ Deck Joist DL Dead Load Dwg. Drawing (E) Existing Ea. Each EF Each Face EFP Equivalent Fluid FF Finished Floor FJ Floor Joist Flr(g) Floor (ing) FOC Face of Concrete FOM Face of Masonry FOS Face of Studs FOW Face of Wall Frmg. Framing Ft. Foot, Feet Ftg. Footing Ga. Gauge Galv. Galvanized GB Grade Beam GC General Contractor Gyp. Gypsum Hldown Holdown Hd. Header Hdw. Hardware Hgr. Hanger Hor(iz). Horizontal HT Height ID Inside Diameter Inch(es) Inch(es) Insp. Inspect(ion) Int. Interior Inv. Invert, Inverted Jst. Joist K Kips (1,000 pounds) KLF Kips per Linear Ft. King King Stud KP King Post KSF Kips per Square Ft. KSI Kips per Square In. Lb(s). Pound(s) LL Live Load Loc. Location LW Light Weight Mas. Masonry Max. Maximum MB Machine Bolt MF Moment Frame Mfr. Manufacture(r) Min. Minimum, Minute Mod. Modify(y), (ication) Mt. Metal (N) New N/A Not Applicable Nat. Natural NTS Not to Scale o/ Over oc On Center OD Outside Diameter Opng. Opening Opp. Opposite Opt. Optional Para. Parallel PCF Lbs per Cubic Ft. Pen. Penetrate, (tion) Perf. Perforated Perim. Perimeter Perp. Perpendicular PI Panel Index PJP Partial Joint Pen. PL Plate PLF Lbs per Linear Ft. PLY Plywood Ply. Plywood Prep. Prepare, (tion) Press. Pressure Proj. Project Prop. Property PSF Lbs per Square Ft. PSI Lbs per Square In. PT Pressure-Treated R Radius Rec(s). Recommendation(s) Rect. Rectangular Ref. Reference Reinf. Reinforce(d), (ment), (ing) Req(d). Require(d) Reqs. Requirements Ret. Retain(ing) RJ Roof Joist RR Roof Rafter RW Redwood SAD See Arch Dwg's Sched. Schedule Sgl. Single Shtg. Sheathing Sim. Similar SP Sr. Insulated Panel SM Sheet Metal SMS Sheet Metal Screw SOG Slab on Grade Spec. Specified(ed), (cations) SS Structural Steel Std. Standard Str. Structure Struc. Structure, (al) SW Shear Wall Sym. Symmet(ry), (rica) T&B Top and Bottom T&G Tongue and Groove Temp. Temporary Thk. Thickness Thru Through TN Toe-Nail TP Top Plate T-O Top of TOB Top of Beam TOC Top of Concrete TOG Top of Grade TOM Top of Masonry TOS Top of Steel TOW Top of Wall TRU To Remain Unchngd Unchanged Tmr. Timmer Stud Typ. Typical UNO Unless Noted Otherwise Vert. Vertical VIF Verify in Field VWA Verify with Arch W/ With w/in Within w/o Without WS Wood Screw Wndw. Window Wt. Weight WWF Welded Wire Fabric Yd. Yard @ ° Degrees Ø Diameter > Greater Than < Less Than # Number, Pound(s) / Per % Percent(age) ± Plus or Minus			CLIENT: Rancho Sisquoc DESIGNER: David Sansone SOILS/GEO. ENGINEER: Pacific Coast Testing, Inc. P.O. Box 6835 Santa Maria, CA 93456 (805) 631-5108 DESIGN PARAMETERS SOILS VALUES (per Soils Report) Bearing Pressure 2500 psf Lateral Passive EFP 200 pcf At-Rest EFP 55 pcf Active EFP 35 pcf		
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Ashley & Vance
ENGINEERING, INC.

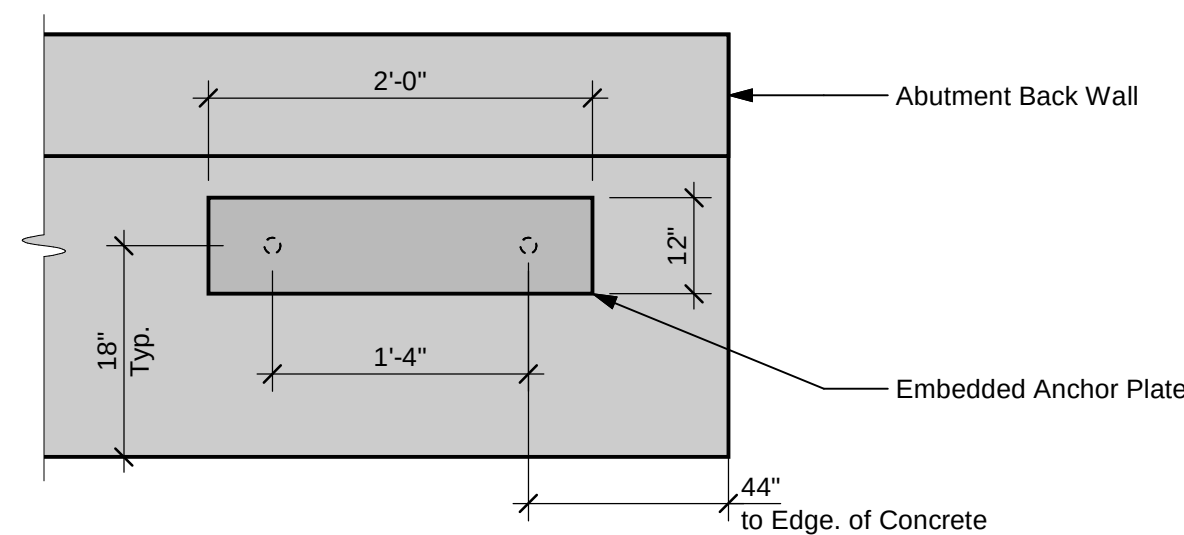
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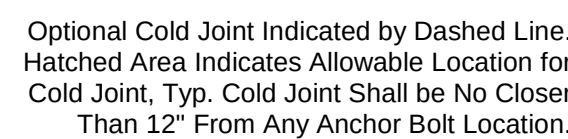




Scale: N.T.S



Scale: N.T.S



H	A
3'-0"	2'-0"
5'-0"	4'-0"

Scale: N.T.S

Please see Soils Report for additional specifications and recommendations. It is the contractor's responsibility to obtain a copy of the soils report from the owner or owners representative. Prior to the contractor requesting a Building Department foundation inspection, the Soils Engineer shall advise the building inspector in writing that:

- a) Building pad was prepared in accordance with soils report
- b) Utility trenches have been properly backfilled and compacted, and
- c) Foundation excavations, the soil's expansive characteristics and bearing capacity conform to the soils report.

See General Notes & Specifications for additional requirements and material specifications.

All dimensions per Architectural plans
Contractor to VERIFY all dimensions w/ Architectural plans PRIOR to commencement of construction.

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Engineer of Record



**Rancho Sisquoc
Santa Maria, California**

Revision:

[illegible]

Proj. Engr.: M. Schisano Phone Ext.: 182

Proj. Mngr.: T. Vance Phone Ext.:

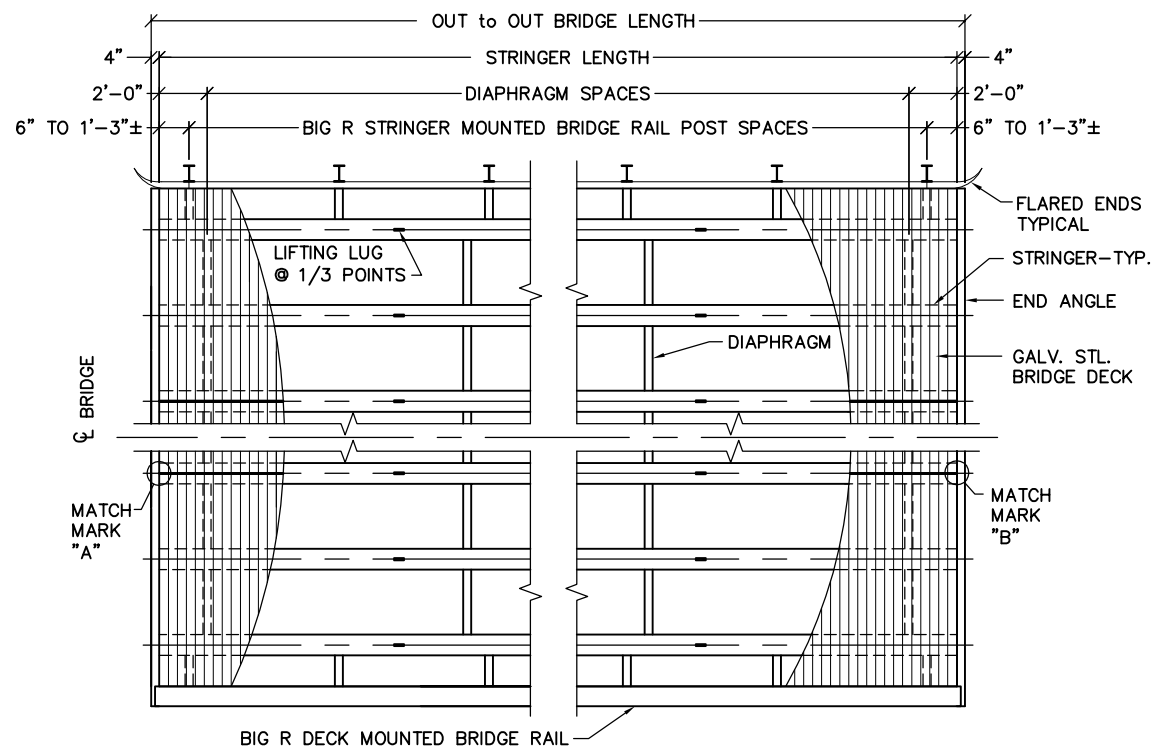
Date: 14 July 2020	Scale: 1/4"=1'-0"
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A&V Job No : 20586

FOUNDATION
PLAN

S-2.1

DO NOT SCALE THESE DRAWINGS. Refer to Architectural plans for all dimension



PLAN VIEW

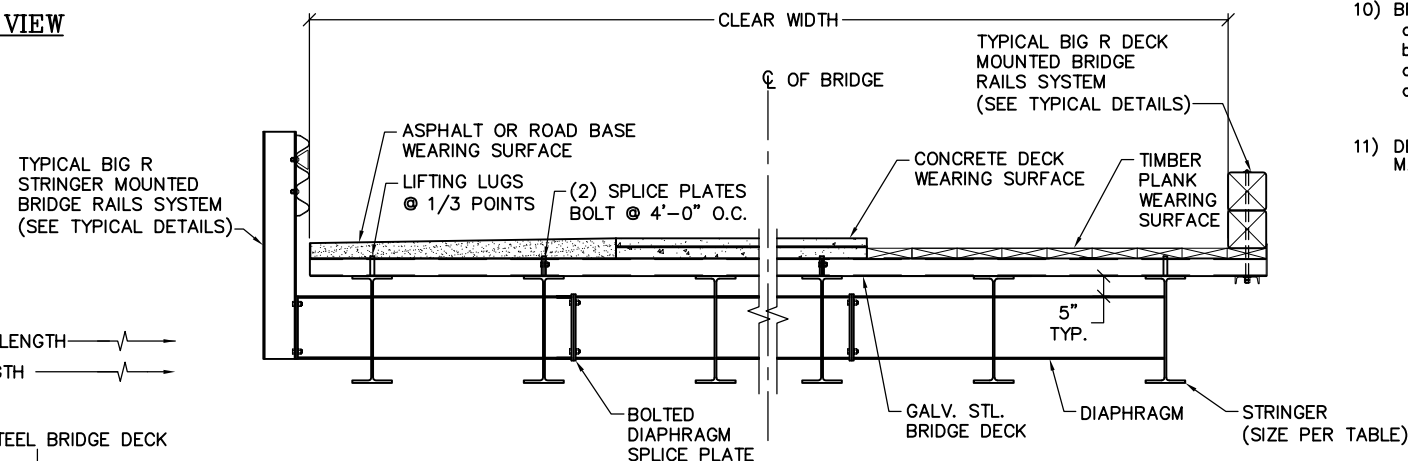
BRIDGE DATA	
OUT TO OUT BRIDGE LENGTH	30'-0" TO 80'-0"
STRINGER LENGTH	30' TO 80'
CL TO CL ANCHOR BOLT	29'-4" TO 79'-4" MAX
BEARING THICKNESS	VARIES

TYPICAL STRINGERS	
LENGTH	STRINGER
30'	W 24
35'	W 24
40'	W 24
45'	W 30
50'	W 30
55'	W 33
60'	W 33
65'	W 33
70'	W 36
75'	W 36
80'	W 36

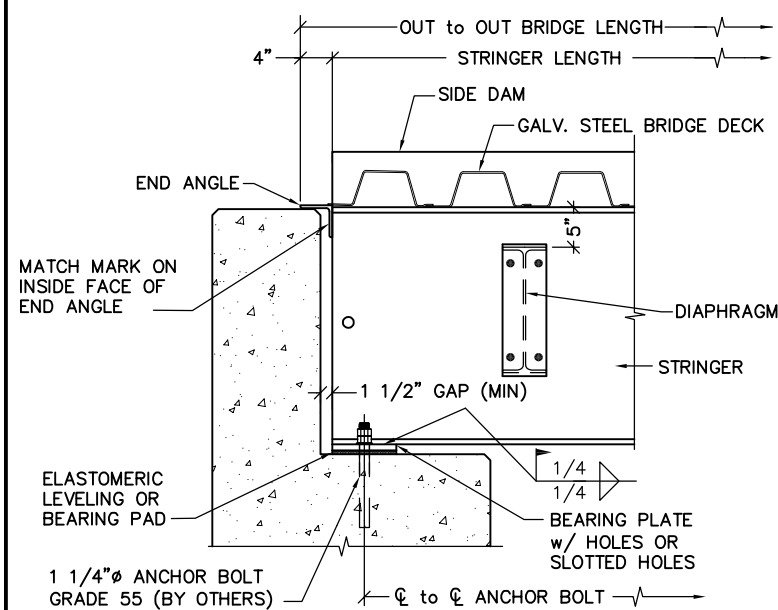


GENERAL NOTES:

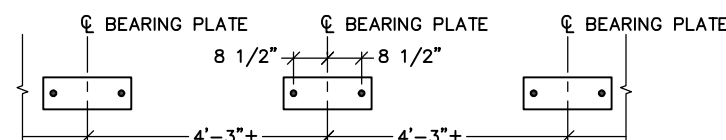
- BIG R BRIDGE HAS AISC QUALITY CERTIFIED BRIDGE FABRICATION – ADVANCED (MAJOR) WITH A FRACTURE CRITICAL AND SOPHISTICATED PAINT ENDORSEMENT AND CWB CERTIFIED TO CSA STANDARD W47.1 DIVISION 2.
- DESIGN IS IN ACCORDANCE WITH THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS.
- MATERIALS (UNLESS NOTED OTHERWISE):
 - STRUCTURAL STEEL: ASTM A588 WEATHERING STEEL
 - STEEL BRIDGE DECK: ASTM A653 GRADE 50 CLASS 1 (GALV)
 - STRUCTURAL BOLTS: ASTM F3125 GRADE A325 (GALV)
 - GUARDRAIL BOLTS: ASTM A307 (GALV)
- DESIGN LOADINGS:
 - BRIDGE DEAD LOAD PLUS 80 PSF TOTAL WEARING SURFACE.
 - VEHICLE LIVE LOAD HL-93 VEHICLE.
 - WIND LOADING PER AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS SECTION 3.8.
 - BRIDGE RAIL DESIGNED FOR TL-1, TL-2 OR TL-3 LOADING IN ACCORDANCE WITH AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS APPENDIX A13.2 OR ONLY USED AS A GUIDE RAIL (RAIL HAS NOT BEEN CRASH TESTED).
 - SEISMIC LADING PER AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS SECTION 3.10.
- BRIDGE TO BE BUILT TO THE REQUIREMENTS OF AWS D1.5
- ALL SHOP WELDING SHALL USE THE GAS METAL ARC WELDING OR FLUX CORED ARC WELDING PROCESS.
- ALL EXPOSED SURFACES OF STRUCTURAL STEEL TO BE CLEANED IN ACCORDANCE WITH STEEL STRUCTURES PAINTING COUNCIL SURFACE PREPARATION SPECIFICATIONS NO. 1, SSPC-SP1 SOLVENT CLEANING. EXPOSED SURFACES OF STEEL SHALL BE DEFINED AS THOSE SURFACES SEEN FROM THE DECK OR FROM THE OUTSIDE OF THE STRUCTURE. ALL OTHER SURFACES TO HAVE STANDARD MILL FINISH.
- ALL BOLTED CONNECTIONS ARE CONSIDERED TO BE PRETENSIONED OR SLIP-CRITICAL CONNECTIONS. ALL BOLTS ARE TO BE PRETENSIONED PER THE REQUIREMENTS OF SECTION 8.2 OF THE SPECIFICATIONS FOR STRUCTURAL JOINTS USING HIGH-STRENGTH BOLTS BY RCSC.
- MAINTENANCE NOTE: BIG R RECOMMENDS NOT APPLYING DE-ICING OR DUST PROHIBITIVE CHEMICALS OR SALTS TO ANY PART OF THE BRIDGE STRUCTURE. IF DE-ICING OR DUST PROHIBITIVE CHEMICALS OR SALTS ARE APPLIED TO ANY PART OF THE BRIDGE STRUCTURE, BIG R BRIDGE WILL NOT BE RESPONSIBLE FOR ANY RESULTANT ACCELERATED CORROSION.
- BRIDGE DECK FASTENING:
 - WELD EACH PIECE TO ALL STRINGERS WITH PLATE THICKNESS x 3" FILLET WELD.
 - WELD BETWEEN STRINGERS AT OVERLAPPING WITH 3" FILLET WELDS EVERY 36".
 - PLACE 1 1/2" FILLET WELD ON EDGE OF DECKING AT EACH SIDE OF LIFTING LUG.
 - TOUCH UP WELDS WITH ZINC RICH PAINT MEETING THE MATERIAL AND PERFORMANCE REQUIREMENTS OF ASTM A780.
- DECK MAY BE FINISHED WITH GRAVEL, ASPHALT, CONCRETE, WOOD OR ANY OTHER SUITABLE WEARING SURFACE MATERIAL AT THE OWNERS DISCRETION.



SECTION



BEARING DETAIL



ANCHOR BOLT LAYOUT

TYPICAL MULTI-LANE MODULAR BRIDGES:

- TYPICAL DETAILS ARE ONLY APPLICABLE FOR 30' TO 80' LONG BRIDGES.
- BRIDGES SHORTER THAN 30' WILL OFTEN REQUIRE NON-TYPICAL DIAPHRAGM, POST BLOCK AND RAIL DESIGNS.
- BRIDGES LONGER THAN 80' WILL OFTEN REQUIRE STRINGERS TO BE SPliced.
- BIG R BRIDGE'S STEEL BRIDGE DECKING PLANKS ARE THE STRUCTURAL DECKING SYSTEM. THE WEARING SURFACE IS ONLY TO PROVIDE A SMOOTH RUNNING SURFACE AND NOT REQUIRED STRUCTURALLY.
- TYPICAL WEARING SURFACE LOAD OF 80 PSF WILL ACCOMMODATE UP TO 5 1/4" OF GRAVEL BASE (130 PCF) OR 4 1/4" OF CONCRETE OR ASPHALT (150 PCF) SURFACING ABOVE THE STEEL BRIDGE DECK CORRUGATIONS.
- TYPICAL DESIGN LIVE LOADING IS HL-93 VEHICLE. IF OTHER LOADING IS REQUIRED, IT MAY REQUIRE A NON-TYPICAL DESIGN.
- SEE BIG R BRIDGE TYPICAL MODULAR BRIDGE RAIL DETAILS FOR BRIDGE RAIL OPTIONS.
- CUSTOMER SHOULD SPECIFY BEARING DESIGN REQUIREMENTS (STANDARD 1/2" PADS DO NOT ALWAYS MEET AASHTO DESIGN CRITERIA AND SHOULD ONLY BE SOLD AS LEVELING PADS).
- CUSTOMER SHOULD SPECIFY DEFLECTION REQUIREMENTS (IF ANY). PER AASHTO SECTION 2.5.2.6.2 DEFLECTION REQUIREMENTS ARE OPTIONAL.
- CUSTOMER SHOULD SPECIFY AVERAGE DAILY TRUCK TRAFFIC (ADTT). IF ADTT IS NOT SPECIFIED, BIG R WILL PROVIDE THE MAXIMUM ALLOWED.

REV	STATUS	BY	DATE
A	RELEASED	SLJ	05/01/2019

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19060 County Road 66 • Greeley, Colorado 80631
(970) 356-9600 • Fax: (970) 356-9621 • www.bigrbridge.com

TYPICAL MODULAR BRIDGE DETAILS

BIG R STEEL BRIDGE DECK - MULTI-LANE

BIG R BRIDGE

SHEET NO.

S 1
OF
1

ATTACHMENT 3: Biological Resources Assessment

**RANCHO SISQUOC WINERY
BRIDGE REPLACEMENT PROJECT
SANTA BARBARA COUNTY, CALIFORNIA
(Assessor's Parcel Number 101-050-051)**

BIOLOGICAL RESOURCES ASSESSMENT



Prepared for:

Rancho Sisquoc Winery
6600 Foxen Canyon Road
Santa Maria, California 93454

Prepared by:

KMA
Kevin Merk Associates, LLC
P.O. Box 318
San Luis Obispo, California 93406

January 8, 2021

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APPENDICES

- Appendix A – Project Plans
- Appendix B – List of Plants and Animals Observed Onsite During the Site Visit
- Appendix C – Photo Plate
- Appendix D – Special-status Biological Resources Summary
- Appendix E – Wetland Determination Data Forms

EXECUTIVE SUMMARY

Kevin Merk Associates, LLC (KMA) prepared this biological resources assessment for a bridge replacement project located at the entrance to Rancho Sisquoc Winery, 6600 Foxen Canyon Road, Santa Maria, Santa Barbara County, California (Assessor's Parcel Number 101-050-051). The bridge provides access over Asphaltum Creek for Forest Route 10N06 and the winery, and is located off of Foxen Canyon Road southeast of the community of Sisquoc in the eastern Santa Maria Valley. The project proposes to install a prefabricated bridge structure on new abutments that would be installed outside of the drainage channel. The existing railings, asphalt, and deck would be carefully removed in a manner to prevent material from falling into the creek channel. The existing wood piers would remain in place or be carefully removed to avoid placement of fill or disturbance to the creek channel. The approach ramps will be constructed on both ends using Class 2 base and then covered with new paving.

The purpose of this report is to evaluate the potential for the project site to support special-status biological resources (plants, animals, sensitive natural communities, and designated critical habitat) for the California Environmental Quality Act review being conducted by the County of Santa Barbara for the project. This assessment evaluated the site's existing natural conditions to determine whether special-status biological resources may be present onsite and could be adversely affected by the proposed project. Additionally, we provide Site Assessments for the California tiger salamander (*Ambystoma californiense*) and California red-legged frog (*Rana draytonii*) and a delineation of the limits of federal and state regulatory jurisdiction along Asphaltum Creek as components of this report. Potential impacts of the project on these sensitive biological resources are identified, and mitigation measures are provided to avoid or reduce project effects.

The study area occurs in a low-lying area where Asphaltum Creek joins the wide floodplain of the Sisquoc River. The site consists mainly of a road intersection and a channelized reach of Asphaltum Creek, surrounded by agricultural and grazing lands. On the upstream side of the bridge, the channel was vegetated by upland Annual Grassland plant species that were lightly grazed by cattle. The downstream side of the bridge had Mulefat Scrub, a type of riparian habitat. A former basin was present to the southeast of the bridge but appears to no longer be used or pond water. Asphaltum Creek had a defined bed and bank, and evidence of flow, but due to the lack of any Wetland plant species it appeared that flows are probably of short duration. The channel was considered to be Riverine by the National Wetlands Inventory and it is a broken blue line stream on the U.S. Geological Survey topographic quadrangle. The drainage channel was identified as a Non-wetland Other Waters of the United States under the jurisdiction of the U.S. Army Corps of Engineers. Areas below the top of bank or to the outer edge of Mule Fat Scrub would be under the jurisdiction of the Regional Water Quality Control Board and California Department of Fish and Wildlife (CDFW). The project proposes to remain outside of the jurisdictional areas, but would require notifying the CDFW via the Lake and Streambed Alteration Agreement program due to work over the channel. While no vegetation is proposed for removal, minor impacts to the Mulefat Scrub may occur from trimming, and these impacts would not require mitigation under CEQA since it will not alter permanently the extent of riparian habitat onsite.

No special-status plant or animal species were observed during the reconnaissance survey. However, a woodrat stick house was seen in the Mule Fat Scrub and could be that of a San Diego woodrat (*Neotoma lepida intermedia*), which is a CDFW Species of Special Concern, or a dusky-footed woodrat (*N. fuscipes*). Areas under the bridge were searched for bat guano and prey remains, but none were seen. No special-status plant species were determined to have potential to

occur in the study area based upon the background review. Individuals of special-status animal species that could occur in or adjacent to the impact area and may be affected by the project include Blainville's horned lizard (*Phrynosoma blainvillii*), California red-legged frog, northern California legless lizard (*Anniella pulchra*), western spadefoot (*Spea hammondi*), American badger (*Taxidea taxus*), communal roosts of yellow-billed magpie (*Pica nuttalli*), nesting birds and raptors protected under the Migratory Bird Treaty Act and California Fish and Game Code, and roosting bats. The California tiger salamander was considered Not Expected to occur in the study area due to the nearest known record being five (5) miles away from the site, and the study area is not located within the boundaries of one of the Santa Barbara County metapopulations. The California red-legged frog was considered to have Potential to occur onsite during the winter rain season when they use upland habitats for migration and dispersal, because one record from the Sisquoc River within one (1) mile of the site was identified in the background review. Asphaltum Creek does not provide suitable aquatic habitat for red-legged frogs, and therefore a breeding population is not present onsite or in the immediate vicinity. The project site does not occur in designated critical habitat for any federally listed species.

Bridge replacement activities are recommended to occur outside the rain season in which special-status amphibian species could potentially use upland habitats. By starting construction activities after May 1st and having all work completed by October 31st, bridge replacement activities are not expected to result in adverse impacts to aquatic species such as the California red-legged frog. Other mitigation measures are provided to avoid impacts to special status species, and pre-construction surveys, avoidance of active bird nests, and biological monitoring during bridge removal phases. Best Management Practices are detailed to protect water quality, prevent erosion and sedimentation, and protect Riparian and Riverine habitats downstream in the Sisquoc River. With the incorporation of the mitigation measures described herein, project impacts on special-status biological resources will be reduced to a level below significance under CEQA.

The proposed project involves temporary disturbance of a relatively small area of a Developed land use type. Because there would be no effects of the project in the context of the site's importance in the overall area, the project would not contribute to cumulative effects of other non-federal projects planned in the area.

1.0 INTRODUCTION

Kevin Merk Associates, LLC (KMA) conducted this biological resources assessment (BRA) for a bridge replacement project ("project") located at Rancho Sisquoc Winery, 6600 Foxen Canyon Road, Santa Maria, Santa Barbara County, California (Figure 1). The bridge provides access over Asphaltum Creek for Forest Route 10N06 that accesses the winery and agricultural fields along the Sisquoc River floodplain (Figure 2). The project is located on a 180-acre property identified by Assessor's Parcel Number (APN) 101-050-051. The project site is 3.15 miles to the southeast of the community of Sisquoc in the eastern Santa Maria Valley (Figure 1). It is on the U. S. Geological Survey (USGS) Foxen Canyon 7.5-minute topographic quadrangle (T 9 N, R 32 W; 34.848413° N, -120.241714° W), and is located on the southern edge of the Sisquoc River floodplain approximately 0.5 mile upstream on Asphaltum Creek from its confluence with the river (Figure 2). The surrounding area is agricultural fields and sand/gravel mining operations in the floodplain to the north of the site; rolling grassland hills with bands of oak woodland in canyons and drainages to the south, east and west; and, beyond the Asphaltum Creek corridor (also called Foxen Canyon) are the Solomon Hills to the south and the San Rafael Mountains to the east. The Sierra Madre Mountains lie on the north side of the Sisquoc River within San Luis Obispo County (Figure 1). The historic San Ramon Chapel and Foxen Canyon Cemetery are on a hill to the southeast of the bridge.

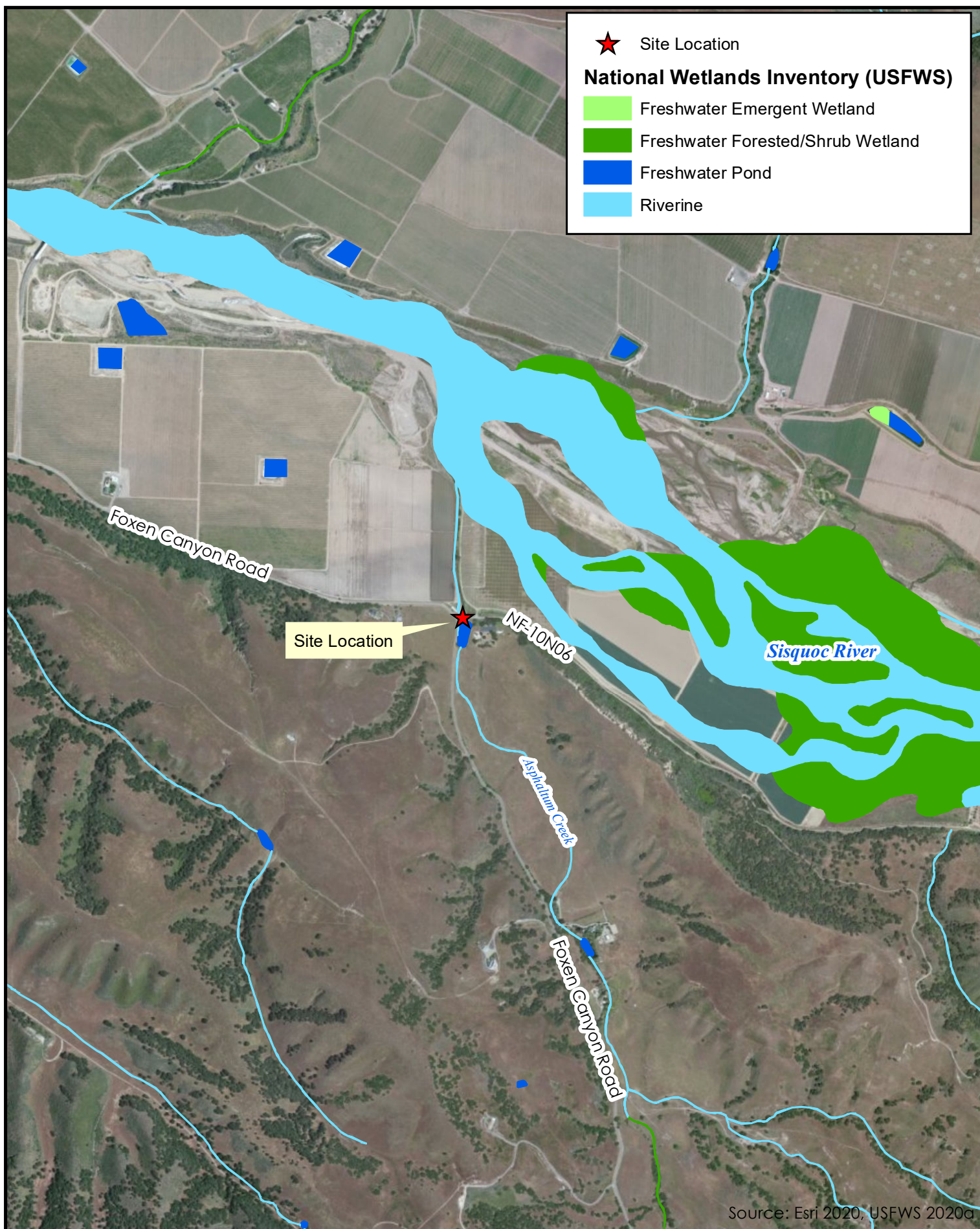
The purpose of this BRA is to assist Rancho Sisquoc Winery with technical biological resources information for the County of Santa Barbara's (County) review of the project under the California Environmental Quality Act (CEQA). This BRA evaluates the site's existing environmental conditions to determine whether special-status biological resources (plants, animals, sensitive natural communities, designated critical habitat and jurisdictional wetlands/waters) may be present onsite and could be adversely affected by the project. A delineation of the limits of federal and state regulatory jurisdiction along Asphaltum Creek was also performed, and results are provided herein. This investigation also includes Site Assessments for the California tiger salamander (*Ambystoma californiense*) and California red-legged frog (*Rana draytonii*) to determine potential presence of suitable habitat for these two species. Potential impacts of the project on these sensitive biological resources are identified, and mitigation measures are provided to avoid or reduce project effects.

1.1 Project Description

The existing bridge is a wooden structure that is unstable and requires replacement. The abutments are located on each creek bank and a pier is anchored in the stream channel. The proposal is to avoid work in the active channel and replace the bridge in a phased approach. New abutments would be installed in the existing roadway prism, and a 24-foot wide by 40-foot long pre-manufactured bridge deck would be laid on top of the new abutments. Construction would be phased to permit vehicle access on one lane of the bridge (see Appendix A for the Grading and Drainage Plan prepared by Above Grade Engineering on June 29, 2020). One lane would be closed, and trench plates cast for bridge abutments, then opened up to traffic. Then the other one-half of the road width would be closed and constructed. The existing railings, asphalt on the top of the bridge deck and the deck would be carefully removed in a manner to prevent material from falling into the creek channel. The existing wood piers would be carefully removed and the new bridge deck will span over their current elevation by several feet. The trench plates will be removed from protecting the new abutments, and the new bridge will be set in place and anchored per the manufacturer's specifications through the use of weld plates. Approach ramps will be constructed on both ends using Class 2 base and then covered with new paving. All work is proposed to be conducted when water is not present, from the top of bank of the existing road surface, and no vehicles or materials would be placed in the channel.



Source: Esri 2020



1.2 Regulatory Overview

1.2.1 Special-status Species

For the purpose of this BRA, special-status species are those plants and animals listed, or Candidates for listing, as Threatened or Endangered by the U.S. Fish and Wildlife Service (USFWS) under the federal Endangered Species Act (FESA); those listed as Threatened or Endangered under the California Endangered Species Act (CESA); animals designated as “Species of Special Concern,” “Fully Protected,” or “Watch List” by the California Department of Fish and Wildlife (CDFW); plants considered Endangered or Rare under the California Native Plant Protection Act; and, animals considered sensitive that do not have a specific listing status but which are recorded in the California Natural Diversity Database (CNDDDB; CDFW 2020a).

FESA provisions protect federally listed species and their habitats from unlawful take, which is defined as “to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any of the specifically enumerated conduct.” Under these regulations, “harm” may include significant habitat modification or degradation that kills or injures wildlife. Candidate species are not afforded legal protection under FESA; however, Candidate species typically receive special attention during the CEQA environmental review process. CESA provides for the protection and preservation of native species of plants and animals that are experiencing a significant decline which if not halted would lead to a threatened or endangered designation. Habitat degradation or modification is not expressly included in the definition of take under CESA.

Rare plants are those defined as having a California Rare Plant Rank (CRPR) of 1A, 1B, 2A, 2B, 3 or 4 (CDFW 2020b). Rank 4 species are a watch list, and typically do not meet CEQA's rarity definition (Section 15380), but are included here because they may be of local concern. The CRPR definitions are as follows:

- *Rank 1A: Presumed extirpated in California and either rare or extinct elsewhere.* These species are presumed extirpated because they have not been recorded in the wild in California for many years.
- *Rank 1B: Rare, threatened or endangered in California and elsewhere.* Plants that are rare throughout their range and the majority in this rank are endemic to California.
- *Rank 2A: Presumed extirpated in California, but more common elsewhere.* These species are presumed extirpated because they have not been recorded in the wild in California for many years, but they are common outside of the state.
- *Rank 2B: Rare, threatened or endangered in California, but more common elsewhere.* Plants that have ranges that extend into California, where they are rare, but are common in areas outside of the state.
- *Rank 3: Plants needing more information - A review list.* Information necessary to assign the species to one of the lists or reject them is lacking. Most species in this rank are taxonomically unresolved.
- *Rank 4: Plants of limited distribution - A watch list.* Species of limited distribution or infrequent occurrence throughout their range in California but which their vulnerability to extirpation appears low at this time and should be monitored.

Additionally, the CRPR system further assigns threat codes as a decimal extension to the rank, ranging from 1 to 3. CRPR 3 species do not have a threat code due to insufficiency of information

needed to assign it, and CRPR 1A and 2A also do not have threat codes because they not know to currently occur in California. The threat code extensions are as follows:

- *.1: Seriously threatened in California.* More than 80% of occurrences are threatened and there is high degree and immediacy of threat.
- *.2: Moderately threatened in California.* Approximately 20 to 80% of occurrences are threatened and there is a moderate degree of immediacy of threat.
- *.3: Not very threatened in California.* Less than 20% of occurrences are threatened and there is a low degree and immediacy of threat, or no current threats are known.

CDFW (2020c) maintains a list of Species of Special Concern for those animal species in which declining population levels, limited ranges, and/or continuing threats have made them vulnerable to extinction. The goal of designating species as special concern is to halt or reverse their decline early enough to secure their long-term viability. Species of Special Concern may receive special attention during environmental review, but do not have statutory protection. FESA and CESA emphasize early consultation to avoid impacts on Threatened and Endangered species. As part of the consultation process, project proponents are directed to develop appropriate mitigation plans to offset project effects on listed species and their habitats.

Raptors (e.g., eagles, hawks, and owls) and their nests are protected under both federal and state regulations. Birds of prey are protected in California under the California Fish and Game Code Section 3503.5. Disturbance that causes nest abandonment or loss of reproductive effort is considered take by CDFW. Eagles are protected under the Bald and Golden Eagle Protection Act. The federal Migratory Bird Treaty Act (MBTA) applies to many bird species, including common species, and prohibits killing, possessing, or trading in migratory birds, including whole birds, parts of birds, bird nests, and eggs. The act restricts construction disturbance during the nesting season that could result in the incidental loss of fertile eggs or nestlings or otherwise lead to nest abandonment.

1.2.2 Sensitive Natural Communities

Sensitive natural communities are those native plant communities listed in the CNDDDB (CDFW 2020a) as rare or of limited distribution. They are evaluated using NatureServe's Heritage Methodology to assign global and state ranks based on rarity and threat, and these ranks are reviewed and adopted by CDFW's (2020d) *Vegetation Classification and Mapping Program* (VegCAMP). Evaluation with the state (S) level results in ranks ranging from 1 (very rare or threatened) to 5 (demonstrably secure). Those with ranks of S1 to S3 are to be addressed in the environmental review process under CEQA (CDFW 2020d).

1.2.3 Designated Critical Habitat

Critical habitat is designated for species listed under FESA, and are areas that contain the physical or biological features which are essential to the conservation of those species and may need special management or protection. A 2018 Supreme Court ruling further defined critical habitat as those areas that provide habitat for the relevant species, exempting areas that are not currently occupied. Critical habitat designations affect only federal agency actions or federally funded or permitted activities. Activities by private landowners are not affected if there is no federal nexus, but biological studies generally address project effects on designated critical habitat when present at the project site.

1.2.4 Jurisdictional Wetlands and Other Waters

Section 404 of the Clean Water Act established a program to regulate the discharge of dredged and fill material into "waters of the United States", which includes such waters as rivers, lakes, streams, and most wetlands. Specifically, waters of the United States include traditional navigable waters (TNWs); wetlands; tributaries to navigable waters of the United States, including adjacent wetlands, lakes and ponds; interstate waters and their tributaries; and, other features such as intermittent streams or tributaries that are not part of interstate or navigable waters where effects to these waters could affect interstate or foreign commerce. USACE defines wetlands as having three parameters: hydrophytic vegetation, hydric soils, and wetland hydrology. In nontidal waters of the United States, USACE jurisdiction extends to the Ordinary High Water Mark (OHWM), which is defined as "the line on the shore established by the fluctuations of water and indicated by physical characteristics, such as a clear, natural line impressed on the bank, shelving, changes in the character of the soil, destruction of terrestrial vegetation or the presence of litter and debris." Identification of the OHWM is conducted by examining physical evidence of surface flow in the stream channel.

Hydrophytic vegetation occurs in areas where the frequency and duration of inundation and/or soil saturation exerts a primary controlling influence on plant species composition. Plant species are assigned a wetland indicator status according to the probability of occurrence in wetlands. The *National Wetland Plant List: 2018 Update of Wetland Ratings* (NWPL; USACE 2018), separates vascular plants into the following five categories based on plant species frequency of occurrence in wetlands:

- Obligate wetland (OBL). Almost always occurs in wetlands.
- Facultative Wetland (FACW). Usually occurs in wetlands but may occur in non-wetlands.
- Facultative (FAC). Occurs in wetlands and non-wetlands.
- Facultative Upland (FACU). Usually occur in non-wetlands, but may occur in wetlands.
- Obligate Upland (UPL). Almost never occurs in wetlands.

Any species not appearing on the NWPL is assumed to be an upland species, which almost never occurs in wetlands. An area is considered to have hydrophytic vegetation when greater than 50 percent of the dominant species in each vegetative stratum (tree, shrub, and herb) are assigned with the FAC, FACW, and/or OBL status categories.

The State Water Resources Control Board (SWRCB) regulates discharges of fill and dredged material under the Clean Water Act Section 401, the Porter-Cologne Water Quality Control Act, and the state and federal "No Net Loss" policies for wetlands. The 401 Water Quality Certification and Wetlands Program protects "waters of the state", including wetlands, riparian areas, and headwaters. Most projects are regulated by the Regional Water Quality Control Board (RWQCB) which oversees the area in which the project is located. Projects that affect only waters of the state, and not waters of the United States, must apply for Waste Discharge Requirements (WDRs) instead of a 401 Certification pursuant to California Water Code Section 13260(a).

California Fish and Game Code Section 1602 requires that CDFW be notified of any proposed activity that may affect any river, stream or lake by: 1) substantially diverting or obstructing the natural flow; 2) substantially changing or using any material from the bed, channel or bank; or, 3) depositing or disposing of debris, waste, or other materials. The notification requirement applies to ephemeral and perennial drainages, including streams, desert washes, and watercourses

with subsurface flow, and may apply to projects conducted within flood plains of a regulated water body. The CDFW jurisdictional limits are generally the outer edge of riparian vegetation, or the top of bank, whichever is farther. Projects that would impact CDFW jurisdictional areas are required to complete a notification form and submit a fee, in order to obtain a Lake and Streambed Alteration Agreement (LSAA).

Projects within the boundaries of jurisdictional wetlands or waters would typically require a Section 404 permit from the USACE, a Section 401 Water Quality Certification or WDR from the appropriate Regional Water Quality Control Board (RWQCB), and a LSAA from CDFW, depending on the location of project impacts within each agency's jurisdiction. Any projects requiring a Section 404 permit must first obtain a Section 401 permit. Impacts to waters of the state that do not require a Section 404 permit may require a WDR. Additionally, if any species protected under FESA may be present in the project area, the Section 404 permitting pursuant to Fish and Wildlife Coordination Act requires authorization under the USFWS and/or National Marine Fisheries Service (NOAA Fisheries), as appropriate.

1.2.5 Compliance with the California Environmental Quality Act

The CEQA defines a *significant effect on the environment* as “a substantial, or potentially substantial, adverse change in the environment.” Projects that may have significant effects are required to be analyzed in an Environmental Impact Report (EIR). Under CEQA Section 15065, a project's effects on biotic resources would have a mandatory finding of significance if the project would do any of the following:

- Have potential to substantially degrade the quality of the environment; substantially reduce the habitat of a fish or wildlife species; cause a fish or wildlife population to drop below self-sustaining levels; threaten to eliminate a plant or animal community; or substantially reduce the number or restrict the range of an endangered, rare or threatened species.
- Have the potential to achieve short-term goals to the disadvantage of long-term environmental goals.
- Have possible environmental effects that are individually limited but cumulatively considerable. "Cumulatively considerable" means that the incremental effects of an individual project are significant when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.

Prior to the public review of an environmental document, if a project proponent agrees to mitigation measures or project modifications that would avoid any significant effect or mitigate to a level below significance, and EIR would not be required. In addition to the criteria listed above that trigger mandatory findings of significance, *Appendix G of the CEQA Guidelines, Section IV Biological Resources*, includes six additional impacts to consider when analyzing the significance of project effects. A project's effects on biological resources could be deemed significant if the project would do the following:

- a) 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 CDFW or USFWS.
- b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by CDFW or USFWS.

- 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.
- d) 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.
- e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.
- f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

If the project proponent agrees to mitigation measures or project modifications that would avoid all significant effects or would mitigate the significant effect(s) to a point below the level of significance, an EIR would not be required. The project proponent would be bound to implement the mitigation measures to reduce the project effects to below a level of significance. Mitigation is not required for effects that are less than significant.

2.0 METHODS

Google Earth aerial imagery was employed in coordination with a field survey to define the current extent of onsite plant communities and assist in identifying potential habitat for special-status species. The project site was assessed in entirety, and a study area was developed that included a 100-foot buffer. KMA's Principal Biologist Kevin Merk and Senior Biologist Susan V. Christopher, PhD conducted a reconnaissance survey of the site on November 11, 2020 from 1400 to 1530 hours to assess the potential of the site to support sensitive biological resources. The weather during the survey was clear, wind less than 5 miles per hour, and air temperature 64° Fahrenheit. The project site was accessed from Foxen Canyon Road and the survey was conducted by walking and visually inspecting all portions of the study area. Driving surveys of surrounding areas using public roads were also conducted prior to and after the site inspection.

The extent of federal and state regulatory agency jurisdiction along Asphaltum Creek in the study area was determined generally following USACE (1987, 2008) guidelines. The limits of the low flow channel and the top of bank within the study area were identified in the field and imported into ArcGIS for map production. Recent and historic aerial photographs of the property (Google Earth 2020) and USGS topographic maps were used to characterize current and historic drainage patterns. The *Web Soil Survey* (Natural Resources Conservation Service [NRCS] 2020a), the NRCS (2020b) *Hydric Soils* list, and *National Wetlands Inventory* (USFWS 2020a) were also consulted for background information on the site. The *Classification of Wetlands and Deepwater Habitats of the United States* (Cowardin et al. 1979) was also referenced.

All plant and animal species observed during the survey were recorded (Appendix B). Plant taxonomy followed the Jepson Flora Project (2020), and nomenclature for animals is reported as it appears in the CNDDDB (CDFW 2020a) or as updates are available (California Herps 2020). Habitat types were mapped on aerial imagery, and the dominant plant species in each habitat type were determined. Classification of the onsite plant communities was based on Holland's (1986) *Preliminary Descriptions of the Terrestrial Natural Communities of California* and the CDFW's (2020d) *Vegetation Classification and Mapping Program*, which generally follows Sawyer et al.'s (2009) *Manual of California Vegetation. A Guide to Wildlife Habitats in California*, which is updated through the California Wildlife Habitat Relationships (CWHHR) System (CDFW 2020e), was also cross-referenced. Plant communities were mapped in ArcGIS on ESRI (2020) aerial imagery.

Representative photographs of each of the habitat types within the study area are provided in a photo plate (Appendix C).

The CNDDDB (CDFW 2020a) was queried for special-status plant and animal species occurrences and sensitive natural communities within the Foxen Canyon USGS 7.5-minute quadrangle, in which the project is located, and the following surrounding quadrangles: Sisquoc, Twitchell Dam, Tepusquet Canyon, Manzanita Mountain, Zaca Lake, Los Olivos, Zaca Creek and Los Alamos. CNDDDB records of special-status plant and animal occurrences within a five-mile buffer of the study area were mapped. For the list of special-status species in the CNDDDB search, local distribution and ecological information was obtained from a variety of online and published sources (Jennings and Hayes 1994, Bolster 1998, Moyle et al. 2015, Thompson et al. 2016, Audubon 2020, Calflora 2020, California Native Plant Society [CNPS] 2020, California Herps 2020, The Cornell Lab of Ornithology 2020a, 2020b; CDFW 2020e, Lehman 2020). Those species that occur within the Santa Maria Valley, Sisquoc River corridor and surrounding foothills, as well as each species recorded in the CNDDDB within five miles, were considered to be within the project vicinity (Appendix D). Other species that were in the nine-quadrangle search that have limited distributions restricted to higher elevations of the San Rafael and Sierra Madre mountain ranges, Lompoc, Buellton, and the Santa Ynez and Los Alamos valleys were considered to be outside of the project vicinity. Based upon our knowledge of the local area and other sources of species occurrence records (particularly observations recorded in Calflora 2020 and The Cornell Lab of Ornithology 2020a), we included additional special-status biological resources that have been documented in the project vicinity. Designated critical habitat for species listed under FESA was identified and mapped based upon information provided in *Environmental Conservation Online System* (USFWS 2020b).

From the list of all special-status species known from the project vicinity, an evaluation of those species with potential to occur onsite was performed based upon the suitability of habitat conditions on the property, and the local distribution (geographical and elevational ranges) and specific requirements (plant communities and soils) of the species considered. Definitive surveys for the presence or absence of special-status animal species were not conducted. We relied on existing information and known occurrence records in the region coupled with our site-specific observations from other locations in the vicinity to make determinations for the probability of occurrence of special-status species in the study area. If any special-status species had been observed during the site survey within the study area boundaries, they would have been listed as "Present" in Appendix D. Those species listed as "Potential" met the following requirements: records in the site vicinity, appropriate plant community and/or soil associations onsite, and within the elevational range of the species. If any one of these elements was not met or considered to be marginal for the site, but the other elements were present, that species was considered "Unlikely". If onsite environmental conditions were clearly inappropriate, or the species has a limited distribution that does not overlap the site, those species were considered "Not Expected". If any life stage or particular life history use (i.e., foraging) fit the requirements of the onsite conditions, even while other aspects were inappropriate for certain functions (i.e., breeding), these species were still considered to have potential to occur onsite, but the likelihood of occurring onsite along with a description of site suitability are provided in the special-status species table (Appendix D) as well as a more in-depth analysis in the text.

A Site Assessment for the California tiger salamander (CTS) was conducted following the USFWS (2003) protocol, and a Site Assessment for the California red-legged frog (CRLF) was conducted following USFWS (2005) protocol. The surrounding area was surveyed in the field by driving public roads, and aerial photographs from Google Earth and USGS topographic maps were employed to characterize aquatic habitats and land use types. Historic aerial photography was

used to determine whether sites were ephemeral or permanent. Because these sites were all on private property, they could not be surveyed in the field. A 1.24-mile (2-kilometer) buffer from the project site was determined, and all aquatic habitats identified were categorized and mapped on ESRI aerial photography. As part of these assessments, known records of CTS and CRLF in the CNDDB were reviewed and mapped as described above for the overall special-status species evaluation. The USFWS (2010, 2016) known breeding ponds maps were also referenced, but there were no ponds recorded within 3.1 miles (5.0 kilometers) of the project boundaries.

We determined whether special-status plant and animal species, sensitive natural communities, and designated critical habitat could or do occur on or near the site. We then evaluated the potential impacts of the proposed project on each of these biological resource issues, including the six additional impacts in CEQA Appendix G. An evaluation of significance as defined under CEQA is provided for each potential impact, and mitigation is proposed to reduce impacts to a level below the significance threshold.

3.0 RESULTS

A list of plants and animals observed during the surveys are provided in Appendix B. A plate of photographs taken during the site visit to characterize onsite conditions is provided in Appendix C. Appendix D includes a list of all special-status species, sensitive plant communities, and designated critical habitat recorded within the site vicinity, and an evaluation as to their potential presence onsite. Figure 1 is a site location map and Figure 2 is an aerial overview map with wetland habitats recorded in the NWI in the site vicinity. Figure 3 is a habitat map showing the plant communities and land use types in the study area, as well as the jurisdictional areas along the creek channel. Figure 4 shows the locations of special-status plants recorded in the CNDDB within five miles of the study area; there were no sensitive natural communities recorded in the CNDDB within five miles of the study area but those that are known to occur in the region are discussed in Appendix D. Figure 5 shows the special-status animal records, including CTS and CRLF for the Site Assessments, and designated critical habitat. Figure 6 shows aquatic habitats within 3.1 miles of the site, and is intended to accompany the CTS and CRLF Site Assessments in Section 4.0.

3.1 Existing Conditions

The study area consists mainly of a road intersection and a channelized reach of Asphaltum Creek, surrounded by agricultural and grazing lands. On the upstream side of the bridge, the channel was vegetated by upland grassland species that were lightly grazed by cattle. The downstream side of the bridge had Mulefat Scrub (described in Section 3.4.3) and a more pronounced channel. The study area occurs in a low-lying area where Asphaltum Creek joins the wide floodplain of the Sisquoc River. Elevations in the study area range from 493 to 500 feet (150 to 152 meters) above mean sea level. Areas within the former river floodplain have been converted to agricultural fields and sand/gravel mines (see Figure 2). The upstream side of the bridge is surrounded by low foothills of the San Rafael Mountains and Solomon Hills that are used for livestock grazing and widely dispersed rural residential development. On a knoll on the southeast side of the bridge is the San Ramon Chapel and Foxen Canyon Cemetery, which dates back to 1875 and presumably used the Asphaltum Creek crossing at or near the site of the existing bridge. The bridge appeared to be structurally unstable — the deck supports were uneven, the wooden deck was rotten, piers anchored in the middle of the channel had been surrounded by sedimentation that had been excavated away, the railings were falling over, and the asphalt surface was cracked and patched. Traffic on the bridge is mainly related to the Rancho Sisquoc Winery and agricultural lands owned by the winery. Although 10N06 is a designated route of the Los Padres National Forest (LPNF) that

provides access to La Brea Creek, this road has been closed to public use since a wildfire in 2009 and subsequent flood damage. Proposals to restore public access to this area would convert this road in the LPNF to a non-motorized trail and access to the trailhead would be from the north side of the river; therefore, expected future use of the bridge is expected to be mostly related to the winery.

3.2 Hydrologic Features, Wetlands and Riparian Habitats

Asphaltum Creek has a watershed drainage area of 20.3 square miles, and the area receives an average of 22 inches of precipitation each year. The headwaters of this stream system originate on the southwest slope of the San Rafael Mountains. The name Foxen Canyon has been applied to the valley that Asphaltum Creek runs through. The main branch of Asphaltum Creek in its upper headwaters is called Schoolhouse Canyon. A southern branch is called Foxen Canyon on the USGS topographic maps, and has its headwaters in Jesus Canyon. The elevation of the mountains in this headwaters area is at least 2,500 feet above mean sea level and is oak woodland on the north-facing slopes and chaparral/coastal scrub on the south-facing slopes. The southern branch of Foxen Canyon has moderately extensive agricultural fields along its floodplain, which have been in existence since at least 1994 based upon aerial photography. Downstream from the confluence of these two branches, the drainage trends to the northwest through a relatively low-slope grassland valley with a narrow band of riparian vegetation along the channel. The riparian habitat ceases about 1.5 miles upstream from the study area and there is a large permanent pond located adjacent to the channel at a private estate, where there is a short segment of riparian vegetation along the channel. From that point to the study area, the channel meanders gently through an arid grassland valley. Approximately 380 feet upstream from the bridge is an old dam structure that appears to be related to a pond that formerly was present to the southeast of the bridge, below the slope of the chapel. This pond is represented on the 1965 USGS topographic map and on the NWI (see Figure 2). As observed in the field, it had a berm created around it and a riser pipe structure that presumably drained it when full. Presently, the earthen berm prevents water from entering the basin, there was no indication of recent standing water or damp soil conditions in the basin, and it was vegetated by upland grassland species. The main channel of the creek appeared to be channelized on the west side of the basin and runs parallel to Foxen Canyon Road. There was a defined bed and bank, and evidence of seasonal flow. The channel was vegetated by upland grassland species, and due to the lack of any Wetland plant species, it appeared that flows are probably of short duration. Areas under the bridge appeared to have accumulated sediment, and there had been recent excavation of the sediment around the bridge piers.

On the downstream side of the bridge, a relatively more arid type of Riparian community dominated by mule fat (*Baccharis salicifolia*) lined the channel. No herbaceous Wetland vegetation was present in the channel, and the low flow channel had exposed substrates. Just outside of the study area, another ditch ran from east to west and joined Asphaltum Creek to the northeast of the bridge. This ditch had more mesic conditions, possibly from irrigation runoff, as seen by green vegetation in the channel bottom, and California sycamore (*Platanus racemosa*) coast live oak (*Quercus agrifolia*) trees with a discontinuous canopy along its length. This community was considered to be Sycamore Riparian and is described in Section 3.4.5 below, and may have been a remnant of the Riparian habitat along the Sisquoc River channel. The ditch and the downstream segment of Asphaltum Creek to its confluence with the Sisquoc River appear to be drainage channels that were modified to accommodate flows within a formerly active floodplain that had been first mined for sand and gravel and then converted to agricultural fields.

There were rounded cobbles and rocks in the substrate of the channel that suggested action of flowing water historically, but in the present state the lower part of the drainage appeared to have little value as ephemeral stream habitat. The analysis of the watershed suggested that there are likely seasonal flows in the upper headwaters, but that a majority of the water is used for agricultural irrigation in the valley below the slope, and/or that flows become subsurface once the elevations level out approaching the river floodplain. Please see photographs in Appendix C of the drainage conditions.

Asphaltum Creek within and downstream from the study area is considered to be Riverine habitat in the NWI (Figure 2). Riverine systems are aquatic habitats contained within a channel that periodically or continuously have moving water, and that are not dominated by trees, shrubs, or emergent vegetation (Cowardin et al. 1992). The type of subsystem in the study area is Intermittent, which means it contains flowing water for only part of the year, and it has an Unconsolidated Bottom (Cowardin et al. 1992). The NWI does not show Riparian (i.e., Freshwater Forested/Shrub Wetland) or Freshwater Emergent Marsh habitat associated with the stream reach within the study area. The NWI shows Riparian habitat in the upstream reach that was described above adjacent to the permanent pond, which is not mapped in the NWI. The NWI shows a braided channel in the Sisquoc River upstream from the confluence of Asphaltum Creek, a portion of which has been converted to farmland (Figure 2).

Asphaltum Creek is shown as a broken blue line on the USGS Foxen Canyon 7.5' quadrangle, which indicates an intermittent or ephemeral stream. As defined in the Navigable Waters Protection Rule (effective on June 22, 2020), "ephemeral" drainages are defined as those features that "flow only in direct response to precipitation, including streams, swales, gullies, rills and pools." In contrast, "intermittent streams" typically flow for a longer period and have continuous flow during some months of the year but no flow during dry months. Further, "intermittent" flows are more than just in direct response to precipitation, and are related to seasonal input from the accumulation of several weeks or months of precipitation that result in an elevated groundwater table. Observations in the field suggested the conditions more closely resembled an ephemeral drainage, but the site visit was conducted at the driest time of year.

The drainage had a defined bed and bank within the study area. The area between the OHWM in the bed of the channel was approximately five (5) feet wide on the upstream side of the bridge and 15 feet wide on the downstream side. The distance from top-of-bank to top-of-bank was approximately 30 feet wide, which was generally consistent throughout the study area. As described above, no Wetland habitat was present in the drainage, but it would likely be considered to be a jurisdictional drainage feature due to the presence of defined bed and bank structure and hydrologic connection to the Pacific Ocean. The Sisquoc River is a tributary of the Santa Maria River which discharges to the Pacific Ocean, and the Santa Maria River is considered to be a navigable water (USACE 2020). Although the drainage onsite is intermittent (trending towards ephemeral) and is non-navigable, because there is a significant nexus with a traditional navigable water, it would be subject to federal jurisdiction under the Clean Water Act. The drainage would be classified as a Non-wetland Other Waters of the United States under the jurisdiction of the USACE. Areas potentially under the jurisdiction of the USACE are shown on Figure 3, and represent the low flow channel below the OHWM. Areas below the top of bank or extending outward to the limits of riparian vegetation were identified as falling under the jurisdiction of the RWQCB and CDFW, and are also mapped in Figure 3. These jurisdictional areas include the channel under the existing bridge. As stated above, the project proposes to remain outside of the jurisdictional areas, and this is discussed in more detail in the impacts and mitigation discussion under Section 5.0 below.

3.3 Soils

There are only two soil types mapped within the study area in the *Web Soil Survey*. Mocho sandy loam, sandy substratum, is the dominant soil unit, and is composed of sandy loam that forms on floodplains (NRCS 2020a). It is well-drained and not considered to be a hydric soil. A portion of the former pond basin has the soil type Chamise loam, 2 to 9 percent slopes (NRCS 2020a). These soils form on terraces from alluvium, and are composed of loam at the surface and underlain by shaly clay. Despite the clay layer, these soils are considered to be well-drained, are not subject to flooding or ponding, and are not considered to be hydric (NRCS 2020b).

3.4 Habitat Types

Five plant communities or land uses were identified within the study area, and include:

1) Annual Grassland; 2) Developed/Ruderal; 3) Mule Fat Scrub; 4) Ornamental; and, 5) Sycamore Riparian. Each of these habitat types is described below. The areas occupied by these habitats are shown on Figure 3 and representative photographs are in Appendix C.

3.4.1 Annual Grassland

Annual Grassland was present in the upstream side of the channel, the former pond basin to the southeast of the bridge, in an open field to the west, and in the understory of trees to the northeast (Figure 3). The grassland area to the southeast was lightly to moderately grazed, and the area to the northeast was somewhat disturbed from nearby agricultural activities. The Annual Grassland habitat type was dominated by non-native grasses and herbs such as slender wild oat (*Avena barbata*), summer mustard (*Hirschfeldia incana*), ripgut brome (*Bromus diandrus*), soft chess (*Bromus hordeaceus*), foxtail barley (*Hordeum murinum* ssp. *leporinum*), tocalote (*Centaurea melitensis*), and bristly ox-tongue (*Helminthotheca echinoides*). These upland species occupied the Asphaltum Creek channel upstream from the bridge, and there were no hydrophytic plant species present. Areas away from the channel also had white horehound (*Marrubium vulgare*), Canada horseweed (*Erigeron canadensis*), downy chess (*Bromus tectorum*) and turkey-mullein (*Croton setiger*). This habitat type corresponds to the Non-native Grassland community described by Holland (1986) and the Wild Oats and Annual Brome Grasslands semi-natural alliance (CDFW 2020d).

3.4.2 Developed/Ruderal

The Developed areas within the study area included the roads, bridge footprint, and an agricultural building to the northwest of the bridge (Figure 3). Ruderal (disturbed) habitat occurs along the margin of the roads where there was a barren shoulder at a bank of mailboxes and an area large enough to park near the bridge. This habitat type is not represented by a natural plant community because it is all or mostly bare ground with only sparse cover by non-native species. It would be classified as the Barren habitat type in the CWHR (CDFW 2020e).

3.4.3 Mule Fat Scrub

The Mule Fat Scrub habitat onsite was dominated by mule fat (*Baccharis salicifolia*), and also had arroyo willow (*Salix lasiolepis*), blue elderberry (*Sambucus nigra* ssp. *caerulea*) and poison hemlock (*Conium maculatum*). It is a type of Riparian habitat that occurs in intermittent stream channels with coarse substrates and moderate depth to the water table (Holland 1986). It is often an early seral stage Riparian community that is maintained by frequent flooding, and would succeed to



Study Area Boundary



Data Observation Point

Habitat Types



Annual Grassland



Developed/Ruderal



Mule Fat Scrub



Ornamental



Sycamore Riparian

Jurisdictional Boundaries



USACE Jurisdiction (2,123 ft.²/ 0.05 acre)



RWQCB/CDFW Jurisdiction (6,845 ft.²/ 0.16 acre)

Foxen Canyon Road



Source: Esri 2020

cottonwood- or sycamore-dominated Riparian habitats, and sometimes occurs as the understory in Sycamore Alluvial Woodlands (Holland 1986). This habitat type is considered the Mulefat thickets alliance by Sawyer et al. (1992).

3.4.4 Ornamental

The Ornamental habitat type mapped in Figure 3 consisted of individual Peruvian pepper trees that were planted along the roadside. This habitat type is not represented by a natural community, and would be classified as the Urban habitat type in the CWHR (CDFW 2020e).

3.4.5 Sycamore Riparian

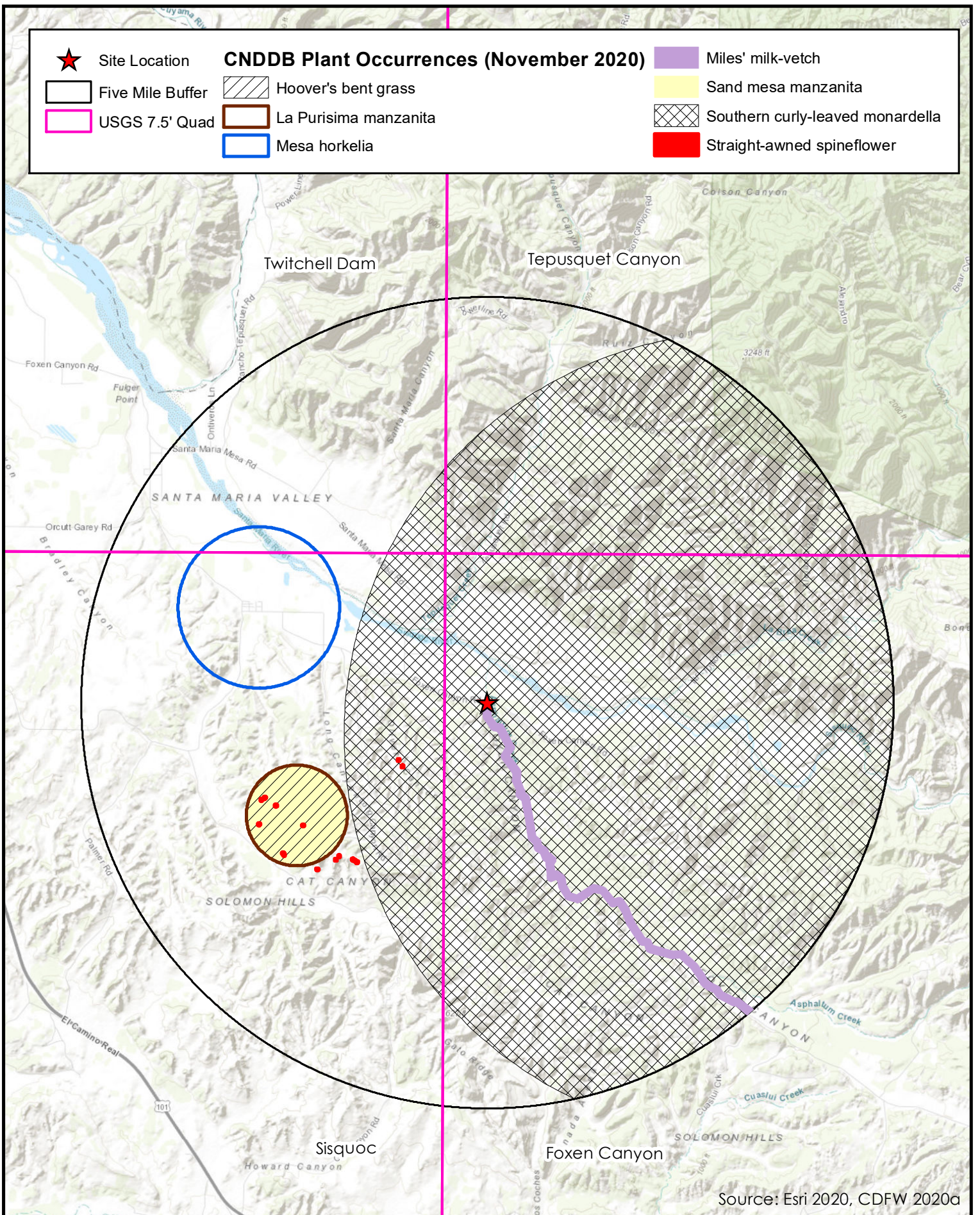
Scattered California sycamore (*Platanus racemosa*) and coast live oak (*Quercus agrifolia*) trees occurred along the upper margin of a drainage ditch that ran along the edge of the agricultural field to the northeast of the bridge, and joined Asphaltum Creek downstream from the bridge. These mature trees may have been remnants of Sycamore Riparian habitat that grew along the upper margins of the Sisquoc River, and the surrounding floodplain area had been converted to agriculture leaving only scattered trees along the edge of disturbed areas. It is also possible that they were planted and have now naturalized. This habitat type corresponds to the Sycamore Alluvial Woodland described by Holland (1986) and the California Sycamore Woodlands alliance described by Sawyer et al. (1992).

3.5 Special-status Biological Resources

No special-status plant or animal species were observed during the reconnaissance survey. However, a woodrat stick house was seen in the Mule Fat Scrub downstream from the bridge, and could be occupied by San Diego woodrats (*Neotoma lepida intermedia*), which is a CDFW Species of Special Concern, or dusky-footed woodrats (*N. fuscipes*). Areas under the bridge were searched for bat guano and prey remains, but none were seen. The background review contained a moderate number of special-status biological resources that have been documented within the project vicinity (Appendix D). Many records have been generated from focused surveys conducted on the former Cat Canyon Oil Fields, the Orcutt-Garey Road vernal pool area, and biological research conducted in the Los Padres National Forest. The types of habitats where these surveys identified special-status species were not present in the study area. Special status species are known to occur in the Sisquoc River, as well as natural vernal pools and chaparral habitats in the region. The study area mainly consists of habitats modified by anthropogenic activities, including the road intersection and bridge construction, planted ornamental species, grazed grassland, and modified ephemeral stream channels that receive little flowing water.

3.5.1 Special-status Plants

No special-status plant species were determined to have potential to occur in the study area based on the lack of suitable habitat (Appendix D). The background review contained a relatively short list of rare plants documented from the vicinity, and many of those were historic records that are noted as "needs fieldwork" in the CNDDDB, meaning that the record has not been verified with more recent observations and/or the locality information is vague. As described above, the study area is generally a human-modified environment and does not possess unique environmental conditions that are suitable for special-status plant species, including plants of limited distribution in the northern Santa Barbara County region.



3.5.2 Special-status Animals

Based upon our background review of special-status species records, four amphibian and reptile, twenty-three bird, and eight mammal species were considered to have Potential to occur on the property. No special-status invertebrates have potential to occur, and the only species in the vicinity was the vernal pool fairy shrimp (*Branchinecta lynchi*; federally Threatened). No suitable vernal pool habitat is present onsite, and this species would not occur in flowing water of Asphaltum Creek. No fish species, such as the southern California Distinct Population Segment (DPS) steelhead (*Oncorhynchus mykiss irideus* pop. 10; federally Endangered) would occur because the creek is highly ephemeral. Although the least Bell's vireo (*Vireo bellii pusillus*; federally and state Endangered and CDFW Watch List) was recorded in the Sisquoc River in 1979, there have been no records in this region since the 1990s and the species no longer breeds in this area. It is known to breed further south in the Santa Ynez River corridor. Additionally, the habitat on and near the site does not contain dense Riparian forest that this species requires. The listing status, habitat associations and evaluation of occurrence of the species recorded in the project vicinity are summarized in Appendix D, and a map of CNDDDB animal records within five miles of the property is provided in Figure 5. These 35 species that were determined to have Potential to occur are described in further detail below, as well as a more in-depth discussion of the California tiger salamander (*Ambystoma californiense*; CTS) and California red-legged frog (*Rana draytonii*) that were determined to not have potential to occur onsite.

The **California tiger salamander** was considered Not Expected to occur, but because it is federally listed and there are recent records in the region, a detailed discussion of its status in the area and the rationale behind considering it "Not Expected" is provided. The Santa Barbara Distinct Population Segment (DPS) of the California tiger salamander is federally listed as Endangered, and listed as Threatened by the state of California and is on the CDFW Watch List. This DPS occurs in the southernmost extent of this species' range in the northern portion of Santa Barbara County within the Santa Maria Basin Geomorphic Province (USFWS 2016). It consists of six metapopulations, and the project site occurs to the east of the East Santa Maria metapopulation area and to the northeast of the West Los Alamos/Careaga metapopulation area. Foxen Canyon Road to the east and southeast of Sisquoc is not included within the boundaries of either metapopulation.

CTS have an obligate biphasic life cycle that requires both aquatic and terrestrial habitats. Larvae are born and develop in ephemeral aquatic sites, and after metamorphosis they leave breeding ponds and enter burrows, spending the majority of their lives underground (Trenham and Shaffer 2005). They breed in long-lasting rain pools, seasonal ponds, vernal pools, sag ponds, stock ponds, artificial impoundments, and permanent ponds lacking predatory fish. As natural breeding ponds have been lost, CTS have shifted to breeding in artificial stock ponds, which are often formed by creating a berm across a natural drainage, and may have longer hydroperiods (USFWS 2016). They can be found in permanent ponds, as long as they are free of predatory fish and bullfrogs (Fisher and Shaffer 1996). Irrigation ponds represent poor quality breeding habitat for CTS when they are lined, have frequent changes in water level, or receive runoff with fertilizers or toxins (USFWS 2016). They do not breed in streams or rivers, but have been found in ditches with seasonal wetland habitat and slow-moving swales (Seymour and Westphal 1994, Alvarez et al. 2013). Following metamorphosis, which is typically late-spring and early-summer, juveniles emigrate at night from the breeding pools to upland refuge sites such as rodent burrows and cracks in the soil (Jennings and Hayes 1994). The upland habitats both adults and juveniles occupy are primarily grassland, oak savanna and coastal scrub. While most adults return to their natal ponds to breed, some individuals, particularly juveniles, disperse to new breeding ponds (Trenham 2001, Wang et

al. 2009). Adults have been found to migrate up to 1.4 miles (2.2 kilometers) between breeding ponds and upland habitats (Trenham et al. 2001, Orloff 2011).

The nearest documented locations of CTS to the project site are approximately five (5) miles away in the Dominion/Orcutt-Gary roads area (CDFW 2020a), which is well beyond the known migration distance of the species. As of 2012, there were only four documented breeding ponds remaining within the East Santa Maria metapopulation, and one known breeding site consisting of two ponds (SISQ-9) was subsequently removed by conversion to strawberry fields (USFWS 2016). These four known breeding ponds are natural vernal pools, and there have been substantial alterations to the surrounding upland habitats and fragmentation of the habitat between ponds has occurred (USFWS 2004). Although the West Los Alamos/Careaga metapopulation area includes areas to the east of the Solomon Hills, the nearest documented breeding ponds in this area are from along Highway 101 near Palmer Road, a distance of at least six (6) miles away from the study area. Potential breeding ponds have been identified by the USFWS (2016) in canyons to the west and southwest of Foxen Canyon, but the species has not been detected in these areas to date and no such potential ponds are indicated on the USFWS (2010) *California Tiger Salamander Pond Habitats - Northern Area* map in the Asphaltum Creek watershed.

In this analysis, CTS were considered Not Expected to occur because they would not occur in stream habitats such as the reach of Asphaltum Creek within the study area, which only receives periodic, high velocity flows. They do not breed in the Sisquoc River due to its flashy episodic flow regime and lack of long-lived in channel pools. The pond basin in the southeast of the study area does not appear to pond water anymore. Additionally, there are no known breeding pools within the dispersal or migratory distance of the site. Details regarding the site suitability of the study area and other aquatic sites nearby that were identified on aerial photography are described in Section 4.0.

Blainville's (=coast) horned lizard (*Phrynosoma blainvillii*) is a CDFW Species of Special Concern that occurs in a variety of habitat types, as long as those areas have open areas for basking in the sun, and shrubs or other objects for cover. They are surface active primarily in the spring and summer during periods of warm weather, and retreat underground during periods of low temperatures or extreme heat (California Herps 2020). While they can "swim" into loose sandy soil for burial, they are also found in areas with sandy gravel or loam substrates where they use small mammal burrows (Jennings and Hayes 1994). This species is negatively correlated with the presence of the invasive and non-native Argentine ants (*Linepithema humile*), which proliferate in developed areas and displace native ant species that are the food source of horned lizards (Fisher et al. 2002). All of San Luis Obispo County is included in the central part of this species' range (Thompson et al. 2016). This species has been recorded along the Sisquoc River channel and the Cat Canyon Oil Field (CDFW 2020a). The loamy soils onsite are suitable for this species, and they could occur throughout the study area, especially openings in vegetation such as along the unpaved roads.

The **California red-legged frog** (*Rana draytonii*; CRLF) is a federally Threatened species and a CDFW Species of Special Concern. This species requires aquatic habitats for reproduction and inhabits aquatic sites most of the year. The types of aquatic habitats they use include seasonal and permanent ponds, intermittent and perennial streams, springs, well boxes, artificial impoundments (i.e., stock ponds, reservoirs), marshes, dune ponds and lagoons. Preferred aquatic habitat is characterized by dense shoreline or emergent vegetation, such as willows, cattails, and bulrushes, with still or slow-moving water at least 2.3 feet deep (Hayes and Jennings 1989). However, they

also occupy ponds or pools with little or no emergent vegetation. Other features in stream habitats that appear to be important for refuge are undercut banks and willow rootballs (USFWS 2010). Ephemeral sites must retain water at least into July/August in order for the tadpoles to reach metamorphosis. In rare instances, California red-legged frog tadpoles have been found to overwinter and transform the following year (Fellers et al. 2001), but they generally metamorphose between July and September (Jennings and Hayes 1994). Sites that dry completely every few years may have higher quality habitat value because desiccation eliminates their predators, such as non-native fish (Centrarchids and Ictalurids), American bullfrogs (*Lithobates catesbeianus*) and crayfish (*Procambarus* sp.), and maintains higher quality breeding habitat by limiting dense growth of emergent vegetation along the margins (Scott and Rathbun 2010, Doubledee et al. 2003).

California red-legged frogs also use a variety of upland habitats. Adults can be far from water during the winter during migrations between aquatic sites or for aestivation; they move away from aquatic sites when they dry down in the late summer or fall; and, post-metamorphic juveniles disperse away from aquatic sites where they remain in uplands for an unknown number of years. The adult migratory period is late-October through mid-May, and they are nocturnal and undergo movements at night (Bulger et al. 2003). They move into upland habitats in response to rain events (Christopher 2000, Bulger et al. 2003). In mesic habitats along the coast, adults have been found to move through upland habitats up to a total distance of 2 miles (3.2 kilometers) in one season, with the greatest segment without encountering a water source being 0.74 miles (1.2 kilometers) (Bulger et al. 2003). Individuals migrating between aquatic sites used for summer residence and other aquatic sites used for breeding have been found to move overland distances of at least 1.7 miles (2.8 kilometers) (Bulger et al. 2003). In xeric to moderately mesic local climates where populations did not undergo breeding migrations, they also used upland habitats in winter, but remained within 200 feet (60 meters) of water (Rathbun et al. 1993, Christopher 2000, Tartarian 2008). While undergoing terrestrial movements, they move through grassland, agricultural fields, forest, scrub, and grazed pastures (Bulger et al. 2003). They have been documented to move overland across slopes exceeding 50%, crossing multiple drainage divides with a minimum elevation change of 2001 feet (610 meters) (Bulger et al. 2003). While occupying upland habitats, the frogs take cover in leaf litter, thatched grasses and thick herbs, and shrubby vegetation such as willows, blackberry thickets, German ivy, and nettles, as well as downed trees and are not found out in the open during the daytime (Rathbun et al. 1993, Christopher 2000). During the summer months (June to September) the frogs stay in close proximity to water. They may make short movements into adjacent riparian habitat or dense emergent vegetation on the shore, but remain within 16 to 26 feet (5 to 8 meters) of water (Christopher 2000, Scott and Rathbun 2001, Bulger et al. 2003). They also move up and down stream channels (Tartarian 2008).

Populations of California red-legged frogs may undergo frequent extirpation, often due to drought conditions or other habitat changes, and they are recolonized when conditions improve from dispersal from other suitable habitats in the vicinity. The species is characterized as existing in "metapopulations" which are collections of populations linked by dispersal, allowing for recolonization of unoccupied habitat after local extinction events (USFWS 2002). Under this model, marginally suitable habitats could be occupied in some years but not others. Sources of migrants could come from populations in other areas of the watershed, including from ponds on private property in which they have not been reported to occur.

There are numerous records of CRLF from mining pits in the Sisquoc River up- and downstream from the confluence of Asphaltum Creek (Figure 5). These records are from surveys conducted in the late 1990s and early 2000s, but one record was from 2016 at an unnamed tributary of the river near Garey (CDFW 2020a). Asphaltum Creek does not have suitable breeding habitat for the CRLF

due to lack of pools and insufficient hydroperiod. However, they could occupy areas of the Sisquoc River nearby where ponded water persists in mines, or in permanent agricultural ponds, which are within the migratory distance of the species (see Section 4.0). If they are present in suitable aquatic habitats in the area, there is a slight chance that they could move through the study area during the winter when they undertake overland movements. Still suitable pond habitat was further upstream through a significant stretch of arid grassland. They could temporarily occupy Asphaltum Creek if and when water is present, but are unlikely to remain long due to the lack of cover and suitable pools. CRLF would not use the site during dry conditions in the summer due to a lack of water sources nearby.

The **northern California legless lizard** (*Anniella pulchra*) is a CDFW Species of Special Concern. This species occurs in a variety of habitats as long as there is soil moisture and cover, including beach dunes, chaparral, pine forest, oak woodland, riparian forest and scrub, coastal scrub and landscaped areas near residences (California Herps 2020). This species is fossorial and buries into loose soils, leaf litter, or is associated with cover objects that provide moisture (i.e., rocks, boards, and logs). They forage just beneath the surface of loose soil or in leaf litter during the morning or evening, and may be active above the surface at dusk or at night (California Herps 2020). Their peak activity near the surface is from February through May (Yasuda 2012). There is a record from the 1990s of this species from the Sisquoc River near Foxen Canyon, and other historic record from the Solomon Hills, but this species often goes undetected without focused surveys. Suitable habitat is present in the Mule Fat Scrub habitat. The loamy soils in this area are likely to be suitable, and leaf litter, rocks or logs may provide adequate cover.

The **western spadefoot** (*Spea hammondi*) is a CDFW Species of Special Concern that was petitioned for listing under the FESA. In 2015, the USFWS issued a finding that listing may be warranted and currently this species is under review (USFWS 2020b). This amphibian is primarily a terrestrial species that spends most of its life in burrows underground within grassland and open woodland or oak savanna habitats. Spadefoots readily excavate their own burrows in friable soils, and they select burrow locations where there is a high frequency of small mammal burrows possibly because ground squirrels and gophers produce softer disturbed ground that is easier for spadefoots to dig into (Baumberger et al. 2019). During years with sufficient rainfall to fill the temporary pools where they breed, they emerge in large numbers and complete their reproductive period within a few months.

The types of aquatic habitats used for breeding include vernal pools, ephemeral ponds (natural or man-made), stock ponds lacking fish, and streams that dry to isolated pools but may have flow earlier in the winter. Ephemeral ponds must have sufficient hydroperiod for their larval period, which is at minimum 30 days but is generally 8 to 16 weeks (Morey 1998, Christopher 2018). Little is known about the distance that individuals can migrate away from breeding sites during dispersal, and they have been observed to occupy recently filled ponds that are approximately 0.5 mile from known breeding ponds (S.V. Christopher, personal observation). Populations that are resident near breeding pools were found to use upland habitats an average of 131 feet (40 meters) and a maximum of 860 feet (262 meters) from the pool, during a drought year, and movements may be greater during years with higher rainfall (Baumberger et al. 2019).

The project site is located in an area with an exceptionally large number of documented localities of this species, including recent records. There were 75 records in the CNDDDB within the 9-quadrangle search, which is significant because this species can be particularly difficult to detect. There are four records from individuals found on Foxen Canyon Road upstream from the site while undergoing movements, and records of breeding in backwater pools and gravel pits in the Sisquoc

River (CDFW 2020a). Asphaltum Creek does not appear to contain pools that could be used for breeding by this species. No ponded water is seen on a review of historic aerial photography; however, imagery available does not capture the peak of wet years. It is possible that the former basin in the southeastern part of the study area could have been suitable for breeding by this species, but there was no indication during the field survey that this basin still ponds water. Other ephemeral ponds were identified on aerial photography within 0.5 mile of the study area that could potentially be used by this species (see Section 4.0). There is a slight chance that on rare occasions during years that produce enough rainfall to fill breeding pools, that individuals could move through the site. They would only be present during the winter of wet years because there is no breeding habitat in close enough proximity to the site for use of upland burrowing habitat.

The **California horned lark** (*Eremophila alpestris actia*) is on the CDFW Watch List. It occurs in open habitats such as agricultural areas and grassland, and prefers areas with sparse vegetation or patches of bare ground. Nests are placed on the ground in open areas, sparse vegetation, or next to a grass clump or other object (Audubon 2020). This species has been recorded from a few locations surrounding the study area (The Cornell Lab of Ornithology 2020a), and in the CNDDDB in the vicinity (CDFW 2020a). This species could forage in Annual Grassland habitat throughout the site, and the Ruderal areas such as unpaved roads associated with agricultural activities are particularly suitable.

Cooper's hawk (*Accipiter cooperii*) is on the CDFW Watch List for nesting. This is a woodland species that prefers dense stands of coast live oak, riparian forest, and mixed coniferous forests near a source of water, but also can occur in suburban habitats with tall trees. They prey on birds, small mammals, reptiles and amphibians. There are numerous observations from areas surrounding the site (The Cornell Lab of Ornithology 2020a). This species could forage onsite or occur as a transient, but there is no dense woodland for nesting. They could perch on large sycamores.

The **ferruginous hawk** (*Buteo regalis*) is on the CDFW Watch List for wintering sites, and it occurs in this area during the winter. They use lower elevation open grassland habitats, and also occur in sagebrush, desert scrub, and edges of pinyon-juniper (CDFW 2020e). Roosting is in open areas on a lone tree or utility pole. They prey on rabbits, ground squirrels, mice, amphibians and reptiles (CDFW 2020e). There are numerous observations from Foxen Canyon (The Cornell Lab of Ornithology 2020a). The open nature of the surrounding habitat is suitable for foraging of this species. However, this species does not nest in this area, and there are no suitable structures for roosting.

The **golden eagle** (*Aquila chrysaetos*) is considered a Fully Protected species by CDFW and is on the Watch List for nesting and wintering. Nesting is on cliffs, large trees or other structures such as electrical towers. This species has been recorded at various locations surrounding the site (The Cornell Lab of Ornithology 2020a). This species forages over a variety of open habitats, and could forage in open areas nearby and occur as a transient. They could perch or roost on large sycamores, but are unlikely to nest in them due to frequent disturbance surrounding the area from traffic and agricultural activities.

The **great blue heron** does not have a specific listing status but is considered a sensitive species by CDFW for nesting colonies, which are located in large trees among forests near bodies of water. This species is associated with wetland habitats, and it is occasionally seen foraging in grasslands or agricultural fields away from water. There are several sightings of great blue herons near the study

area (The Cornell Lab of Ornithology 2020a). Individuals could occur onsite periodically while foraging and may roost in large sycamores, but no nesting habitat is present.

The **great egret** (*Ardea alba*) does not have a specific listing status, but is considered sensitive by the CNDDB for nesting colonies. This species does not nest in this area. Individuals forage in aquatic habitats, including freshwater and saline emergent wetlands, estuaries, lakes, streams, ditches, and mudflats, where they prey on fish and crustaceans. They also forage in fields on small mammals, amphibians and reptiles. They roost communally in trees near foraging areas (CDFW 2020e). This species has been recorded near the site (The Cornell Lab of Ornithology 2020a). Individuals could forage periodically in upland areas of the site. They could potentially roost in large sycamores, but they do not nest in this area.

The **loggerhead shrike** (*Lanius ludovicianus*) is a CDFW Species of Special Concern for nesting. This species occurs in variety of relatively open habitats with low vegetation and well-spaced shrubs or trees, such as coastal scrub, grasslands, agricultural fields, pastures, riparian areas, desert scrub, savannas, prairies, golf courses, and along roadsides. They prefer areas where there are objects to perch on such as fences, trees or shrubs (Audubon 2020). Nests are placed in dense and sometimes thorny trees or shrubs and brush piles (Audubon 2020). They prey on insects, amphibians, reptiles and small mammals, and may impale their prey on sharp objects. There are numerous observations of this species surrounding the study area (The Cornell Lab of Ornithology 2020a). The site is suitable for foraging and there is potential for nesting in the Mule Fat Scrub or Ornamental trees.

The **merlin** (*Falco columbarius*) is on the CDFW Watch List for wintering. They are a small falcon that preys on songbirds and shorebirds (The Cornell Lab of Ornithology 2020b), and also small mammals and insects (CDFW 2020d). They occur in this area in winter, when they occupy coastal areas, grasslands, savannas, woodlands, lakes, wetlands, and edges of coniferous forest (CDFW 2020e). There are numerous records surrounding the site (The Cornell Lab of Ornithology 2020a). They could forage onsite and may occur as a transient or during migration, but they do not nest in this area.

The **prairie falcon** (*Falco mexicanus*) is on the CDFW Watch List for nesting. This species forages in open grasslands, savannah, rangeland, scrublands, and agricultural areas, including feed lots (CDFW 2020e). They prey on small mammals, birds and reptiles (CDFW 2020e). Nesting habitat is generally cliff ledges on rock formations and large trees, but they also occur in urban areas and nest high on buildings. There are numerous observations surrounding the study area, including recent records (The Cornell Lab of Ornithology 2020a). They could forage on the site, but habitat is not suitable for nesting. The large sycamores could potentially be suitable for roosting or perching.

The **sharp-shinned hawk** (*Accipiter striatus*) is on the CDFW Watch List for nesting. This species generally occurs in semi-open woodlands, margins of open areas, coniferous forests, mixed woodlands and riparian habitats, and dense forest is required for nesting. They prey on birds, and may occur in residential areas preying on birds at bird feeders (Lehman 2020). During migration, it uses coastlines, lake shores and mountain ridges (Audubon 2020). It does not breed in Santa Barbara County, and they are an uncommon transient and winter visitor. They have been recorded at various locations surrounding the site (The Cornell Lab of Ornithology 2020a). Individuals could forage onsite and may perch or roost in the large sycamores, but they do not nest in this area.

The **southern California rufous-crowned sparrow** (*Aimophila ruficeps canescens*) is on the CDFW Watch List. This species prefers arid, rocky areas with chaparral, pinyon pine, and grassland, and

uses coastal scrub on the coast. They prefer areas that have burned or are grazed, which reduces vegetation density (The Cornell Lab of Ornithology 2020b). This species was reported breeding in a canyon near Sisquoc (CDFW 2020a), and there are a few records nearby, including recent records from the Rancho Sisquoc Winery (The Cornell Lab of Ornithology 2020a). The habitat onsite is marginally suitable, but since they are known to occur in the area, individuals could occur as transients. However, nesting is unlikely.

The **tricolored blackbird** (*Agelaius tricolor*) is a state Threatened species and a CDFW Species of Special Concern for nesting colonies. This species nests and roosts colonially in freshwater marshes with dense tules, cattails, or blackberry thickets. They forage in areas with low-growing vegetation such as agricultural fields, grasslands and feedlots. Wintering tricolored blackbirds congregate in large multispecies flocks, often containing red-winged blackbirds (The Tricolored Blackbird Working Group 2007). This species has been observed nesting at ponds along the Sisquoc River in the 1990s (CDFW 2020a) and there are numerous sightings from the river near Tepusquet Canyon (The Cornell Lab of Ornithology 2020a). Individuals could occur onsite while foraging, and they could pass through while moving about the area. There is no freshwater marsh habitat on or near the site that is suitable for nesting or roosting.

The **white-tailed kite** (*Elanus leucurus*) is a CDFW Fully Protected species for nesting sites. This species prefers open areas for foraging, including grasslands, river valleys, oak savanna, agricultural areas, deserts, and marshes (Audubon 2020). They nest in large isolated trees, and occasionally in riparian habitats (CDFW 2020d). During the non-breeding season, they roost communally in trees or tall shrubs at the edges of grasslands (The Cornell Lab of Ornithology 2020b). This species has been recorded near the site (The Cornell Lab of Ornithology 2020a). They could forage onsite, occur as a transient, and nest or roost in the Sycamore Riparian.

The **yellow-billed magpie** (*Pica nuttalli*) is endemic to California (i.e., its range is limited to California), and it is a non-migratory, permanent resident. It inhabits open oak woodland and savannah, riparian, and valley hardwood-conifer. It also occurs in human-modified habitats such as residential and agricultural areas, pastures and orchards. They feed on the ground on insects, invertebrates, trash, carrion, acorns, fruit, grain, nestlings, eggs, earthworms, ticks and live rodents (CDFW 2020e). They nest in small colonies, building stick nests at the tops of trees (Audubon 2020). Shortly before sunset, magpies aggregate and move to a communal roost site in which they spend the night. Nesting and communal roost sites are considered sensitive by CDFW (2020c). They have been recorded throughout the surrounding area, including numerous observations along Foxen Canyon (The Cornell Lab of Ornithology 2020a). Individuals could forage onsite, and they could nest or roost in the Sycamore Riparian.

The **yellow warbler** (*Setophaga petechia*) is a CDFW Species of Special Concern for nesting. In California, this species breeds along coastal areas from Del Norte County south to Ventura County, where it prefers medium-density riparian woodlands (CDFW 2020d). This is a migratory species that occurs in this area only during the breeding season. They are closely tied to riparian habitat for foraging and nesting, but they also use residential areas and orchards. There are records of this species from the Rancho Sisquoc Winery and within Foxen Canyon (The Cornell Lab of Ornithology 2020a), as well as a 1999 breeding record from the Sisquoc River. The Mule Fat Scrub habitat onsite is of relatively low density and may not be of sufficient structure for breeding by this species, but they could forage or occur as a transient while moving through the area.

The **American badger** is a CDFW Species of Special Concern. This species occurs in a variety of open habitats, and prefers grassland, oak savannah and edges of shrubland. They are associated

with friable soils in which they dig burrows. Although they frequently reuse old dens, they may dig a new den each night, especially in summer (CDFW 2020e). Young are born in maternity dens in March and April (CDFW 2020e). They tolerate some human disturbance. California ground squirrels are a common prey species of badgers, and their burrows are often found to be enlarged by foraging badgers. In addition, badgers also eat pocket gophers, rats, mice and chipmunks (CDFW 2020e). The CNDDDB reports several observations of American badgers near the study site, and there are relatively recent records from Long Canyon (CDFW 2020a). Suitable habitat is present for foraging, and the soils are friable and thus appropriate for dens. However, no potential dens or ground squirrels were seen during the survey. Badgers are highly mobile and could move through the study area.

The **fringed myotis** (*Myotis thysanodes*) does not have a specific status but is recorded in the CNDDDB and is on CDFW's (2020c) list of Special Animals, and therefore is considered sensitive. It occurs in a wide variety of forested habitats and desert scrub. Foraging is in relatively open habitats with shrubs or low trees, and near water sources. They roost in caves, mines, buildings, and in crevasses, using different roosts during the day and night (CDFW 2020d). They are sensitive to disturbance at roost sites. This species has not been recorded in the CNDDDB from the vicinity of the site, but Santa Barbara County is considered to be entirely within this species' year-round range (CDFW 2020d). They could forage onsite, and may roost under the bridge or in cavities of the large sycamores.

The **pallid bat** (*Antrozous pallidus*) is a CDFW Species of Special Concern. This species forages in a variety of dry, open habitats such as grassland, deserts, woodland, shrubland and coniferous forest. Maternity and winter roosting sites are cavities or caves in rock features, large trees or buildings, and these structures must substantially moderate temperature. Day roosts are in caves, crevasses, mines and occasionally hollow trees or buildings. Night roosts are in more open areas such as porches or agricultural buildings. They forage on beetles, moths, spiders, scorpions and Jerusalem crickets (CDFW 2020e). A large and significant roost site was recorded in the 1990s at the bridge over the Sisquoc River near Garey (CDFW 2020a). They could forage over the site and potentially could roost under the bridge, although no evidence of bat roosting was observed during the reconnaissance survey.

The **San Diego desert woodrat** (*Neotoma lepida intermedia*) is a CDFW Species of Special Concern. It is present in a variety of habitats, preferring rock outcrops and rocky slopes with moderate to dense canopies. They build stick houses or middens, usually against a rock crevice or the lower branches of trees, which are used for nesting, food caching and escape from predators. They eat buds, fruits, seeds, bark, leaves (CDFW 2020d). This species is found in disjunct areas throughout the state, and occurs throughout Santa Barbara County (CDFW 2020d). A stick house was observed during the survey within the Mule Fat Scrub habitat. It could be from this species or the dusky-footed woodrat (*Neotoma fuscipes*).

Townsend's big-eared bat (*Corynorhinus townsendii*) is a CDFW Species of Special Concern. This species occurs in a variety of habitats, including dry upland areas, semidesert, coniferous forest, and riparian woodland. They prefer foraging along the edges of riparian vegetation and they drink water from ponds. They roost in caves, mines, abandoned buildings and under bridges (Gruver and Keinath 2006). They are considered to be widespread throughout California except for high elevations in the Sierra Nevada and occur in this area throughout the year (CDFW 2020e). One individual has been recorded from the site vicinity (CDFW 2020a). They could forage over the site and potentially could roost under the bridge, although no evidence of bat roosting was observed during the reconnaissance survey.

The **western mastiff bat** (*Eumops perotis californicus*) is a CDFW Species of Special Concern. It occurs in coniferous and deciduous woodlands, coastal scrub, grasslands, chaparral, deserts and urban areas (CDFW 2020d). This species is resident year-round in this region, and are active nocturnally throughout the year. They roost in cliff faces, tunnels, on buildings or in trees. Maternity roosts are restricted to crevices in rock formations or buildings (CDFW 2020d). There were no records in the CNDDDB from the vicinity, but they are known to occur in the general area. This species could forage onsite and there is a slight possibility that they could roost under the bridge or in crevices in large sycamores.

The **western red bat** (*Lasiurus blossevillei*) are CDFW Species of Special Concern. It forages over grasslands, shrublands, woodlands, oak savannah, forests, and agricultural areas (CDFW 2020d). They roost primarily in trees, and occasionally in shrubs. Both night and maternity roost sites are usually near streams, agricultural fields, or urban areas. This species migrates between summer and winter ranges. They winter in the central coast, where they hibernate, but they could also occur in this area during the summer (CDFW 2020d). There were no records in the CNDDDB from the vicinity, but this species' year-round range includes all of Santa Barbara County (CDFW 2020d). Suitable foraging habitat is present in the study area, and they could roost in the trees onsite

The **Yuma myotis** (*Myotis yumanensis*) does not have a specific listing status but is considered sensitive by the CDFW (2020c). This species forages in open forests and woodlands, usually over water sources such as ponds and streams (CDFW 2020e). They prey on flying insects as well as ants. They roost in buildings, mines, caves, crevices and under bridges (CDFW 2020e). This species is considered to be common and widespread throughout all but the deserts of California, and they are known to occur year-round in the county (CDFW 2020e). They could forage onsite and may roost under the bridge.

3.5.3 Sensitive Natural Communities

No sensitive natural communities were recorded in the CNDDDB within five miles of the study area, but CDFW sensitive natural communities known to occur in the general vicinity of the site were evaluated (Appendix D). The Sycamore Riparian habitat in the study area occurred as patches of mature trees in a disturbed area along a ditch and at the edge of an agricultural field and roads (Figure 3). While it is unclear if these trees were planted, they have naturalized within the study area, and therefore could potentially be considered a sensitive natural community. The Sycamore Alluvial Woodland community has a State Rarity Rank S1.1 (CDFW 2020a), and the California Sycamore Woodlands alliance has a State Rarity Rank S3 (CDFW 2020d). This community is located in the northeastern part of the study area, away from the bridge and would not be affected by any project-related activities (Figure 3).

The Mule Fat Scrub habitat is not a sensitive natural community, but is a regulated natural resource since it is a form of riparian habitat and is growing in the channel and on the banks of Asphaltum Creek. As shown in Figure 3 and described in Section 3.2, the Asphaltum Creek channel contains areas that are expected to be regulated as Non-wetland Other Waters of the United States and Waters of the State. Mule Fat Scrub is common throughout the project region, and is not considered to be a sensitive natural community by Holland (1986) or the CDFW based on review of the CNDDDB. The Mulefat Thickets alliance has a State Rarity Rank of S4 (CDFW 2020d), which is not considered rare under CEQA. None-the-less, areas where Mule Fat Scrub occurs within the Asphaltum Creek channel would be regulated by CDFW pursuant to California Fish and Game Code and the RWQCB pursuant to the Clean Water Act and Porter-Cologne Water Quality Act.

3.5.4 Designated Critical Habitat

The study area does not contain any designated critical habitat (USFWS 2020b). Critical habitat for the arroyo toad, California red-legged frog, and southern California DPS steelhead is present along the Sisquoc River but does not extend up Asphaltum Creek (Figure 5). Arroyo toad critical habitat Unit 2 Sisquoc River occurs along the river and adjacent uplands from Sycamore Campground downstream to just below the confluence with La Brea Creek (USFWS 2011). California red-legged frog critical habitat unit STB-1 La Brea Creek comprises several watersheds to the north of the Sisquoc River channel, and STB-3 Sisquoc River is along the upper reaches of the river (USFWS 2010b). The southern California steelhead Santa Maria River Hydrologic Unit, Sisquoc Hydrologic Sub-area extends from the discharge point of the Santa Maria River in the Pacific Ocean upstream to its headwaters (National Marine Fisheries Service [NMFS] 2005). Therefore, only steelhead designated critical habitat lies downstream in the watershed from the study area.

3.5.5 Migratory Birds and Raptors

There are numerous bird species with potential to occur in the vicinity that build nests in ornamental trees, and riparian grassland habitats, and could nest in the study area. In addition to the special-status bird species described above, common species that are protected under the MBTA could nest onsite. Raptors protected under California Fish and Game Code were not considered likely to nest in the Ornamental trees due to disturbance at the road intersection and agricultural activities, but they could nest in the large sycamore or oak trees in the Sycamore Riparian. The yellow-billed magpie could roost communally in the area, and this habitat use is considered to be sensitive by the CDFW.

4.0 CTS AND CRLF SITE ASSESSMENT

The following section provides a detailed analysis of the suitability of the study area to support California tiger salamanders (CTS) and California red-legged frogs (CRLF). This assessment follows protocols developed by the USFWS (2003 - CTS; 2005 - CRLF). The project plans developed by Above Grade Engineering (June 29, 2020; Appendix A) were the basis for this analysis. The project description is detailed in Section 1.1 above. Because the surrounding area was located entirely on private property, it was characterized by driving public roads and through interpretation of historical aerial photography available on Google Earth and USGS topographic maps.

4.1 Distributional Range

4.1.1 California Tiger Salamander

The study area could be considered to be within the larger geographic range of the CTS (USFWS 2020b), but it lies outside of the boundaries of the East Santa Maria and West Los Alamos/Careaga and metapopulation areas (USFWS 2016). The boundary follows the hilltops to the southwest of Asphaltum Creek. The nearest documented locations of CTS to the project site are approximately five (5) miles away in the Dominion/Orcutt-Garey roads area (CDFW 2020a)

4.1.2 California Red-legged Frog

The study area would be considered to be within the geographic range of the CRLF (USFWS 2020b). Recorded occurrences are documented from throughout the project region (CDFW 2020a).

4.2 Known Localities

4.2.1 California Tiger Salamander

There are no known localities of CTS within 3.1 miles (5.0 kilometers) of the project site (Figure 5). The CTS Recovery Plan has mapped all known breeding ponds, and also does not show any current or former breeding pools within 3.1 miles of the site (USFWS 2016).

4.2.2 California Red-legged Frog

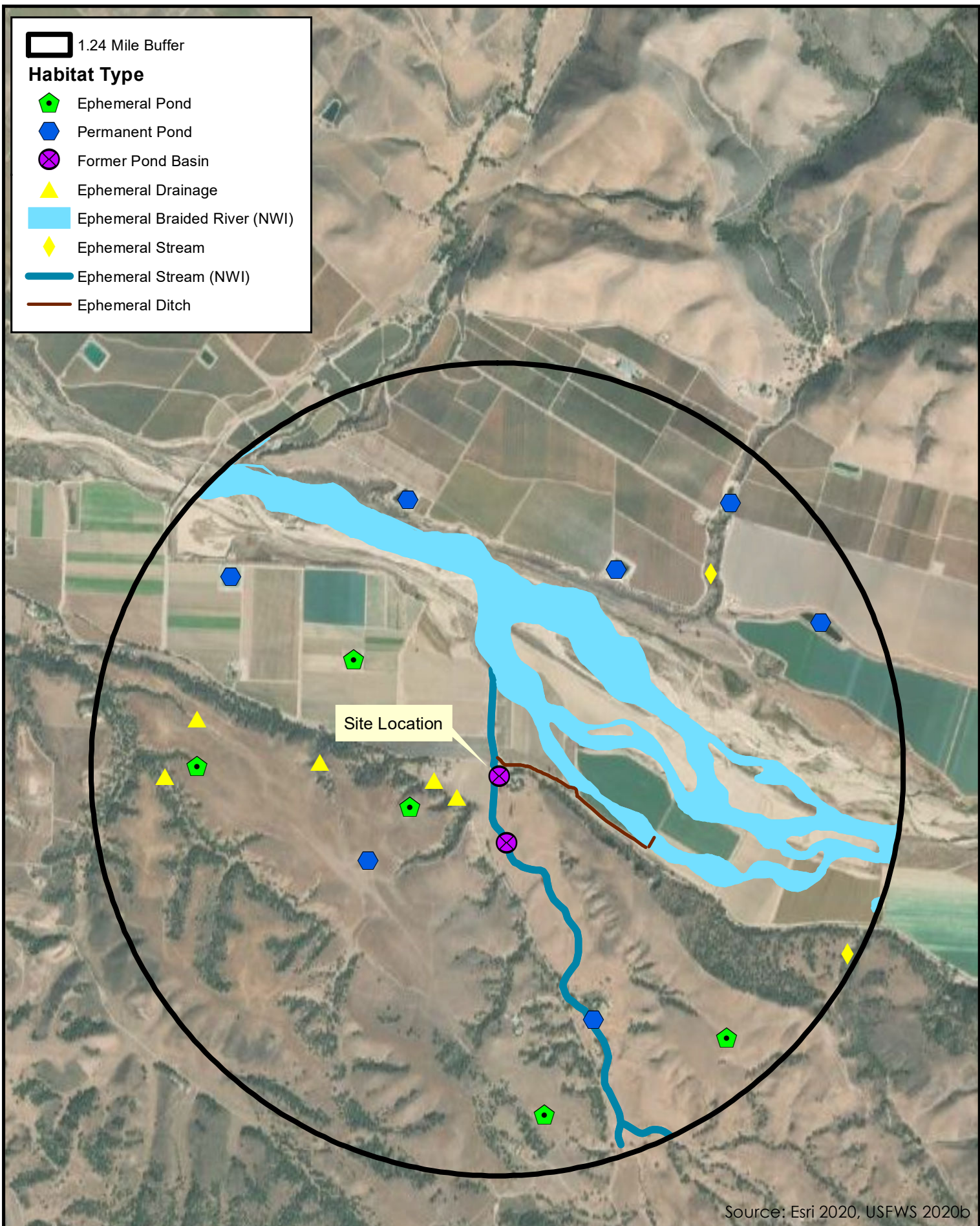
There is one known locality of CRLF within 1.0 mile (1.6 kilometer) of the project site: Occurrence Number 356 is from the Sisquoc River at a beaver dam and a mining pit (CDFW 2020a). This 1999 observation was from the segment of the river near the Asphaltum Creek confluence. There is also a record from private property in the region, and the location information is suppressed and the CNDDB identifies the entire Sisquoc quadrangle for Occurrence Number 1030 (CDFW 2020a).

4.3 Habitats in the Surrounding Area

The habitats within 1.24 miles (2 kilometers) of the project boundaries are depicted on Figure 6. Upland habitats can be seen from the underlying aerial, as follows. Agricultural fields lie on either side of the Sisquoc River channel planted in row crops and vineyards. Gentle foothills that are largely undeveloped lie to the south, and are vegetated by grazed Annual Grassland with Coast Live Oak Woodland in the north-facing canyons. Patches of Coastal Scrub are also present on some of the slopes. There are scattered rural residences throughout the area.

Aquatic habitats are symbolized on Figure 6; also see Figure 2 for ponds and riverine habitat mapped in the NWI. The area to the south of the river has several ephemeral ponds that appear to have been created as a water source for cattle. Numerous permanent ponds used for irrigation are located throughout the agricultural areas, and there was one along Foxen Canyon Road associated with a residence. A former basin was identified within the study site that appears to have received flows from Asphaltum Creek at some time in the past, or was fed with well water. It is not connected to Asphaltum Creek, which is generally a roadside ditch to the west along Foxen Canyon Road. Another former pond had been created further upstream on Asphaltum Creek and is shown on the 1964 USGS topographic map. Based on Google Earth photography, it appears to be some type of impoundment and as seen in the field it was no longer capable of supporting ponded water. Several unnamed, ephemeral drainages are present in the hills to the west of the study area, and appeared to be erosion gullies. One ephemeral drainage in the westernmost part of the buffer area was named as Olivera Canyon. It is shown as an intermittent drainage on the USGS topographic map, and appears to lack riparian vegetation and is bordered by Coast Live Oak Woodland. The Sisquoc River is an ephemeral feature that has a braided channel through a wide floodplain, and is presently constricted by agricultural fields and sand/gravel mining operations that have resulted in areas of disturbance including developed roadways. The NWI mapped Riparian habitat throughout the channel upstream from the confluence of Asphaltum Creek (Figure 2), but this is no longer present aside from the scattered sycamores along the edge of the farm fields.

Flows are flashy in the Sisquoc River, and historic aerial photography shows narrow, braided channels of shallow water persisting into June of wet years, but other years it likely does not flow at all. CNDDB records indicate pooling water present in the mining pits of some years that could



provide aquatic habitat for wildlife. Ephemeral streams were considered to be slightly more developed in their watersheds than ephemeral drainages, and included Asphaltum Creek and Kelly Canyon to the north. The characteristics of Asphaltum Creek are described in detail in Section 3.2. An ephemeral ditch was present between the agricultural fields and the edge of the floodplain, and joined Asphaltum Creek just north of the study area. This feature had some green vegetation in the bottom while the surrounding area was dry from not having received any seasonal rainfall, indicating that it may receive irrigation runoff from the agricultural fields.

There are no barriers to movement of the CRLF within the 1.24-mile buffer area. This species can readily move through agricultural fields and across the low slopes of the surrounding hills, especially during winter nights during or after sufficient rain has fallen. The Sisquoc River channel may be a barrier or impediment of movement to CTS. In particular, steep-walled pits could trap migrating CTS and the development of roadways through the riverbed may impede movement. If high velocity flows were present, CTS may not be able to cross the channel.

No information is available on non-native predators of CRLF and CTS in the area. Because most sites are ephemeral, it is likely that predatory fish such as bass, catfish and sunfish would be absent, and American bullfrog (*Lithobates catesbeianus*) populations would not be large. Suitable habitat for non-native predators is present at the permanent ponds, but since a majority are isolated from stream systems and used for irrigation, they are unlikely to contain fish. Bullfrogs, however, could move overland and inhabit these features.

4.4 Interpretation of Site Assessment

4.4.1 California Tiger Salamander

No suitable aquatic habitat is present for CTS in the study area. They would not occur in Asphaltum Creek due to periodic flashy flows and lack of isolated pools. It is possible that the former basin to the southeast could have had periods of water that would constitute marginally suitable habitat. However, this feature no longer ponds water. Ephemeral ponds identified in grazing lands to the south of the Sisquoc River could potentially have suitable aquatic habitat for CTS, but these sites are located on private property and aerial photography provides only limited information on habitat conditions and hydroperiod. The *Recovery Plan* has identified other potential breeding ponds in agricultural areas in the Sisquoc River floodplain and between the Solomon Hills and Foxen Canyon, but it considers the Asphaltum Creek watershed to be outside of the metapopulation boundaries (USFWS 2016). The nearest breeding population is at least five (5) miles away from the project site, which is well beyond the migratory distance of the species. If CTS bred in the ephemeral ponds in foothill areas identified in Figure 6, they could use upland habitats adjacent to those ponds as the grazed Annual Grassland would potentially be suitable. However, it is unlikely that they would use upland habitat at the project site due to distance from those ponds, the presence of agriculture to the north, and overall limited amount of suitable Annual Grassland within the site. They would not occur in the Asphaltum Creek channel. Therefore, CTS are considered Not Expected to occur.

4.4.2 California Red-legged Frog

Asphaltum Creek does not provide suitable habitat for CRLF because it is too ephemeral and lacks pools. Additionally, there is no freshwater marsh habitat and riparian habitat occurs only in limited bands upstream. The status of CRLF in the Sisquoc River near the site is unknown and the most recent records are from 2000. The river in its natural condition provides little suitable habitat for

this highly aquatic frog due to being too shallow and ephemeral, and frog observations were related to longer-lived ponded water in mining pits as well as off-channel pools. It is likely that CRLF were eliminated from these areas during the drought. A considerable population of CRLF formerly was present in La Brea Creek and probably provided a source of migrants to the Sisquoc River; however, suitable pool habitat throughout the drainage was completely lost due to intensive sedimentation following wildfire (S.V. Christopher, personal observation). CRLF could occupy permanent ponds identified in Figure 6, and because these ponds are on private property no survey data are available. If present at these ponds, individuals could move through the study area during wet winters while moving between aquatic sites. Although unlikely, CRLF were considered to have Potential to occur onsite primarily during the winter rain season when flowing water was present in the channel.

5.0 IMPACT ANALYSIS AND RECOMMENDED MITIGATION

The following impact analysis and recommended mitigation measures are intended to help guide project planning efforts and support the environmental review process being conducted by the County for the project. The impact discussion addresses the range of impacts that could result from implementation of the proposed project. Direct effects (or impacts) are caused by a project at the same time and place, and occur as a direct result of project activities. Indirect effects are caused by a project, but occur at a different time or place, such as in an adjacent area and occurring incidental to project activities. Cumulative effects are those that result from when the effects of the subject project combine with effects from other unrelated projects to compound environmental harm. Our understanding of the extent of proposed development footprint, along with the observations of onsite conditions from the site visit and desktop evaluation of special-status biological resources in the project vicinity, provided the basis for this analysis. Statements defining potential impacts on biological resources and proposed mitigation measures to reduce project-related impacts are provided below.

5.1 Direct and Indirect Effects

The project is proposed to conduct all construction activities from the existing road surface, and no vehicles or equipment would be placed below the top of bank. The bridge would be replaced in phases to keep the road passable during construction. New abutments would be installed on the upland side of the top of bank. The existing bridge deck and rails would be removed by equipment operating from the existing roadway. The central pier located in the bed of the channel would be carefully removed to not result in the placement of fill in jurisdictional areas. The prefabricated new bridge would be laid on top of the abutments, and then the approaches and surface would be paved.

The project would affect developed areas consisting of the existing road and bridge footprint. Two Ornamental trees (pepper trees) on either side of the bridge would be removed and potentially a small amount of the Mule Fat Scrub on the downstream side of the bridge could be trimmed to provide access during construction. No equipment would access the channel, and the limits of disturbance are not expected to extend into surrounding Annual Grassland habitat. Stockpiling or staging of materials would occur on developed areas immediately adjacent to the bridge. No effects on special-status plant species would occur because none are expected to occur in the area based on the lack of suitable habitat. Moreover, special status plants would not be present in the developed area within the limits of disturbance. A slight potential for direct effects on special-status wildlife species could occur during construction activities, as described in Section 5.1.1 below. In addition, potential for indirect effects on habitats or species located downstream from the

site could occur through surface runoff of disturbed areas entering the creek channel during and after the work has been completed. Each of these potential effects is discussed in the following sections.

5.1.1 Adverse Effects on Candidate, Sensitive or Special-status Species

A suite of rare plant and animal species that are known to occur in the site vicinity were evaluated to determine their potential to occur in the study area. The survey was conducted during the dry time of year when many rare plant species are not in bloom and may not have been identifiable. Nevertheless, the site is mostly disturbed by existing roads and agricultural fields, and the Annual Grassland habitat was composed of dense thatch of non-native grasses as a result of a long history of grazing. The creek channel contains no wetland plant species, and has a limited amount of Mule Fat Scrub on the downstream side of the bridge. This evaluation included a 100-foot buffer from the bridge in order to characterize the site conditions both within and adjacent to the areas that will be impacted by the project; however, direct effects of the project would occur only within Developed areas. No special-status plant species would occur within Developed areas, and the background review further did not reveal any plants that would occur in the study area around the bridge. Therefore, no special-status plant species would be affected by the project.

Special-status animal species that could occur in or adjacent to the impact area and may be affected by the project include Blainville's horned lizard, California red-legged frog, northern California legless lizard, western spadefoot, American badger, communal roosts of yellow-billed magpie, nesting birds, and roosting bats. Project effects on some of these species would be limited to a seasonal period in which they could potentially occur in the impact area, and avoidance of construction during that period would avoid effects on the species. For other species, avoidance and minimization of impacts can be achieved through preconstruction surveys and monitoring construction activities if they are found.

A large majority of the special-status bird species that have potential to occur onsite would only use the area for foraging or occur as transients while moving through the general area, and these uses will not be affected by project activities. Foraging birds are mobile and would move away from construction disturbance. The nocturnal foraging behavior by bats will not be affected because the work will take place during the day, and only those species that roost under bridges could be affected. No evidence of bat roosting was observed during the reconnaissance survey, but the survey was conducted during the winter when small structures that offer little protection from the cold temperatures may not be used. There would be no significant effects on wildlife habitat as a result of the project because only existing developed areas will be temporarily disturbed, and thereafter existing site uses will resume. Of the special-status animal species listed in Appendix D with potential to occur onsite, this analysis determined that the project would not affect the following species: Cooper's hawk, ferruginous hawk, golden eagle, great blue heron, great egret, merlin, northern harrier, prairie falcon, sharp-shinned hawk, tricolored blackbird, and yellow-billed magpie. No designated critical habitat for federally listed species is present on or near the project site; therefore, there would be no effects on designated critical habitat. The following identifies the range of potential impacts to biological resources that may occur from project implementation.

Impact Bio-1. Construction of the project could directly impact special-status animal species. This is a potentially significant but mitigable impact.

The California red-legged frog and western spadefoot, if they use offsite aquatic habitats for breeding, could potentially occur in the project area during wet winter conditions when individuals

move through upland habitats. These species could be injured or killed if they were taking cover under the existing bridge when it is removed, or they could fall into excavated areas for the construction of the abutments. Because the red-legged frog is federally listed and the spadefoot is under review for federal listing, seasonal constraints to the construction period are the primary mitigation measure to avoid effects on these species, and take precedence over nesting birds, which can be avoided in other ways. Communal roost sites of the yellow-billed magpie could be disturbed by construction noise and other activities. Nesting birds protected under the MBTA, raptors protected by California Fish and Game Code, and special-status species could be affected by the project if they are actively nesting in the Ornamental trees, Mule Fat Scrub, or Sycamore Riparian habitats, and construction noise and activity disrupts their behavior, causing them to abandon the nest. Because the impact area is small, it is unlikely that other wildlife species would be affected, but there is a slight chance that Blainville's horned lizard, northern California legless lizard and American badger could be in the area that would be excavated for the abutments or the immediate area. Roosting bats may also be injured or killed during the removal of the existing bridge. The approach recommended is to avoid construction during the period when special-status amphibians may be in the impact area, along with preconstruction surveys and monitoring during removal of the existing bridge to minimize the chance of effects on the other species. The limited work window for amphibians would also reduce the chance of project effects on water quality and downstream Riparian and Wetland resources, in addition to the measures described in Section 5.1.2. The following mitigation measures are required to bring project effects to a level below significance.

***Mitigation Measure BIO-1a:** Avoid construction during the winter months.* Replacement of the bridge shall occur outside to the period in which CRLF and western spadefoot use upland habitats. Construction shall begin after May 1st and be completed by October 31st.

***Mitigation Measure BIO-1b:** Conduct a preconstruction survey for special-status animal species, and avoid any individuals that are found.* Within 48 hours prior to construction, a qualified biologist shall conduct a preconstruction survey of all project impact areas for northern California legless lizards, yellow-billed magpie, and roosting bats, and including a 50-foot buffer for badger dens. If any special-status animal species are found, the initiation of work shall be delayed until they move out of project impact areas on their own volition or measures are taken to exclude them from the site. Avoidance of yellow-billed magpie may be accomplished by conducting work activities during the day after the birds have left the area for foraging. For legless lizards, these measures could include habitat modifications in the impact area that would discourage their presence, such as removal of cover objects and leaf litter, and/or species relocation. Roosting bats can be excluded from the bridge structure after they take flight in the evening through the placement of netting to prevent their reoccupation of the bridge. It is recommended that the qualified biologist work with CDFW on the methods to exclude bats. Badger dens shall be determined whether or not they are active, and whether active dens have young, through placement of wildlife cameras. The cameras shall be left in place a minimum of three days, or as long as necessary to determine the occupancy status of a den. No maternal dens shall be disrupted, and work shall not commence if at least a 200-foot buffer cannot be maintained during the work. Construction can proceed once the young have left the den. Dens occupied by individual badgers within a 50-foot buffer of construction activities should be vacated, as follows. Eviction procedures involve blocking the den incrementally by placing sticks and debris over the entrance for three to five days, to discourage the badger from using the den. Only after the badger has left the den, as determined by the qualified biologist implementing the wildlife camera and/or tracking medium methods, can the den be excavated and work proceed. Destruction of a den is typically done by incrementally excavating it until it is confirmed that no badgers are occupying the den. Excavation using hand tools is the recommended

method for destroying a den. Use of excavating equipment can be done with extreme caution and while being monitored by a qualified biologist. After the den is destroyed, the excavation is to be filled with dirt and compacted to make sure that badgers cannot re-enter or use the burrow during construction. If no special-status animal species are found during the preconstruction survey, work may proceed.

***Mitigation Measure BIO-1c:** Conduct a preconstruction nesting bird survey prior to the start of work and avoid active nests.* Due to the seasonal restriction of the work period for federally listed amphibians and water quality protection, work is expected to occur during the nesting season. A qualified biologist shall conduct a preconstruction survey for nesting birds within a 250-foot buffer of the limits of disturbance. The survey shall be conducted within seven days before the initiation of construction activities. During this survey, the qualified biologist shall search for birds exhibiting nesting behavior and inspect all potential nest substrates in the impact and buffer areas. Any nests identified will be monitored to determine if they are active. If no active nests are found, construction may proceed. If an active nest is found within 50 feet (250 feet for raptors) of the construction area, the biologist, in consultation with the County, shall determine the extent of a buffer to be established around the nest. The buffer will be delineated with flagging, and no work shall take place within the buffer area until the young have left the nest, as determined by the qualified biologist.

***Mitigation Measure BIO-1d:** Conduct biological monitoring during the removal of trees and the existing bridge.* Some special-status animal species may take cover under the existing bridge structure or in the two pepper trees to be removed along the road, and not be identified during the preconstruction survey detailed in Mitigation Measure BIO-1b, such as California legless lizards, various birds and roosting bats. Mobile species such as the Blainville's horned lizard could enter the work area during initial disturbance phases. A qualified biologist shall be present onsite to provide a worker education training and then monitor the initial phases to remove the structure. Because the bridge is planned to be replaced in two phases to keep one of the lanes open, the biologist should be present during the initial stages of both of the phases. The biologist shall monitor construction activities from a safe distance using binoculars and walk through the site to look for disturbed wildlife during breaks. The monitor shall observe the behavior of birds such as the yellow-billed magpie that may be present, and assess any significant effects of the project activities on their behavior. Any animals found shall be moved out of harm's way or allowed to move to an undisturbed location on their own volition. If any federally listed species are found within the work area, the USFWS shall be notified and work shall be halted until the animal has left the site or appropriate authorizations to capture and relocate the individual are received.

Implementation of these mitigation measures would reduce project effects on special-status animal species to a level below significance.

5.1.2 Adverse Effects on Riparian Habitat or Sensitive Natural Communities

The Mule Fat Scrub community does not meet the CEQA criteria for a sensitive natural community, but nevertheless is a type of Riparian habitat and its location below the top of bank deems that it falls within an area under the jurisdiction of the RWQCB and CDFW. The work is expected to take place within the existing road footprint and from the top of bank; therefore, permitting from USACE and RWQCB pursuant to the Clean Water Act would not be needed since no fill will be placed in waters of the U.S. However, bridge construction will occur over a CDFW jurisdictional area, and may require the trimming of some mule fat shrubs. Because the bridge extends across a stream channel, its replacement would require notifying the CDFW consistent with Section 1602 of the

California Fish and Game Code. Since the project will remedy a failing bridge and install a better structure than is currently present, mitigation for project effects on trimming a small amount of Riparian habitat is not expected to be required. In addition, the pepper trees along the road are not riparian and are planted ornamentals. Their removal would also not require mitigation since they are a non-native invasive species.

Sycamore Riparian, classified as the sensitive California Sycamore Woodlands or Sycamore Alluvial Woodland natural communities, is located outside of the project impact area and would not be directly or indirectly affected. A short segment of Southern Willow Scrub appears to be located in Asphaltum Creek downstream from the study area.

Impact Bio-2. Project activities could result in impacts to Asphaltum Creek, including trimming of riparian habitat and sediment and/or pollutants entering the creek channel that could degrade water quality. These are potentially significant but mitigable impacts.

The bridge replacement project may require trimming of Mulefat Scrub to provide construction equipment access. Two pepper trees will also require removal, and while they were planted outside the top of bank, soil disturbance in the area would increase the erosion potential around the creek. The project will involve a limited amount of soil excavation for the construction of the abutments and grading around the edges of the new roadway. Disturbed soils could erode into Asphaltum Creek if these areas are not stabilized prior to significant rainfall. Sedimentation is considered to be a type of pollutant in aquatic systems because it decreases water quality through increased turbidity, fills in pools or causes lateral spread of channels, and covers instream vegetation and other aquatic life. Toxic substances from construction equipment such as oil, gas, diesel, and hydraulic fluid could leak or be spilled and be carried in stormwater runoff into the creek. To prevent indirect effects of sedimentation on Riparian habitat, and on Wetland habitat in the Sisquoc River downstream from the confluence with Asphaltum Creek, the Best Management Practices (BMPs) outlined below are designed to avoid or minimize project effects during and shortly after construction. Similar measures to protect water quality may also be detailed in the permit requirements from CDFW. Limiting the construction period to outside of the rainy season, as described in Mitigation Measure BIO-1a, will also help to reduce potential effects on water quality.

Mitigation Measure BIO-2: Install appropriate erosion and sediment control methods. The following BMPs are required to be implemented during and after the construction phases of the project.

1. At the direction of the project engineer, the use of silt fence, straw wattles, erosion control blankets, straw bales, sandbags, and/or fiber rolls should be employed to protect the habitat of Asphaltum Creek and the Sisquoc River downstream from the project site. All sediment and erosion control measures shall be installed per the engineer's requirements, and in place prior to October 15. Methods that are not biodegradable should be removed after vegetation has become established and following the end of the rainy season (late-spring or summer).
2. Spill kits shall be maintained on the site, and a Spill Response Plan shall be in place.
3. No vehicles or equipment shall be refueled within 50 feet of the drainage feature unless a bermed and lined refueling area is constructed. No vehicles or construction equipment shall be stored overnight within 50 feet of these areas unless drip pans or ground covers are used. All equipment and vehicles should be checked and maintained on a daily basis to

ensure proper operation and to avoid potential leaks or spills. Construction staging areas should attain zero discharge of stormwater runoff into these habitats.

4. No concrete washout shall be conducted on the site outside of an appropriate containment system. Washing of equipment, tools, etc. should not be allowed in any location where the tainted water could enter onsite drainages.
5. The use of chemicals, fuels, lubricants, or biocides shall be in compliance with all local, state, and federal regulations. All uses of such compounds shall observe label and other restrictions mandated by the U.S. Environmental Protection Agency, California Department of Food and Agriculture, and other state and federal legislation.
6. All project-related spills of hazardous materials within or adjacent to the project site should be cleaned up immediately.
7. Should any debris from the demolition of the existing bridge fall into the stream channel, it shall be removed immediately by hand. At no time shall equipment enter the stream channel to perform remedial measures that have not been anticipated, without prior approval from the regulatory agencies.
8. Areas with disturbed soils shall be restored under the direction of the project engineer in consultation with a qualified restoration ecologist as needed. Methods shall include recontouring graded areas to blend in with existing natural contours and applying the native seed mix detailed below. The native seed mix shall be applied to the graded areas through either direct hand seeding or hydroseeding methods on the disturbed soil area prior to the onset of the rainy season (by October 15).

Table 1. Native Erosion Control Seed Mix

Species	Application Rate (lbs./acre)
<i>Bromus carinatus</i> (California brome)	10
<i>Stipa pulchra</i> (purple needlegrass)	5
<i>Trifolium wildenovii</i> (tomcat clover)	5
<i>Vulpia microstachys</i> (six weeks fescue)	5
Total	25

Implementation of the above BMPs would bring project impacts on Riparian habitats and federally protected wetlands to a level below significance.

5.1.3 Protected Wetlands

No Wetland habitat is present in the study area, and project impacts will remain outside of the stream channel. Therefore, there would be no direct effects on Wetland habitat. Riverine habitat in the Sisquoc River could be considered a type of Wetland under state and federal jurisdiction. Indirect effects on protected Wetlands could occur as a result of sedimentation and toxic substances from surface runoff during rainstorms. The BMPs described in Mitigation Measure BIO-2 would reduce potential project effects to a level below significance.

5.1.4 Interference with Movement of Native Fish or Wildlife, Wildlife Corridors, and Wildlife Nursery Sites

The proposed project would temporarily affect developed areas, and no work would be done in

aquatic habitat. Asphaltum Creek is highly ephemeral and is not expected to support fish. The movement of wildlife, wildlife corridors, and wildlife nursery sites would not be affected by the project because these functions would not be present in a Developed land use type, and the proposed project will utilize a bridge span which is conducive to wildlife movement.

Project effects on the movement of native fish or wildlife, wildlife corridors and wildlife nursery sites are expected to be less than significant, and no mitigation is required.

5.1.5 Conflicts with Local Policies or Ordinances, Such as Tree Preservation

The project does not involve the removal of oak trees. Two non-native pepper trees will be removed on the north side of the road. No other local policies or ordinances apply to the project. There would be no conflicts with local policies or ordinances, and no mitigation is required.

5.1.6 Conflicts with Conservation Plans

No local, regional or state conservation plans have been prepared for the area in which the project is located. There would be no conflicts with conservation plans, and no mitigation is required.

5.2 Cumulative Effects

Other projects in the general area that could affect sensitive biological resources include the extensive areas of mining in the Sisquoc River and conversion of floodplain to agricultural fields. These projects permanently convert sensitive habitat for numerous special-status species to land uses incompatible with wildlife habitat, and the activities are likely to result in direct mortality of individuals. While these larger projects negatively influence biological resources, the subject project has a very small footprint and is temporary in nature. By replacing the existing bridge that is structurally unsound with a new structure, bank erosion will be reduced. With the incorporation of the mitigation measures described above, there would be no significant effects on biological resources. Because there would be no significant effects of the project, it would not contribute to cumulative effects of other projects in the area.

6.0 CONCLUSIONS

The proposed project involves the replacement of a bridge that is structurally unsound. The bridge crosses Asphaltum Creek, which is an ephemeral drainage with infrequent flows and little to no value as aquatic habitat. No wetland or special-status plants are present. A patch of Mule Fat Scrub, a type of riparian habitat, was identified on the downstream side of the bridge, but there are no seasonal pools in the channel that would support prolonged ponding that could be used by wildlife. The plans involve constructing abutments outside of the channel, leaving the existing structures generally in place, and installing a prefabricated structure to span the channel. An existing pier in the channel would be carefully removed to restore the channel to a better condition than is currently present. Under this proposal, it is expected that permitting from USACE or RWQCB pursuant to the Clean Water Act (Sections 404 and 401) would not be needed since placement of fill into waters of the U.S. would not occur. CDFW requires notification of the proposed activity through the Lake and Streambed Alteration Agreement program since work will occur over and immediately within their jurisdictional area. Recommended mitigation measures include timing the construction to take place outside of the rainy season to avoid effects on special-status amphibians and water quality. Additional BMPs are detailed to prevent erosion and potential effects of toxic substances from construction equipment from entering aquatic habitats.

Preconstruction surveys and monitoring by a qualified biologist would ensure that there are no significant effects on biological resources such as nesting birds or other wildlife.

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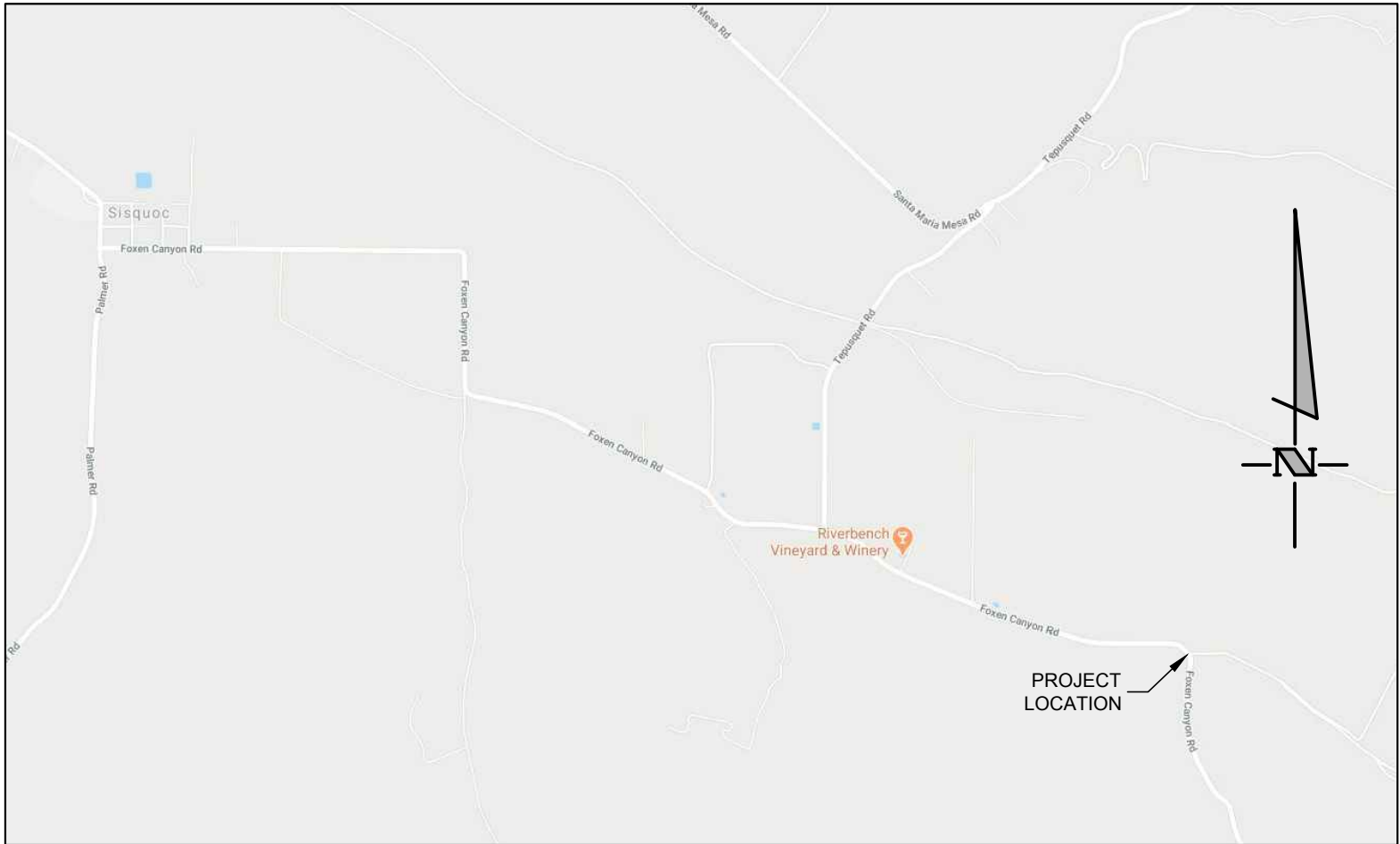
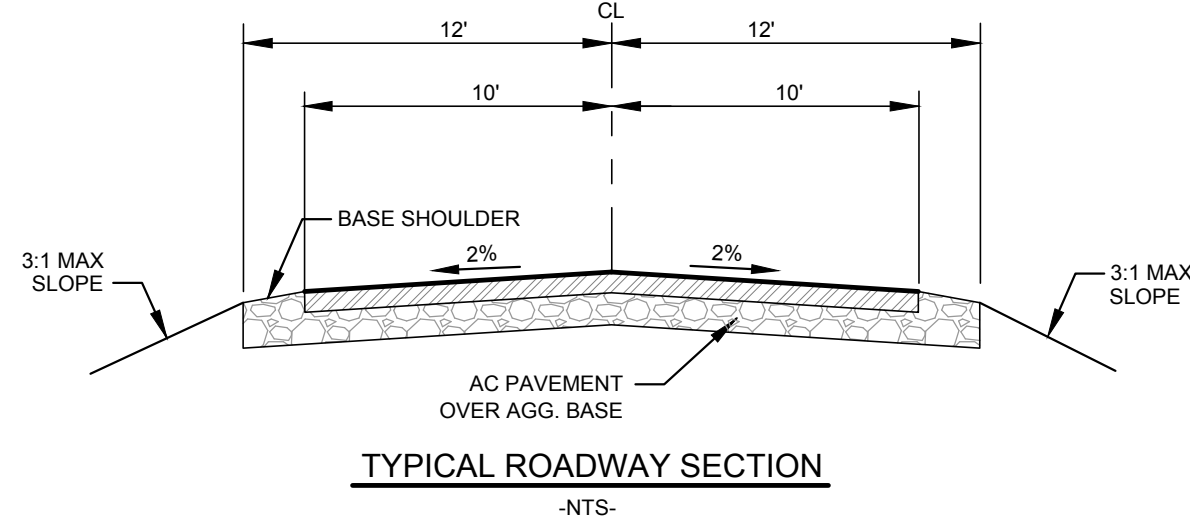
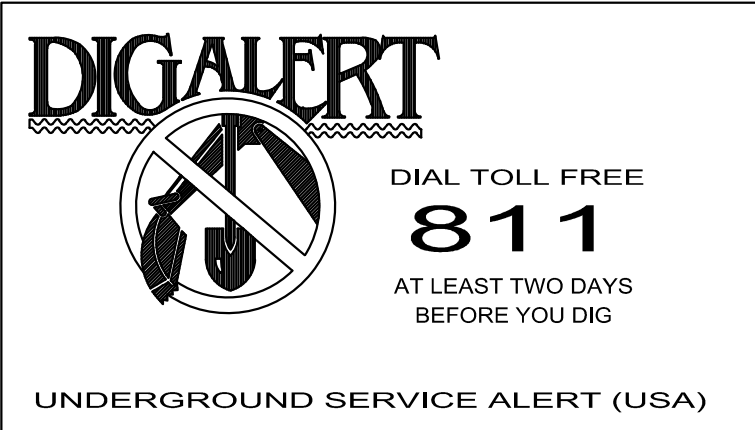
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- United States Fish and Wildlife Service (USFWS). 2016. Recovery Plan for the Santa Barbara County Distinct Population Segment of the California Tiger Salamander (*Ambystoma californiense*). Pacific Southwest Region 8, Ventura, California.
- United States Fish and Wildlife Service (USFWS). 2020a. National Wetlands Inventory. U.S. Department of the Interior, Washington, D.C. Accessed via: <http://www.fws.gov/wetlands/> in December 2020.
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APPENDIX A

Site Plans





SHEET INDEX:

- C-0.1 TITLE/NOTE SHEET & GENERAL NOTES
C-1.1 ROADWAY PLAN & PROFILE
C-2.1 EROSION CONTROL PLAN

- S-1 TYPICAL MODULAR BRIDGE DETAIL
S-2.1 STRUCTURAL PLAN

SCOPE OF WORK:

THE SCOPE OF WORK FOR THIS PROJECT INCLUDE THE REPLACEMENT OF AN EXISTING 70 YEAR OLD BRIDGE ON A PRIVATE ROAD. REMOVAL OF THE EXISTING BRIDGE RAILING & DECKING WHILE PROTECTING THE EXISTING BRIDGE SUPPORT STRUCTURE WITHIN THE LIMITS OF THE CREEK BANKS. CONSTRUCTION OF TWO CONCRETE ABUTMENTS OUTSIDE OF THE CREEK BANKS FOR THE PLACEMENT OF A PRE-MANUFACTURED BRIDGE TO SPAN THE CREEK. THE EXISTING ROADWAY WILL ALSO BE RE-GRADED AND REPLACED IN-KIND.

SANTA BARBARA COUNTY BUILDING & SAFETY DIVISION GRADING NOTES

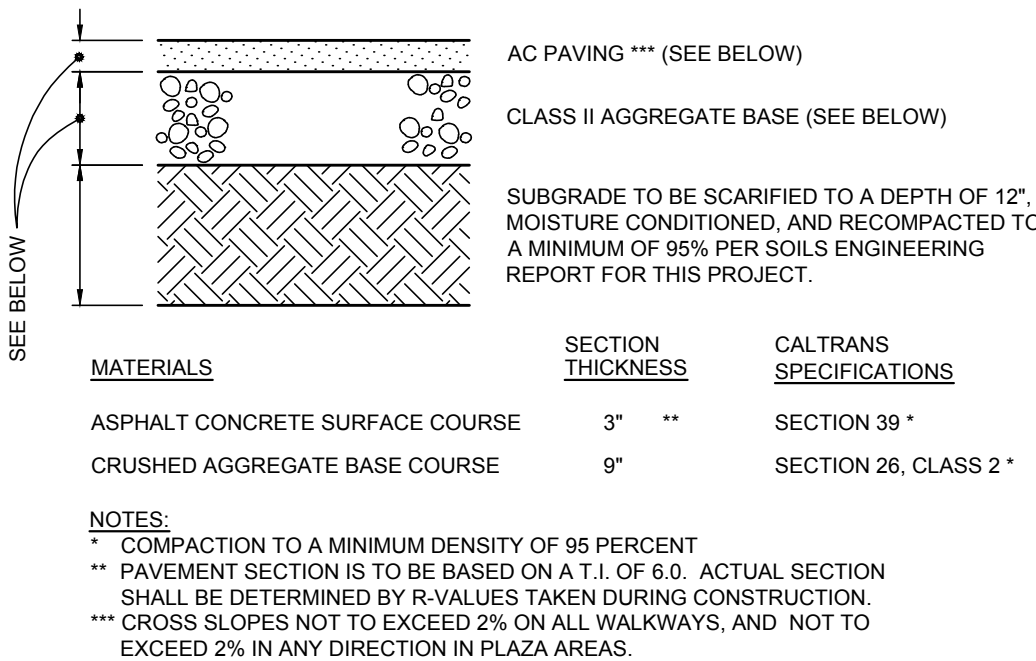
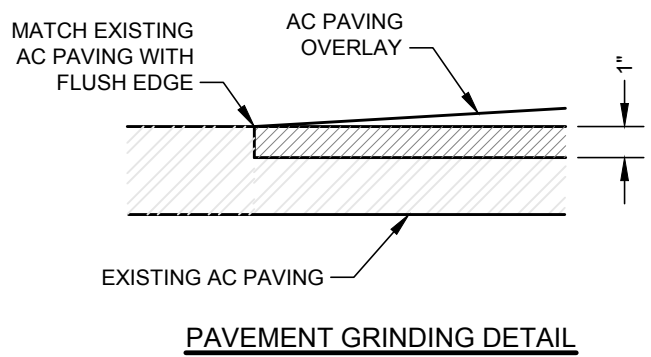
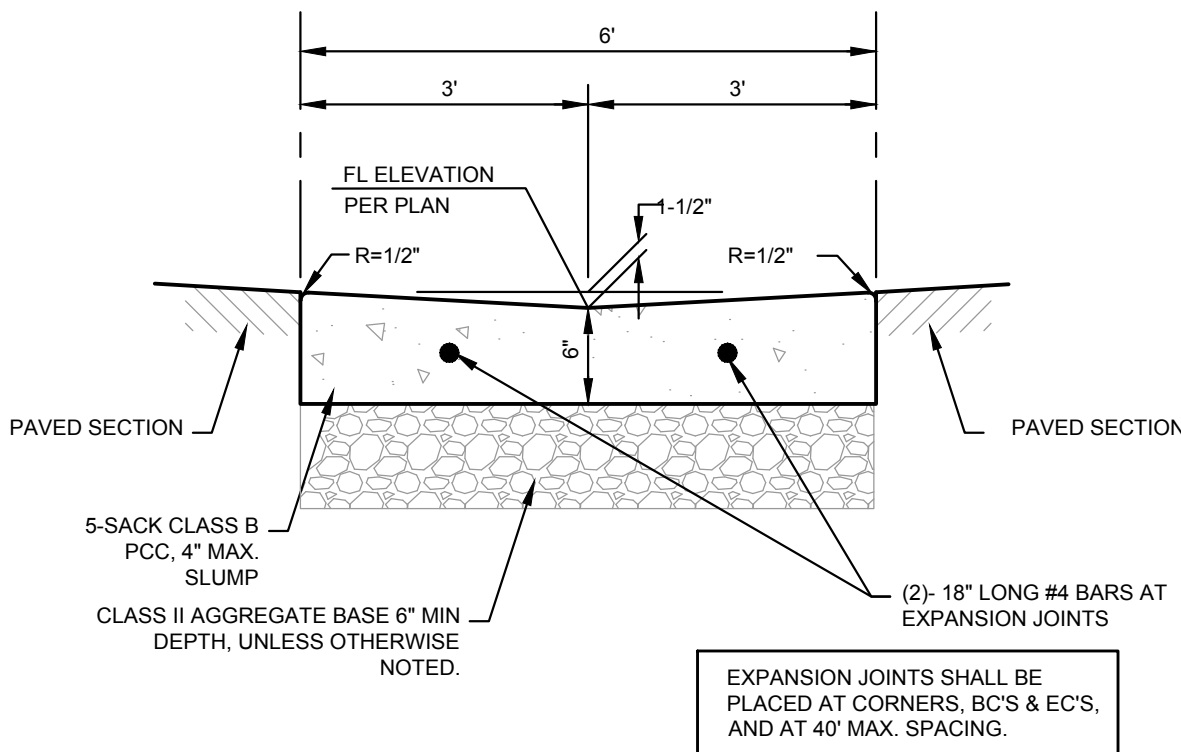
- ALL GRADING SHALL CONFORM TO SANTA BARBARA COUNTY CODE CHAPTER 14 AND STANDARDS AND REQUIREMENTS PERTAINING THERETO THESE CONSTRUCTION DRAWINGS AND THE RECOMMENDATIONS OF THE SOILS ENGINEER AND ENGINEERING GEOLOGIST.
- CONTRACTOR TO NOTIFY THE COUNTY GRADING INSPECTOR AND SOILS LABORATORY AT LEAST 48 HOURS BEFORE START OF GRADING WORK OR ANY PRE-CONSTRUCTION MEETING.
- CONTRACTOR SHALL EMPLOY ALL LABOR, EQUIPMENT AND METHODS REQUIRED TO PREVENT HIS OPERATIONS FROM PRODUCING DUST IN AMOUNTS DAMAGING TO ADJACENT PROPERTY, CULTIVATED VEGETATION AND DOMESTIC ANIMALS OR CAUSING A NUISANCE TO PERSONS OCCUPYING BUILDINGS IN THE VICINITY OF THE JOB SITE. CONTRACTOR SHALL BE RESPONSIBLE FOR DAMAGE CAUSED BY DUST FROM HIS GRADING OPERATION.
- BEFORE BEGINNING WORK REQUIRING EXPORTING OR IMPORTING OF MATERIALS, THE CONTRACTOR SHALL OBTAIN APPROVAL FROM PUBLIC WORKS ROAD DIVISION FOR HAUL ROUTES USED AND METHODS PROVIDED TO MINIMIZE THE DEPOSIT OF SOILS ON COUNTY ROADS. GRADING/ROAD INSPECTORS SHALL MONITOR THIS REQUIREMENT WITH THE CONTRACTOR.
- THE GEOTECHNICAL ENGINEER SHALL PROVIDE OBSERVATION AND TESTING DURING GRADING OPERATIONS IN THE FIELD AND SHALL SUBMIT A FINAL REPORT STATING THAT ALL EARTH WORK WAS PROPERLY COMPLETED AND IS IN SUBSTANTIAL CONFORMANCE WITH THE REQUIREMENTS OF THE GRADING ORDINANCE.
- AREAS TO BE GRADED SHALL BE CLEARED OF ALL VEGETATION INCLUDING ROOTS AND OTHER UNSUITABLE MATERIAL FOR A STRUCTURAL FILL THEN SCARIFIED TO A DEPTH OF 6 INCHES PRIOR TO PLACING OF ANY FILL. CALL GRADING INSPECTOR FOR INITIAL INSPECTION.
- A THOROUGH SEARCH SHALL BE MADE FOR ALL ABANDONED MAN MADE FACILITIES SUCH AS SEPTIC TANK SYSTEMS, FUEL OR WATER STORAGE TANKS, AND PIPELINES OR CONDUITS. ANY SUCH FACILITIES ENCOUNTERED SHALL BE REMOVED AND THE DEPRESSION PROPERLY FILLED AND COMPACTED UNDER OBSERVATION OF THE GEOTECHNICAL ENGINEER.
- AREAS WITH EXISTING SLOPES WHICH ARE TO RECEIVE FILL MATERIAL SHALL BE KEYED AND BENCHMARKED. THE DESIGN AND INSTALLATION OF THE KEYWAY SHALL BE PER THE GEOTECHNICAL ENGINEER'S RECOMMENDATION OR PER COUNTY STANDARD DETAIL NO. G-13.
- FILL MATERIAL SHALL BE SPREAD IN LIFTS NOT EXCEEDING 6 INCHES IN COMPACTED THICKNESS, MOISTENED OR DRIED AS NECESSARY TO NEAR OPTIMUM MOISTURE CONTENT AND COMPACTED BY AN APPROVED METHOD. FILL MATERIAL SHALL BE COMPACTED TO A MINIMUM OF 90% MAXIMUM DENSITY AS DETERMINED BY 1957 ASTM D-1557-91 MODIFIED PROCTOR (AASHTO) TEST OR SIMILAR APPROVED METHODS. SOME FILL AREAS MAY REQUIRE COMPACTION TO A GREATER DENSITY IF CALLED FOR IN THE CONSTRUCTION DOCUMENTS. SOIL TESTS SHALL BE CONDUCTED AT NOT LESS THAN ONE TEST FOR EACH 18 INCHES OF FILL AND/OR FOR EACH 500 CUBIC YARDS OF FILL PLACED.
- CUT SLOPES SHALL NOT EXCEED A GRADE OF 1-1/2 HORIZONTAL TO 1 VERTICAL. FILL AND COMBINATION FILL AND CUT SLOPES SHALL NOT EXCEED 2 HORIZONTAL TO 1 VERTICAL. SLOPES OVER THREE FEET IN VERTICAL HEIGHT SHALL BE PLANTED WITH APPROVED PERENNIAL OR TREATED WITH EQUALLY APPROVED EROSION CONTROL MEASURES PRIOR TO FINAL INSPECTION.
- SURFACE DRAINAGE SHALL BE PROVIDED AT A MINIMUM OF 2% FOR 5 FEET AWAY FROM THE FOUNDATION LINE OR ANY STRUCTURE.
- ALL TREES THAT ARE TO REMAIN ON SITE SHALL BE TEMPORARILY FENCED AND PROTECTED AROUND THE DRIP LINE DURING GRADING.
- AN EROSION AND SEDIMENT CONTROL PLAN SHALL BE REQUIRED AS PART OF THE GRADING PLAN AND PERMIT REQUIREMENTS.
- BEST MANAGEMENT PRACTICES FOR CONSTRUCTION ACTIVITIES: ERODED SEDIMENTS AND OTHER POLLUTANTS MUST BE RETAINED ON SITE AND MAY NOT BE TRANSPORTED FROM THE SITE VIA SHEET FLOW, SWALES, AREA DRAINS, NATURAL DRAINAGE COURSES, OR WIND. STOCKPILES OF EARTH AND OTHER CONSTRUCTION RELATED MATERIALS MUST BE PROTECTED FROM BEING TRANSPORTED FROM THE SITE BY THE FORCES OF WIND OR WATER. FUELS, OILS, SOLVENTS, AND OTHER TOXIC MATERIALS MUST BE STORED IN ACCORDANCE WITH THEIR LISTING AND ARE NOT TO CONTAMINATE THE SOIL AND SURFACE WATERS. ALL APPROVED STORAGE CONTAINERS ARE TO BE PROTECTED FROM THE WEATHER. SPILLS MAY NOT BE WASHED INTO THE DRAINAGE SYSTEM AND SHALL BE CLEAN-UP AND DISPOSED OF IN AN APPROPRIATE MANNER FOR THE SPILLED MATERIAL. EXCESS OR WASTE CONCRETE MAY NOT BE WASHED INTO PUBLIC WAY OR ANY OTHER DRAINAGE SYSTEM. PROVISIONS MUST BE MADE TO RETAIN CONCRETE WASTES ON SITE UNTIL THEY CAN BE DISPOSED AS A SOLID WASTE. TRASH AND CONSTRUCTION RELATED SOLID WASTE MUST BE DEPOSITED INTO A COVERED WASTE RECEPTACLE TO PREVENT CONTAMINATION OF RAINWATER AND DISPERSAL BY WIND. SEDIMENTS AND OTHER MATERIAL MAY NOT BE TRACKED FROM TO THE SITE BY VEHICLE TRAFFIC. THE CONSTRUCTION ENTRANCE ROADWAYS MUST BE STABILIZED SO AS TO INHIBIT SEDIMENTS FROM BEING DEPOSITED INTO THE PUBLIC WAY. ACCIDENTAL DEPOSITION MUST BE SWEEPED UP IMMEDIATELY AND MAY NOT BE WASHED DOWN BY RAIN OR OTHER MEANS. ANY SLOPES WITH DISTURBED SOILS OR DENUDED OF VEGETATION MUST BE STABILIZED SO AS TO MINIMIZE EROSION BY WIND AND WATER.
- IF GRADING OPERATIONS OCCUR DURING NOV 1 THROUGH APR 15, NO GRADING SHALL OCCUR UNLESS APPROVED EROSION AND SEDIMENT CONTROL MEASURES ARE IN PLACE. DISCHARGES OF SEDIMENT FROM THE PROJECT SITE MAY RESULT IN A "STOP WORK ORDER."
- ALL EARTHWORK ON HILLSIDES, SLOPING OR MOUNTAINOUS TERRAIN SHALL BE STABILIZED TO PROTECT AND PREVENT LOSS OF SOILS AS NECESSARY, YEAR-ROUND.

EARTHWORK ESTIMATES:
EXCAVATION: 50 CUBIC YARDS
IMPORT: 150 CUBIC YARDS (FROM PROPERTY)
EXPORT: 0 CUBIC YARDS
FILL: 200 CUBIC YARDS
AC/BASE: 200 CUBIC YARDS

AREA OF DISTURBANCE: 0.20 ACRES

DEFERRED SUBMITTAL:

THE FINAL PRE-MANUFACTURED BRIDGE CALCULATIONS & DRAWINGS WILL BE SUBMITTED TO THE COUNTY OF SANTA BARBARA FOR APPROVAL AT FUTURE DATE PRIOR TO INSTALLATION.



LEGEND:

PROPOSED	EXISTING
— 340 — INDEX CONTOUR	— 340 — INDEX CONTOUR
— 342 — INTERMEDIATE CONTOUR	— 342 — INTERMEDIATE CONTOUR
— SD — STORM DRAIN	— SD — STORM DRAIN
— W — WATER LINE	— W — WATER LINE
— SS — SANITARY SEWER	— S — SEWER LINE
— E — ELECTRICAL CONDUIT	— E — ELECTRICAL CONDUIT
— TEL — COMMUNICATION CONDUIT	— TEL — FIBER OPTICAL CONDUIT
— JT — JOINT TRENCH	— JT — JOINT TRENCH
— G — GAS LINE	— G — GAS LINE
— 347.20 — ELEVATION	— (347.20) — ELEVATION
— 2% — SLOPE & DIRECTION OF FLOW	— (2%) — SLOPE & DIRECTION OF FLOW
— GRADED SWALE	— FENCE
— - - - - PROPERTY LINE	
— - - - - SAWCUT	

ABBREVIATIONS:

(E)	EXISTING	L	LENGTH
EG	EXISTING GROUND	S	SLOPE
EP	EDGE OF PAVEMENT	INV	INVERT
FS	FINISH SURFACE	HDPE	HIGH DENSITY POLYETHYLENE
FG	FINISH GRADE	SDMH	STORM DRAIN MANHOLE
FL	FLOW LINE	SSMH	SANITARY SEWER MANHOLE
GB	GRADE BREAK		
TG	TOP OF GRATE		
TC	TOP OF CURB		
TW	TOP OF WALL		
RM	RIM OR TOP OF FRAME HOLDING GRATE		

FLOOD CONTROL NOTE:

THE PROPOSED REPLACEMENT OF THE BRIDGE WILL NOT REDUCE THE EXISTING CONVEYANCE CAPACITY. NO UTILITY LINES WILL BE PLACED BELOW EXISTING SOFFIT OF BRIDGE

COUNTY APPROVAL SIGNATURES

COUNTY OF SANTA BARBARA
BUILDING & SAFETY DEPARTMENT

SANTA BARBARA COUNTY FIRE

COUNTY OF SANTA BARBARA
PLANNING & DEVELOPMENT

COUNTY OF SANTA BARBARA
FLOOD CONTROL

ABOVE GRADE ENGINEERING

245 Higuera Street
San Luis Obispo, CA 93401
(805) 540-5115
abovegradeengineering.com
A California Corporation
Scott Steffen PE # 58236

ENGINEER OF RECORD:

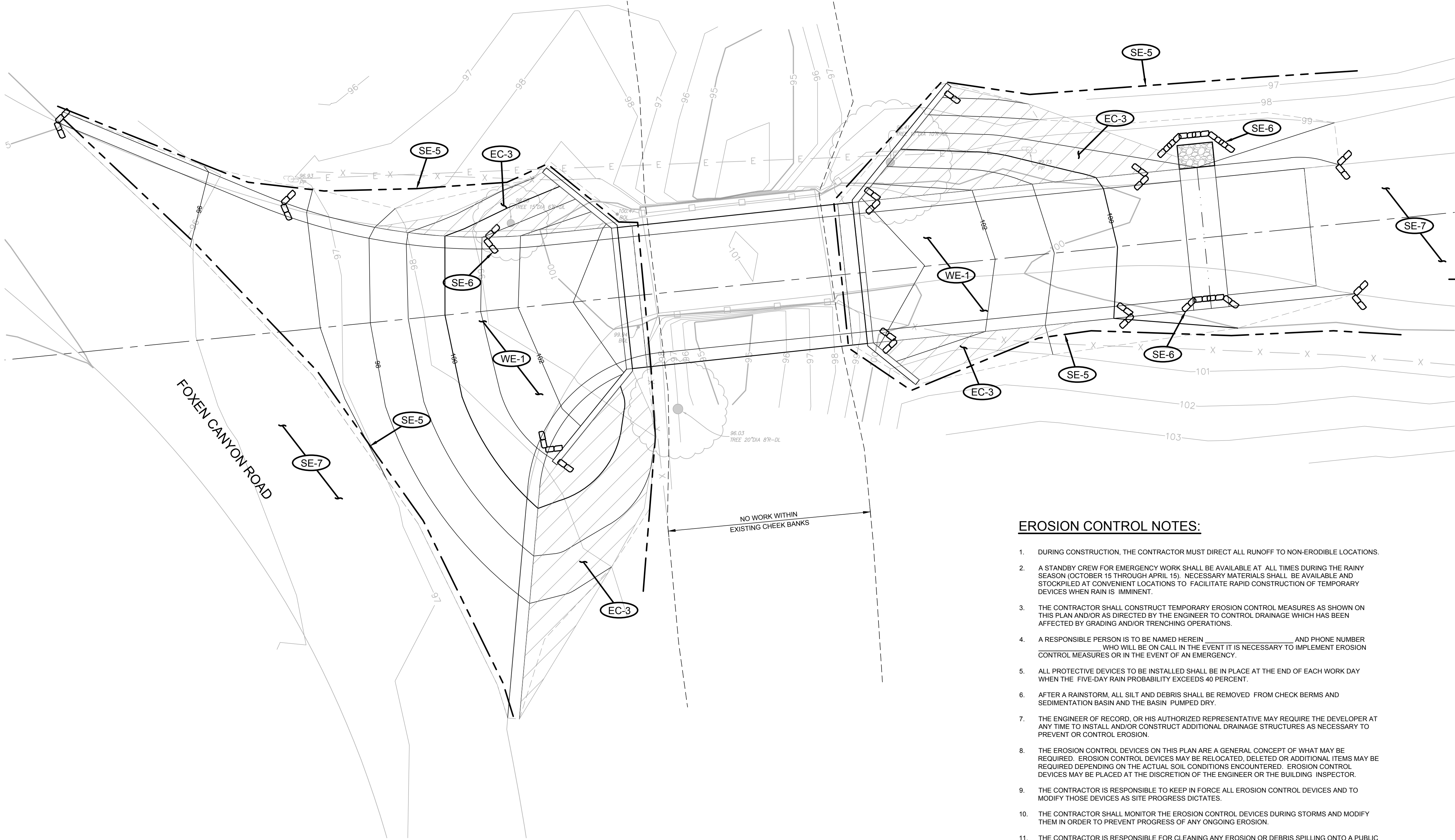


DATE:

RANCHO SISQUOC WINERY BRIDGE
7000 FOXEN CANYON ROAD

TITLE SHEET & GENERAL NOTES

DATE									
REVISION									
NO.									
DESIGNED: SJS									
DRAWN: DWB									
JOB NUMBER: 20061									
SHEET:									
C-0.1									
DATE: JUNE 29, 2020									



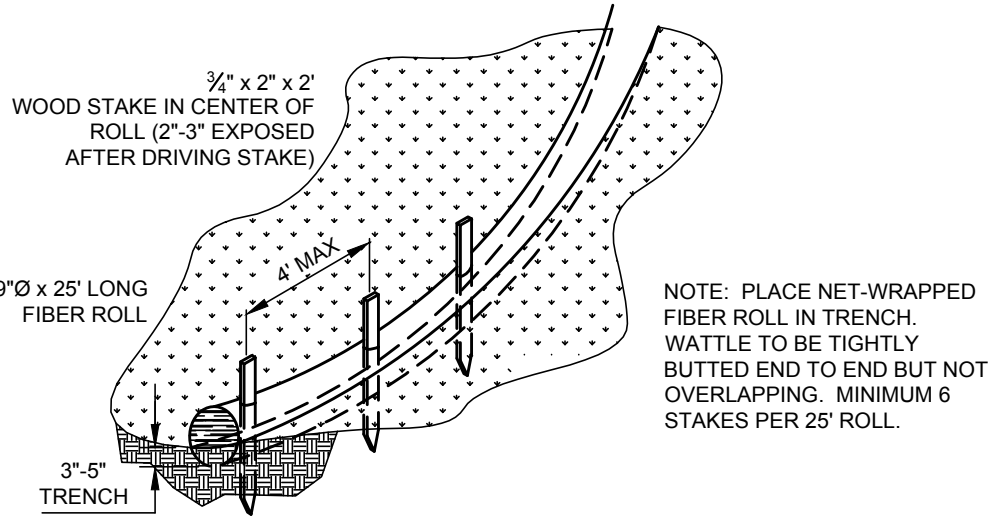
EROSION CONTROL NOTES:

SYMBOL	CASQA#	DESCRIPTION
	SE-5	INSTALL FIBER ROLLS PER MANUFACTURERS SPECIFICATIONS.
	EC-3	INSTALL HYDROMULCH TO DISTURBED SLOPES.
	SE-6	INSTALL GRAVEL BAG BERM.
	WE-1	PROVIDE WIND EROSION CONTROL.
	SE-7	PROVIDE STREET SWEEPING & VACUUMING.
	WM-1	MATERIAL DELIVERY & STORAGE
	WM-3	CONCRETE WASHOUT

* NOT ALL EROSION CONTROL MEASURES LISTED ABOVE ARE USED ON THIS PLAN, BUT ARE PROVIDED FOR THE FUTURE USE BY THE QUALIFIED SWPPP PRACTITIONER PRIOR OR DURING CONSTRUCTION.

EROSION CONTROL NOTES:

- DURING CONSTRUCTION, THE CONTRACTOR MUST DIRECT ALL RUNOFF TO NON-ERODIBLE LOCATIONS.
- A STANDBY CREW FOR EMERGENCY WORK SHALL BE AVAILABLE AT ALL TIMES DURING THE RAINY SEASON (OCTOBER 15 THROUGH APRIL 15). NECESSARY MATERIALS SHALL BE AVAILABLE AND STOCKPILED AT CONVENIENT LOCATIONS TO FACILITATE RAPID CONSTRUCTION OF TEMPORARY DEVICES WHEN RAIN IS IMMINENT.
- THE CONTRACTOR SHALL CONSTRUCT TEMPORARY EROSION CONTROL MEASURES AS SHOWN ON THIS PLAN AND/OR AS DIRECTED BY THE ENGINEER TO CONTROL DRAINAGE WHICH HAS BEEN AFFECTED BY GRADING AND/OR TRENCHING OPERATIONS.
- A RESPONSIBLE PERSON IS TO BE NAMED HEREIN _____ AND PHONE NUMBER _____ WHO WILL BE ON CALL IN THE EVENT IT IS NECESSARY TO IMPLEMENT EROSION CONTROL MEASURES OR IN THE EVENT OF AN EMERGENCY.
- ALL PROTECTIVE DEVICES TO BE INSTALLED SHALL BE IN PLACE AT THE END OF EACH WORK DAY WHEN THE FIVE-DAY RAIN PROBABILITY EXCEEDS 40 PERCENT.
- AFTER A RAINSTORM, ALL SILT AND DEBRIS SHALL BE REMOVED FROM CHECK BERMS AND SEDIMENTATION BASIN AND THE BASIN PUMPED DRY.
- THE ENGINEER OF RECORD, OR HIS AUTHORIZED REPRESENTATIVE MAY REQUIRE THE DEVELOPER AT ANY TIME TO INSTALL AND/OR CONSTRUCT ADDITIONAL DRAINAGE STRUCTURES AS NECESSARY TO PREVENT OR CONTROL EROSION.
- THE EROSION CONTROL DEVICES ON THIS PLAN ARE A GENERAL CONCEPT OF WHAT MAY BE REQUIRED. EROSION CONTROL DEVICES MAY BE RELOCATED, DELETED OR ADDITIONAL ITEMS MAY BE REQUIRED DEPENDING ON THE ACTUAL SOIL CONDITIONS ENCOUNTERED. EROSION CONTROL DEVICES MAY BE PLACED AT THE DISCRETION OF THE ENGINEER OR THE BUILDING INSPECTOR.
- THE CONTRACTOR IS RESPONSIBLE TO KEEP IN FORCE ALL EROSION CONTROL DEVICES AND TO MODIFY THOSE DEVICES AS SITE PROGRESS DICTATES.
- THE CONTRACTOR SHALL MONITOR THE EROSION CONTROL DEVICES DURING STORMS AND MODIFY THEM IN ORDER TO PREVENT PROGRESS OF ANY ONGOING EROSION.
- THE CONTRACTOR IS RESPONSIBLE FOR CLEANING ANY EROSION OR DEBRIS SPILLING ONTO A PUBLIC STREET.
- THE CONTRACTOR SHALL CONTACT THE ENGINEER IN THE EVENT THAT THE EROSION CONTROL PLAN AS DESIGNED REQUIRES ANY SUBSTANTIAL REVISIONS.
- NO CUT OR FILL SLOPES SHALL BE STEEPER THAN 2' HORIZONTAL TO 1' VERTICAL.
- ALL STRAW WATTLES TO BE INSTALLED AS INDICATED PER MANUFACTURER'S RECOMMENDATIONS.
- SILT FENCE SHALL BE INSTALLED AS INDICATED PER MANUFACTURER'S RECOMMENDATIONS.
- SPECIFIC EROSION CONTROL NOTES REFER TO THE CALIFORNIA STORMWATER BMP HANDBOOK AND CALTRANS STANDARD SPECIFICATIONS. THE CONTRACTOR IS RESPONSIBLE TO INSTALL AND MAINTAIN ADEQUATE EROSION CONTROL DEVICES AT ALL TIMES PER THE RECOMMENDATIONS SET FORTH IN SAID REFERENCES.
- TEMPORARY EROSION CONTROL MEASURES SHALL BE REMOVED WHEN PERMANENT IMPROVEMENTS, PLANTINGS, AND FACILITIES ARE IN PLACE. TEMPORARY MEASURES SHALL BE REMOVED PRIOR TO FINAL INSPECTION APPROVALS.



FIBER ROLLS

-NTS-

AIR QUALITY:

- REDUCE THE AMOUNT OF DISTURBED AREA WHERE POSSIBLE.
- USE OF WATER TRUCKS OR SPRINKLER SYSTEMS IN SUFFICIENT QUANTITIES TO PREVENT AIRBORNE DUST FROM LEAVING THE SITE. INCREASED WATERING FREQUENCY WOULD BE REQUIRED WHENEVER WIND SPEEDS EXCEED 15 MPH. RECLAIMED (NONPOTABLE) WATER SHOULD BE USED WHENEVER POSSIBLE.
- ALL DIRT STOCK-PILE AREAS SHOULD BE SPRAYED DAILY AS NEEDED.
- ALL ROADWAYS, DRIVEWAYS, SIDEWALKS, ETC. TO BE PAVED SHALL BE COMPLETED AS SOON AS POSSIBLE.
- BUILDING PADS SHALL BE LAID AS SOON AS POSSIBLE AFTER GRADING UNLESS SEEDING OR SOIL BINDERS ARE USED.
- DEVELOPMENTAL BURNING SHALL BE PROHIBITED UNLESS THE APPLICANT OBTAINS A BURN PERMIT FROM THE AIR POLLUTION CONTROL DISTRICT AND CALIFORNIA DEPARTMENT OF FORESTRY/COUNTY FIRE.

ENGINEER OF RECORD:



DATE:

RANCHO SISQUOC WINERY BRIDGE
7000 FOXEN CANYON ROAD

EROSION CONTROL PLAN

NO.	REVISION	DATE

DESIGNED: SJS
DRAWN: DWB
JOB NUMBER: 20061

SHEET:

C-2.1

DATE: JUNE 29, 2020

Sisquoc Bridge

Rancho Sisquoc Santa Maria, California

The use of these plans and specifications shall be restricted to the original site for which they were prepared and publication thereof is expressly limited to such use. Reproduction or publication by any method, in whole or in part, is prohibited. Title to these plans and specifications remain with Ashley & Vance Engineering, Inc. without prejudice. Visual contact with these plans and specifications shall constitute prima facie evidence of the acceptance of these restrictions.

Engineer of Record:

Sisquoc Bridge
Rancho Sisquoc
Santa Maria, California

Revision:

	Plan Check	21 Sept. 2020



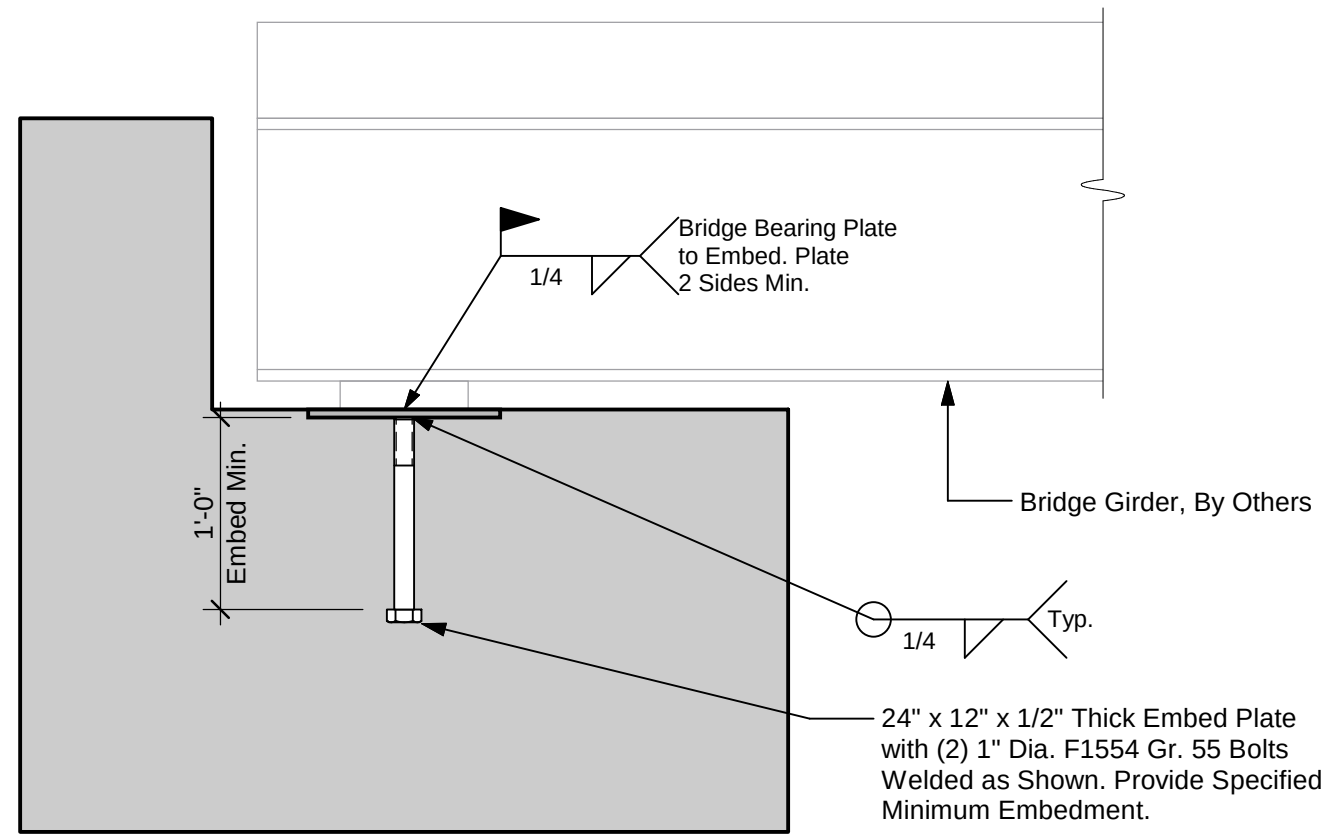
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SOILS VALUES (per Soils Report)
Bearing Pressure 2500 psf
Lateral Passive EFP 200 pcf
At-Rest EFP 55 pcf
Active EFP 35 pcf

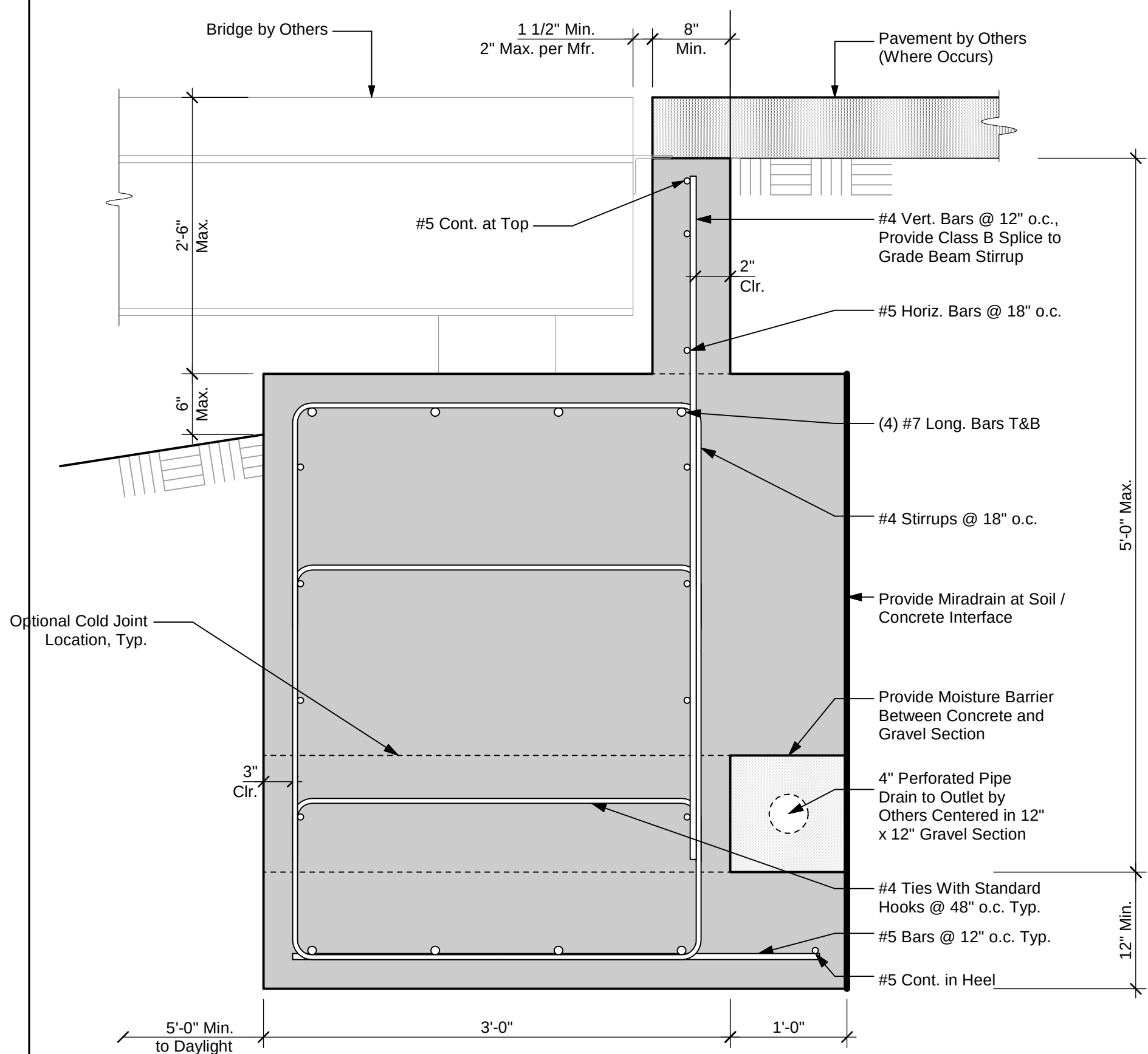
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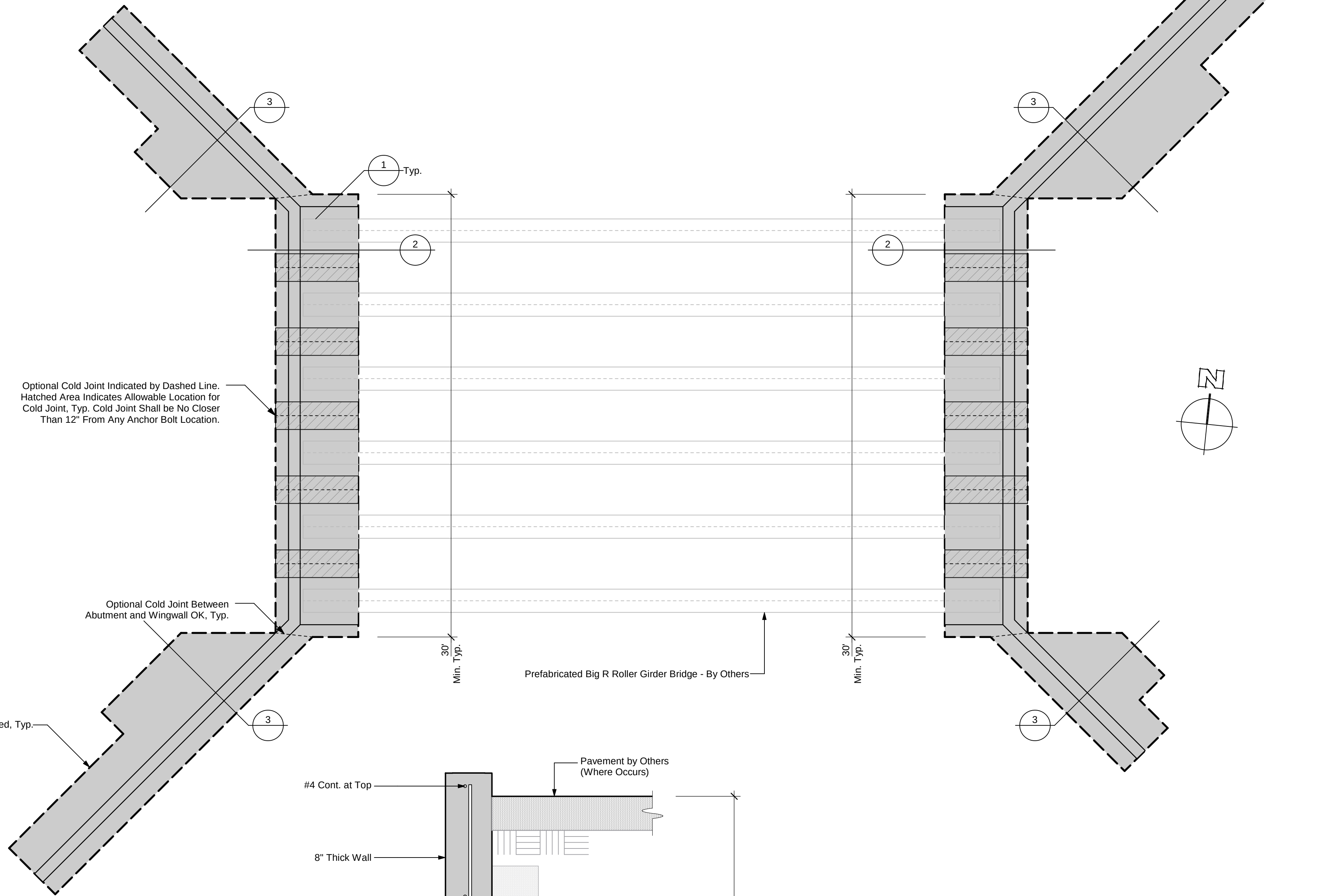
1 BEARING PAD ANCHORAGE

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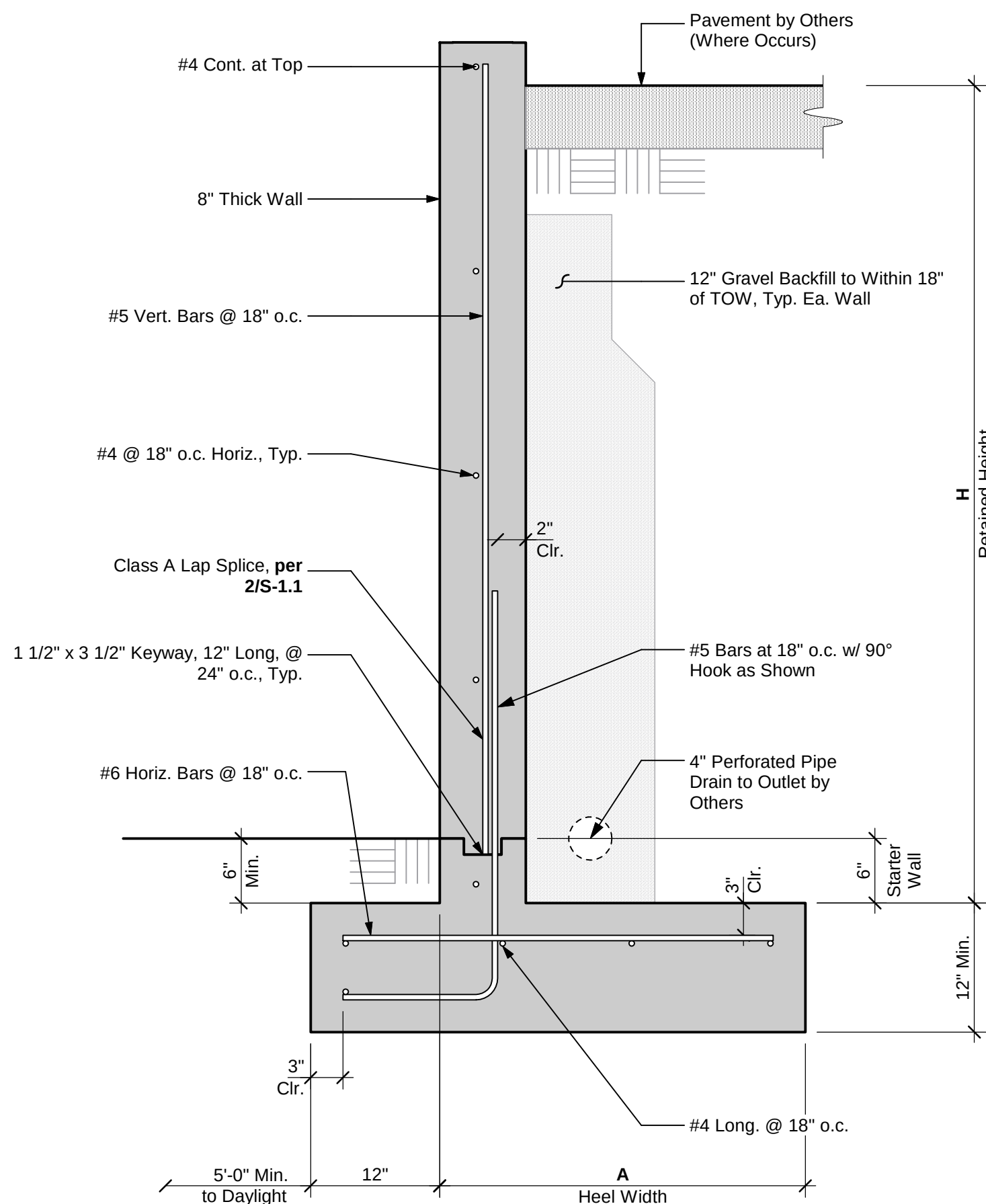
2 ABUTMENT FOR PREFABRICATED BRIDGE

Scale: N.T.S.



3 RETAINING WING WALL

Scale: N.T.S.



Retaining Wall Geometry Schedule

H	A
3'-0"	2'-0"
5'-0"	4'-0"

GENERAL FOUNDATION NOTES

- Please see Soils Report for additional specifications and recommendations. It is the contractor's responsibility to obtain a copy of the soils report from the owner or owners representative. Prior to the contractor requesting a Building Department foundation inspection, the Soils Engineer shall advise the building inspector in writing that:
- Building pad was prepared in accordance with soils report
 - Utility trenches have been properly backfilled and compacted, and
 - Foundation excavations, the soil's expansive characteristics and bearing capacity conform to the soils report.

See General Notes & Specifications for additional requirements and material specifications.
All dimensions per Architectural plans
Contractor to VERIFY all dimensions w/ Architectural plans PRIOR to commencement of construction.

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Engineer of Record:



Sisquoc Bridge

Rancho Sisquoc
Santa Maria, California

Revision:

1	Plan Check	21 Sept. 2020
2		
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Proj. Engr.: M. Schisano Phone Ext.: 182

Proj. Mngr.: T. Vance Phone Ext.:

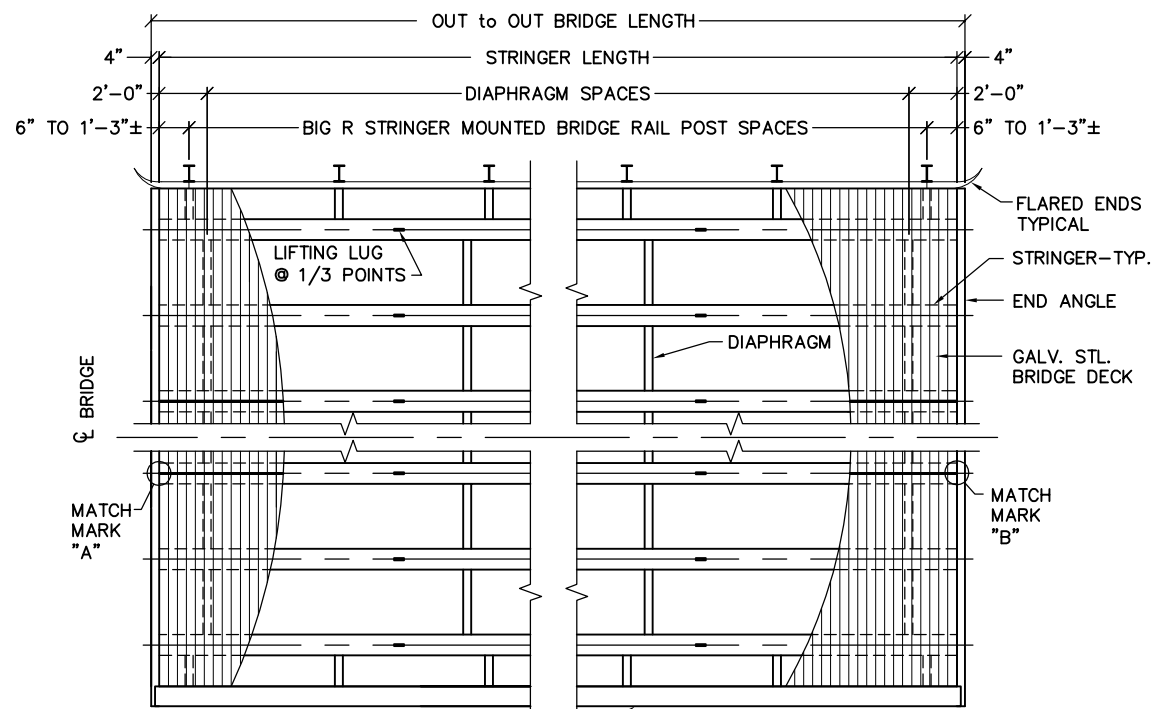
Date: 14 July 2020 Scale: 1/4"=1'-0"

A&V Job No.: 20586

FOUNDATION PLAN

S-2.1

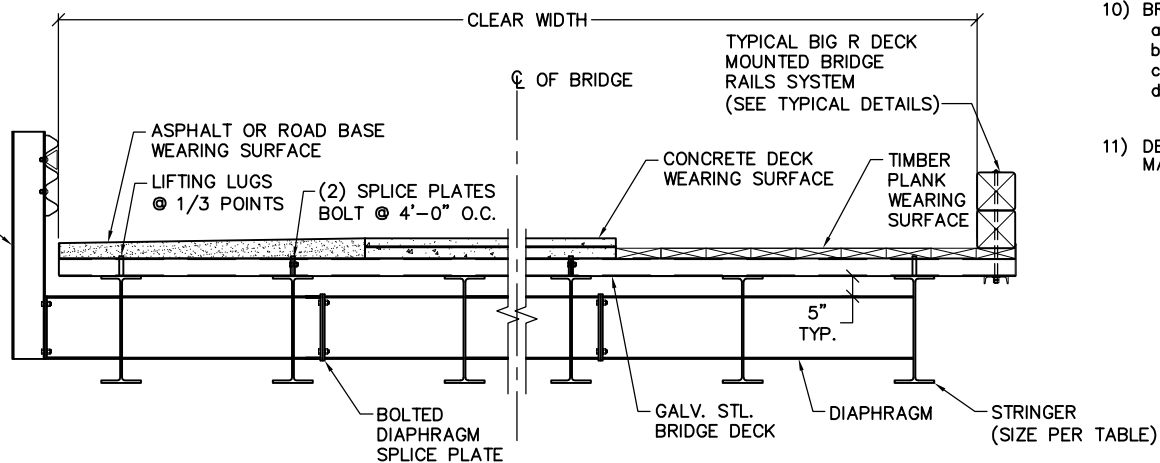
DO NOT SCALE THESE DRAWINGS. Refer to Architectural plans for all dimensions.



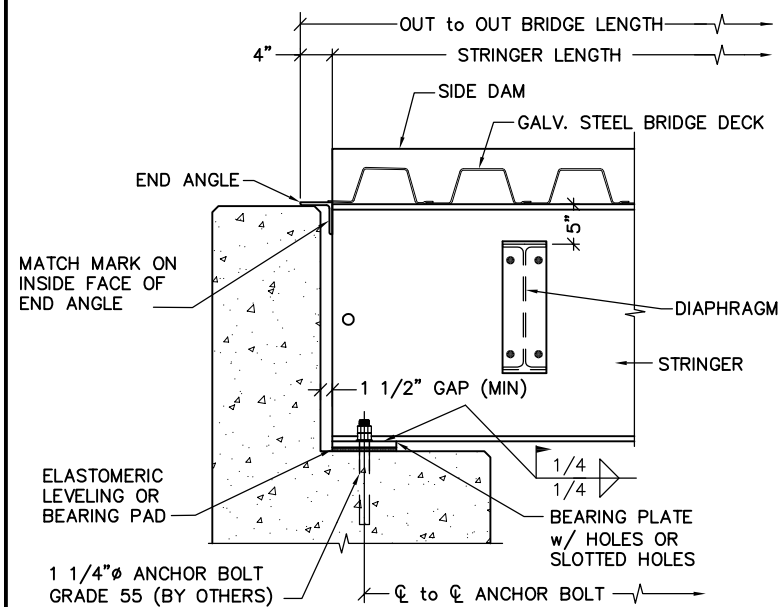
PLAN VIEW

BRIDGE DATA	
OUT TO OUT BRIDGE LENGTH	30'-0" TO 80'-0"
STRINGER LENGTH	30' TO 80'
CL TO CL ANCHOR BOLT	29'-4" TO 79'-4" MAX
BEARING THICKNESS	VARIES

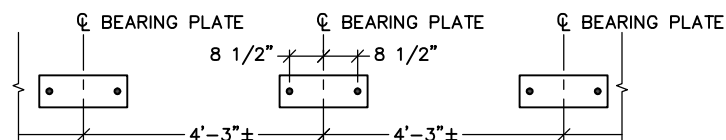
TYPICAL STRINGERS	
LENGTH	STRINGER
30'	W 24
35'	W 24
40'	W 24
45'	W 30
50'	W 30
55'	W 33
60'	W 33
65'	W 33
70'	W 36
75'	W 36
80'	W 36



SECTION



BEARING DETAIL



ANCHOR BOLT LAYOUT

GENERAL NOTES:

- BIG R BRIDGE HAS AISC QUALITY CERTIFIED BRIDGE FABRICATION – ADVANCED (MAJOR) WITH A FRACTURE CRITICAL AND SOPHISTICATED PAINT ENDORSEMENT AND CWB CERTIFIED TO CSA STANDARD W47.1 DIVISION 2.
- DESIGN IS IN ACCORDANCE WITH THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS.
- MATERIALS (UNLESS NOTED OTHERWISE):
 - STRUCTURAL STEEL: ASTM A588 WEATHERING STEEL
 - STEEL BRIDGE DECK: ASTM A653 GRADE 50 CLASS 1 (GALV)
 - STRUCTURAL BOLTS: ASTM F3125 GRADE A325 (GALV)
 - GUARDRAIL BOLTS: ASTM A307 (GALV)
- DESIGN LOADINGS:
 - BRIDGE DEAD LOAD PLUS 80 PSF TOTAL WEARING SURFACE.
 - VEHICLE LIVE LOAD HL-93 VEHICLE.
 - WIND LOADING PER AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS SECTION 3.8.
 - BRIDGE RAIL DESIGNED FOR TL-1, TL-2 OR TL-3 LOADING IN ACCORDANCE WITH AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS APPENDIX A13.2 OR ONLY USED AS A GUIDE RAIL (RAIL HAS NOT BEEN CRASH TESTED).
 - SEISMIC LADING PER AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS SECTION 3.10.
- BRIDGE TO BE BUILT TO THE REQUIREMENTS OF AWS D1.5
- ALL SHOP WELDING SHALL USE THE GAS METAL ARC WELDING OR FLUX CORED ARC WELDING PROCESS.
- ALL EXPOSED SURFACES OF STRUCTURAL STEEL TO BE CLEANED IN ACCORDANCE WITH STEEL STRUCTURES PAINTING COUNCIL SURFACE PREPARATION SPECIFICATIONS NO. 1, SSPC-SP1 SOLVENT CLEANING. EXPOSED SURFACES OF STEEL SHALL BE DEFINED AS THOSE SURFACES SEEN FROM THE DECK OR FROM THE OUTSIDE OF THE STRUCTURE. ALL OTHER SURFACES TO HAVE STANDARD MILL FINISH.
- ALL BOLTED CONNECTIONS ARE CONSIDERED TO BE PRETENSIONED OR SLIP-CRITICAL CONNECTIONS. ALL BOLTS ARE TO BE PRETENSIONED PER THE REQUIREMENTS OF SECTION 8.2 OF THE SPECIFICATIONS FOR STRUCTURAL JOINTS USING HIGH-STRENGTH BOLTS BY RCSC.
- MAINTENANCE NOTE: BIG R RECOMMENDS NOT APPLYING DE-ICING OR DUST PROHIBITIVE CHEMICALS OR SALTS TO ANY PART OF THE BRIDGE STRUCTURE. IF DE-ICING OR DUST PROHIBITIVE CHEMICALS OR SALTS ARE APPLIED TO ANY PART OF THE BRIDGE STRUCTURE, BIG R BRIDGE WILL NOT BE RESPONSIBLE FOR ANY RESULTANT ACCELERATED CORROSION.
- BRIDGE DECK FASTENING:
 - WELD EACH PIECE TO ALL STRINGERS WITH PLATE THICKNESS x 3" FILLET WELD.
 - WELD BETWEEN STRINGERS AT OVERLAPPING WITH 3" FILLET WELDS EVERY 36".
 - PLACE 1 1/2" FILLET WELD ON EDGE OF DECKING AT EACH SIDE OF LIFTING LUG.
 - TOUCH UP WELDS WITH ZINC RICH PAINT MEETING THE MATERIAL AND PERFORMANCE REQUIREMENTS OF ASTM A780.
- DECK MAY BE FINISHED WITH GRAVEL, ASPHALT, CONCRETE, WOOD OR ANY OTHER SUITABLE WEARING SURFACE MATERIAL AT THE OWNERS DISCRETION.

TYPICAL MULTI-LANE MODULAR BRIDGES:

- TYPICAL DETAILS ARE ONLY APPLICABLE FOR 30' TO 80' LONG BRIDGES.
- BRIDGES SHORTER THAN 30' WILL OFTEN REQUIRE NON-TYPICAL DIAPHRAGM, POST BLOCK AND RAIL DESIGNS.
- BRIDGES LONGER THAN 80' WILL OFTEN REQUIRE STRINGERS TO BE SPICED.
- BIG R BRIDGE'S STEEL BRIDGE DECKING PLANKS ARE THE STRUCTURAL DECKING SYSTEM. THE WEARING SURFACE IS ONLY TO PROVIDE A SMOOTH RUNNING SURFACE AND NOT REQUIRED STRUCTURALLY.
- TYPICAL WEARING SURFACE LOAD OF 80 PSF WILL ACCOMMODATE UP TO 5 1/4" OF GRAVEL BASE (130 PCF) OR 4 1/4" OF CONCRETE OR ASPHALT (150 PCF) SURFACING ABOVE THE STEEL BRIDGE DECK CORRUGATIONS.
- TYPICAL DESIGN LIVE LOADING IS HL-93 VEHICLE. IF OTHER LOADING IS REQUIRED, IT MAY REQUIRE A NON-TYPICAL DESIGN.
- SEE BIG R BRIDGE TYPICAL MODULAR BRIDGE RAIL DETAILS FOR BRIDGE RAIL OPTIONS.
- CUSTOMER SHOULD SPECIFY BEARING DESIGN REQUIREMENTS (STANDARD 1/2" PADS DO NOT ALWAYS MEET AASHTO DESIGN CRITERIA AND SHOULD ONLY BE SOLD AS LEVELING PADS).
- CUSTOMER SHOULD SPECIFY DEFLECTION REQUIREMENTS (IF ANY). PER AASHTO SECTION 2.5.2.6.2 DEFLECTION REQUIREMENTS ARE OPTIONAL.
- CUSTOMER SHOULD SPECIFY AVERAGE DAILY TRUCK TRAFFIC (ADTT). IF ADTT IS NOT SPECIFIED, BIG R WILL PROVIDE THE MAXIMUM ALLOWED.

REV	STATUS	BY	DATE
A	RELEASED	SLJ	05/01/2019

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TYPICAL MODULAR BRIDGE DETAILS

BIG R STEEL BRIDGE DECK - MULTI-LANE

BIG R BRIDGE

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APPENDIX B

List of Plants and Animals Observed Onsite During the Survey



Appendix B. List of Plants and Animals Observed Onsite During the Site Visit

Scientific Name	Common Name
Plants	
<i>Ambrosia psilostachya</i>	Ragweed
<i>Avena barbata</i> *	Slender wild oat
<i>Baccharis pilularis</i>	Coyote brush
<i>Baccharis salicifolia</i>	Mule fat
<i>Bromus diandrus</i> *	Ripgut brome
<i>Bromus hordeaceus</i> *	Soft chess
<i>Bromus tectorum</i> *	Downy chess
<i>Centaurea melitensis</i> *	Tocalote
<i>Chenopodium album</i> *	Lambs quarters
<i>Conium maculatum</i> *	Poison hemlock
<i>Croton setiger</i>	Turkey-mullein
<i>Datura stramonium</i> *	Jimson weed
<i>Erigeron canadensis</i>	Canada horseweed
<i>Helminthotheca echinoides</i> *	Bristly ox-tongue
<i>Hirschfeldia incana</i> *	Summer mustard
<i>Hordeum murinum</i> ssp. <i>leporinum</i> *	Foxtail barley
<i>Malva neglecta</i> *	Dwarf mallow
<i>Marrubium vulgare</i> *	White horehound
<i>Nicotiana glauca</i> *	Tree tobacco
<i>Plantago lanceolata</i> *	English plantain
<i>Platanus racemosa</i>	California sycamore
<i>Raphanus sativus</i> *	Wild radish
<i>Salix lasiolepis</i>	Arroyo willow
<i>Sambucus nigra</i> ssp. <i>caerulea</i>	Blue elderberry
<i>Schinus molle</i> *	Peruvian pepper tree
<i>Verbena lasiostachys</i>	Western vervain
<i>Xanthium spinosum</i> *	Spiny cocklebur
Animals	
<i>Aphelocoma californica</i>	California scrub jay
<i>Buteo jamaicensis</i>	Red-tailed hawk
<i>Colaptes auratus</i>	Northern flicker
<i>Haemorhous mexicanus</i>	House finch
<i>Neotoma lepida intermedia</i> (potential)	San Diego desert woodrat (midden observed - not identified to species)

*Non-native species

Bold indicates special-status species

APPENDIX C

Photo Plate



Appendix C. Photo Plate

Photo 1. Annual Grassland habitat on the upstream side of the bridge, looking downstream (north). Non-native Peruvian pepper trees (*Schinus molle*) surround the bridge and represent the Ornamental habitat type.



Photo 2. View of the Asphaltum Creek channel looking upstream. The Annual Grassland habitat in the channel had been trampled by cattle, but otherwise grazing was light to moderate. The channel appeared to have been modified into a ditch along the road.



Photo 3. View of the former pond basin in the southeast part of the study area. It was vegetated by upland Annual Grassland species and had no indication of ponded water. A pipe that presumably drained it is seen on the left, and the San Ramon Chapel is on the hill.



Photo 4. Overview of the valley that Asphaltum Creek runs through on the upstream (south) side of the bridge. This area is referred to as Foxen Canyon.



Photo 5. View of the bridge looking east along Forest Route 10N06 that accesses the winery property. This area was mapped as Developed/Ruderal.



Photo 6. View of the bridge looking west toward Foxen Canyon Road.



Photo 7. View under the bridge showing structural issues and sedimentation around the piers.



Photo 8. View of the immediate area surrounding the bridge, looking northwest. The banks on the upstream side are Annual Grassland (foreground) and there are Ornamental Peruvian pepper trees surrounding it. Agricultural land uses are in the larger area.



Photo 9. Mule Fat Scrub habitat downstream from the bridge, looking upstream. The channel bottom below the OHWM was determined to potentially be under USACE jurisdiction. The extent of the RWQCB/CDFW jurisdictional area was the top of bank or edge of riparian, whichever was further from the channel.



Photo 10. Additional view of the channel downstream from the bridge in Mule Fat Scrub habitat. Dominant species were mule fat (*Baccharis salicifolia*) and arroyo willow (*Salix lasiolepis*).



Photo 11. Northerly view of Asphaltum Creek at the confluence of a constructed ditch from the vineyard. The Sisquoc River channel is in the background, and the channel is surrounded by agricultural fields.



Photo 12. View of the ditch that runs along the edge of an agricultural field to the northeast of the bridge, which joins Asphaltum Creek downstream from the bridge. Sycamore Riparian occurred in patches along the ditch, and may be a remnant of historic Sycamore Alluvial Woodland along Sisquoc River. This area was disturbed by agricultural activities and roads; thus, was fragmented and did not function as an intact Riparian habitat.

APPENDIX D

Special-status Biological Resources Summary



Appendix D. Special-status Biological Resources Summary

Common Name	Scientific Name	Fed	CA	CRPR	Ecological Information	Evaluation of Occurrence/ Site Suitability / Local Records
PLANTS/LICHENS/BRYOPHYTES						
Hoover's bent grass	<i>Agrostis hooveri</i>	—	—	1B.2	Stoloniferous perennial herb; chaparral, cismontane woodland, and valley and foothill grassland habitats in sandy soils; 60-600 meters in elevation; blooms April to July.	Unlikely. Potentially suitable grassland habitat is present, but sandy soils are absent and the only record nearby is from 1973 and "needs fieldwork". Restricted local distribution is westward, inland along the coast.
La Purisima manzanita	<i>Arctostaphylos purissima</i>	—	—	1B.1	Perennial evergreen shrub; chaparral and coastal scrub on sandy soils or sandstone; 60-555 meters in elevation; blooms November to May.	Not expected. No suitable habitat was present and this perennial shrub would have been seen during the survey.
Mesa horkelia	<i>Horkelia cuneata</i> var. <i>puberula</i>	—	—	1B.1	Perennial herb; chaparral, cismontane woodland, and coastal scrub on sandy or gravelly soils; 70- 810 meters in elevation; blooms February to September.	Not expected. No suitable habitat is present and the site is outside of the species' local distribution. The only record nearby is from 1895 and has an imprecise location.
Miles' milk-vetch	<i>Astragalus didymocarpus</i> var. <i>milesianus</i>	—	—	1B.2	Annual herb; coastal scrub habitats with clay soils; 20-90 meters in elevation; blooms March to June.	Not expected. No suitable habitat or soils are present, the record from Foxen Canyon is from 1928 and "needs fieldwork", and the site is greatly outside of this species' restricted distribution.
Ojai fritillary	<i>Fritillaria ojaiensis</i>	—	—	1B.2	Perennial bulbiferous herb; broadleaved upland forest, chaparral, cismontane woodland, and lower montane coniferous forest on rocky soils; 225-998 meters in elevation; blooms February to May.	Not expected. No suitable habitat or soils are present and the site is greatly outside of the elevational range of this species. Recorded in Colson Canyon, but otherwise restricted to areas further south in the county.
Sand mesa manzanita	<i>Arctostaphylos rudis</i>	—	—	1B.2	Perennial shrub; maritime chaparral and coastal scrub habitats on sandy soils; 25-230 meters in elevation; blooms November to February.	Not expected. No suitable habitat or soils are present, and the only record nearby is from 1973 and "needs fieldwork". Perennial shrub that would have been observed during the survey.

Common Name	Scientific Name	Fed	CA	CRPR	Ecological Information	Evaluation of Occurrence/ Site Suitability / Local Records
Southern curly-leaved monardella	<i>Monardella sinuata</i> ssp. <i>sinuata</i>	—	—	1B.2	Annual herb; chaparral, cismontane woodland, coastal dunes, and openings in coastal scrub on sandy soils; elevations below 300 meters; blooms May to September.	Not expected. Site is inland and this species is restricted to areas closer to the coast; sandy soils are absent. The only record nearby is from 1895 and has an imprecise location.
Straight-awned spineflower	<i>Chorizanthe rectispina</i>	—	—	1B.3	Annual herb; openings in chaparral, cismontane woodland, coastal scrub on granite sand or disintegrating shale and tolerates disturbance; 85-1035 meters in elevation; blooms April to July.	Not expected. No suitable habitat or soils are present. Recorded around the Cat Canyon Oil Field.
Umbrella larkspur	<i>Delphinium umbraculorum</i>	—	—	1B.3	Perennial herb; cismontane woodland and chaparral often on disintegrating shale; 85-1,035 meters in elevation; blooms April to June.	Not expected. No suitable habitat or soils are present, and the species is generally restricted to higher elevations in the vicinity.

*E = Endangered; T = Threatened; R = Rare; '—' = no status; CRPR: Rank 1A - Presumed extirpated in California and either rare or extinct elsewhere; Rank 1B – Rare, threatened or endangered in California and elsewhere; Rank 2A – Presumed extirpated in California, but more common elsewhere; Rank 2B – Rare, threatened, or endangered in California, but more common elsewhere; Rank 3 - Plants needing more information, a review list; Rank 4 – Limited distribution, a watch list. Sources: California Natural Diversity Database (California Department of Fish and Wildlife 2020a); Special Vascular Plants, Bryophytes, and Lichens List (California Department of Fish and Wildlife 2020b); Inventory of Rare and Endangered Plants of California (California Native Plant Society 2020); Information on Wild California Plants for Conservation, Education, and Appreciation (Calflora 2020).

Common Name	Scientific Name	Fed	CA	CDFW	Ecological Information	Evaluation of Occurrence/ Site Suitability / Local Records
ANIMALS						
INVERTEBRATES						
Vernal pool fairy shrimp	<i>Branchinecta lynchi</i>	T	—	—	Grasslands with temporary ponded water. Inhabits small clear-water depressions in rock, vernal pools and swales, as well as anthropogenic habitats such as tire ruts, dozer scrapes and railroad pools. Needs standing water for at least 18 days to complete its lifecycle.	Not expected. Soils onsite are loamy and well-drained. Former pond basin in the study area does not appear to hold water. Species does not occur in flowing water, and would not occur in Asphaltum Creek. Documented in manmade pools in a former oil field west of Garey.

Common Name	Scientific Name	Fed	CA	CDFW	Ecological Information	Evaluation of Occurrence/ Site Suitability / Local Records
FISH						
Southern California DPS steelhead	<i>Oncorhynchus mykiss irideus</i> pop. 10	E	—	—	Adults spawn in freshwater streams with clear, well-oxygenated, cool water and clean gravel substrate. Also require instream cover (branches, logs) and streamside vegetation. Juveniles rear in freshwater reaches or lagoons before going to the ocean to mature, and then return to freshwater to reproduce.	Not expected. No suitable habitat is present in the study area. The reach of Asphaltum Creek onsite is much too ephemeral to be used by this species. Sisquoc River is used for migration.
AMPHIBIANS/REPTILES						
Arroyo toad	<i>Anaxyrus californicus</i>	E	—	SSC	River systems with sandy banks and terraces with riparian vegetation such as willow, sycamore, oak, and cottonwood. Breeds in shallow pools and margins of rivers and streams with sand or gravel substrate and clear, calm water. Constructs burrows or uses existing burrows in upland terraces, old flood channels and within riparian.	Not expected. Species has specific habitat requirements and Asphaltum Creek is unsuitable. Has been recorded in the in the Sisquoc River in the 1990s, and was last observed in 2007 and is presumed to be extant. The project site is 0.5 mile away from potentially suitable habitat in the river, and unsuitable agricultural habitat lies in between. Would not move through agricultural fields and there is no suitable habitat surrounding the site.
Blainville's (=coast) horned lizard	<i>Phrynosoma blainvillii</i>	—	—	SSC	Grasslands, sandy washes, coastal scrub, chaparral, coniferous forest and woodlands with patches of open areas for sunning and bushes for cover. Often with loose sandy soils for burial, but also uses small mammal burrows. Preys on native species of ants and other small invertebrates.	Potential. Could occur onsite, especially along the edges of roads or other open areas. Has been recorded at several locations nearby.

Common Name	Scientific Name	Fed	CA	CDFW	Ecological Information	Evaluation of Occurrence/ Site Suitability / Local Records
California red-legged frog	<i>Rana draytonii</i>	T	—	SSC	Forages and breeds in streams with deep slow-moving pools, stock ponds, reservoirs, springs, lagoons, and marshes; usually with emergent or riparian vegetation but also found at sites lacking vegetation. Uses riparian and various upland habitats in winter and for dispersal.	Potential. Asphaltum Creek does not have suitable aquatic habitat for this species. Has been recorded throughout the Sisquoc River within the dispersal distance of the species, and potentially could occur in winter while moving through the area.
California tiger salamander	<i>Ambystoma californiense</i>	E	T	WL	Grassland, low foothill oak savanna and edges of mixed woodland. Breeds in rain pools, vernal pools and temporary ponds. During dry season is fossorial and uses rodent burrows in upland habitat.	Not expected. Would not breed in Asphaltum Creek, but potentially suitable ephemeral breeding ponds are present within the dispersal distance of the species. However, site may be outside of the local distribution of this population, and is not considered to be within one of the known metapopulations. The nearest locations are 5 miles away.
Northern California legless lizard	<i>Anniella pulchra</i>	—	—	SSC	Beach dunes, chaparral, pine-oak woodlands, desert scrub, sandy washes, oak woodland, and stream terraces with riparian vegetation. Fossorial species requires moist, loose soils or leaf litter with plant cover or surface objects (rocks, boards, logs, etc.). Can occur in residential areas.	Potential. Suitable habitat is present onsite in the Mule Fat Scrub habitat and friable loamy soils are present. Has been recorded at several locations in the site vicinity.
Southwestern (=western) pond turtle	<i>Actinemys pallida</i> (= <i>Emys marmorata</i>)	—	—	SSC	Ponds, lakes, rivers, streams, marshes, brackish lagoons, and irrigation ditches with a mosaic of vegetation and open areas for basking. Uses upland areas for nesting and in winter, including woodland, forest, grassland, chaparral, and grasslands.	Unlikely. No suitable aquatic habitat is present on or near the site. Asphaltum Creek is too ephemeral and lacks pools. Records are from the Sisquoc River downstream from Tepusquet and there is an historic record with an imprecise location listed as "Foxen Canyon". Permanent ponds seen on aerial photography are beyond the maximum distance that turtles move through upland habitats.

Common Name	Scientific Name	Fed	CA	CDFW	Ecological Information	Evaluation of Occurrence/ Site Suitability / Local Records
Western spadefoot	<i>Spea hammondi</i>	— (under review)	—	SSC	Grassland, open woodland/savanna, coastal scrub, and chaparral habitats where it primarily occupies underground burrows that it digs in a variety of soils but often associated with sand. Breeds in vernal pools, ephemeral ponds, stock ponds and streams that dry to isolated pools which lack aquatic vertebrate predators.	Potential. Asphaltum Creek does not appear to provide suitable breeding habitat and the former pond basin in the study area does not appear to still pond water, but there is a very high number of records nearby and individuals could occur infrequently during movement between sites.
BIRDS						
California horned lark	<i>Eremophila alpestris actia</i>	—	—	WL	Areas with sparse vegetation or bare ground in prairies, deserts, tundra, beaches, dunes, airports, plowed fields and heavily grazed pastures where they eat seeds and insects. Nesting is on bare ground. Occurs year-round in this area.	Potential. Could forage or nest in the Ruderal areas along agricultural roads. Has been recorded in eBird at a few locations near the site, and in the CNDDB in the vicinity.
Cooper's hawk	<i>Accipiter cooperii</i>	—	—	WL (nesting)	Mature and open woodlands including oak forest, conifers and riparian; may also be found in suburban areas with tall trees. Feeds on birds, small mammals, reptiles and amphibians. Nesting is in dense woodlands. Occurs in this area year-round.	Potential. Could occur onsite as a transient, but unlikely to nest onsite due to the Riparian onsite being small and not dense. They have been recorded at numerous locations surrounding the site.
Ferruginous hawk	<i>Buteo regalis</i>	—	—	WL (wintering)	Open country such as grasslands, sagebrush, saltbush shrubland, and edges of pinyon-juniper forest where they prey on small mammals. Nests on lone trees, cliffs, utility poles, and shrubs from ground-level to 65-feet high. Occurs in this area during winter.	Potential. Could forage onsite, but does not nest in this area. Recorded in eBird along Foxen Canyon.

Common Name	Scientific Name	Fed	CA	CDFW	Ecological Information	Evaluation of Occurrence/ Site Suitability / Local Records
Golden eagle	<i>Aquila chrysaetos</i>	—	—	FP, WL (nesting & wintering)	Uncommon resident of mountainous and valley-foothill areas. Foraging typically occurs in open terrain where they prey on small mammals. Nesting usually occurs on cliff ledges, and less commonly in large trees or on structures such as electrical towers. Occurs in this area year-round.	Potential. Could forage onsite or occur as a transient, and could roost in the large sycamores. Unlikely to nest due to human disturbance in the area. Has been recorded in eBird from areas surrounding the site.
Great blue heron	<i>Ardea herodias</i>	—	—	— (nesting colony)	Freshwater and saltwater marshes, also foraging in grasslands and agricultural fields. Nesting colonies are near lakes, ponds and wetlands bordered by forests. Nests are placed mainly in trees, but may also nest on the ground, in bushes or artificial structures. Occurs year-round in this area.	Potential. Individuals could forage in the study area periodically, but would not nest onsite due to lack of Wetland habitat. There are several records in eBird from near the site.
Great egret	<i>Ardea alba</i>	—	—	— (nesting colony)	Forages in marshes, swamps, streams, rivers, ponds, lakes, lagoons, tidal flats, canals, ditches, flooded fields, and sometimes in upland where they prey on fish, amphibians, reptiles, crustaceans, and invertebrates. Roosts communally in trees. Nesting colonies are on lakes, ponds, marshes, and estuaries, but does not nest in this area. Occurs in this area during non-breeding season.	Potential. Could forage onsite periodically but does not nest in this area. There are several records in eBird from near the site.

Common Name	Scientific Name	Fed	CA	CDFW	Ecological Information	Evaluation of Occurrence/ Site Suitability / Local Records
Least Bell's vireo	<i>Vireo bellii pusillus</i>	E	E	WL	Riparian forest near permanent water or in dry river bottoms, with dense, low, shrubby vegetation where they forage on insects and spiders. Winters in southern Baja California. Has seriously declined in this region and no longer breeds in this area.	Not expected. The Mule Fat Scrub habitat onsite is not dense enough to support this species, and there are no stands of dense Riparian along the Sisquoc River near the site. One individual was recorded in the river near the site in 1979 in the CNDDB. Also recorded during the summer at Twitchell Reservoir and North Fork La Brea Creek in the 1990s, but there are no recent records.
Loggerhead shrike	<i>Lanius ludovicianus</i>	—	—	SSC (nesting)	Open country with low vegetation and well-spaced shrubs or trees such as coastal scrub, grasslands, agricultural fields, pastures, riparian areas, desert scrub, savannas, prairies, golf courses, and along roadsides where they prey on insects, amphibians, reptiles and small mammals. Nests in trees, shrubs, or brush piles. Occurs in this area year-round.	Potential. Suitable habitat is present onsite for foraging, and they could nest in the Ornamental trees or Mule Fat Scrub. There are numerous observations in eBird from near the study area.
Merlin	<i>Falco columbarius</i>	—	—	WL (wintering)	Coastlines, open grasslands, savannas, woodlands, lakes, wetlands, and montane conifer forests where they prey on small birds, small mammals and insects. Nests in existing corvid or hawk nest but does not nest in California. Occurs in this area during winter.	Potential. Could forage onsite, but does not nest in this area. Has been recorded in eBird from numerous locations surrounding the site.
Northern harrier	<i>Circus cyaneus</i>	—	—	SSC (nesting)	Large areas of wetlands and grasslands with low vegetation where they prey on small mammals, amphibians, reptiles and birds. Nesting is in marshes, grazed meadows, and desert shrubland where they nest on the ground in a dense clump of vegetation such as willows, grasses, sedge, bulrushes or cattails. Occurs year-round in this area.	Unlikely. Habitat onsite is likely not open enough for foraging, but they may fly over while using open areas nearby. Unlikely to nest in the area due to high degree of human use. There are several records near the site in eBird.

Common Name	Scientific Name	Fed	CA	CDFW	Ecological Information	Evaluation of Occurrence/ Site Suitability / Local Records
Prairie falcon	<i>Falco mexicanus</i>	—	—	WL (nesting)	Grasslands, desert shrubland, tundra, coastal scrub, feedlots, and agricultural fields where they feed on small mammals, insects and birds. Nests on high cliff ledges, steep bluffs, trees, or on buildings or utility poles. Occurs year-round in this area.	Potential. Could forage onsite, but not likely to nest in this type of habitat although large sycamores could potentially be marginally suitable. Has been recorded at various locations near the site, including recent records.
Sharp-shinned hawk	<i>Accipiter striatus</i>	—	—	WL (nesting)	Forages along the edges of dense mixed woodlands and forests where they prey on birds. Nests are in dense coniferous forests with closed canopies, but not in this region. Occurs only in winter in this area.	Potential. Could forage onsite or occur as a transient while migrating, but does not nest in this area. Recorded in various locations surrounding the site in eBird.
Southern California rufous-crowned sparrow	<i>Aimophila ruficeps canescens</i>	—	—	WL	Coastal sage scrub, chaparral, grassland, pinyon pine and rocky areas. Prefers areas after wildfires or with grazing that reduces vegetation density. Feeds on insects and plant matter. Nesting is on the ground near the base of a shrub or rocks. They occur in this area year-round.	Potential. Habitat onsite is marginally suitable, but the species has been recorded in the area. Could occur periodically as a transient, while foraging and a slight possibility to nest.
Tricolored blackbird	<i>Agelaius tricolor</i>	—	T	SSC (nesting colony)	Forages in a variety of habitats including pastures, agricultural fields, rice fields, and feedlots. Nests colonially in freshwater marshes with tules or cattails, or in other dense thickets of willow, thistle, blackberry, or wild rose in close proximity to open water. Occurs year-round in this area.	Potential. No suitable breeding or roosting habitat is present onsite. Could forage periodically or occur as a transient. Has been recorded at many locations nearby.
White-tailed kite	<i>Elanus leucurus</i>	—	—	FP (nesting)	Savannas, open woodlands (oak or pine), riparian forest, marshes, desert grasslands, and fields where they prey on small mammals, birds, lizards, and insects. Nests and roosts in the edges of forests or in tall isolated trees. Occurs in this area year-round.	Potential. Suitable foraging habitat is present onsite, and could nest or roost in Sycamores although no stick nests resembling a kite's nest observed. Has been recorded near the site in eBird.

Common Name	Scientific Name	Fed	CA	CDFW	Ecological Information	Evaluation of Occurrence/ Site Suitability / Local Records
Yellow-billed magpie	<i>Pica nuttalli</i>	—	—	— (nesting & communal roosts)	Permanent residents of open oak woodland and savannah, riparian, valley hardwood-conifer, residential and agricultural areas, pastures and orchards. Feed on the ground on insects, invertebrates, trash, carrion, acorns, fruit, grain, nestlings, eggs, earthworms, ticks and live rodents. Nests and roosts in small colonies high in large trees. Occurs year-round in this area.	Potential. Could forage onsite and nest or roost in the Sycamore Riparian, but no nests with classic magpie characteristics were present. Has been recorded at numerous locations surrounding the site, including along Foxen Canyon.
Yellow warbler	<i>Setophaga petechia</i>	—	—	SSC	Wetland and riparian habitats with willows, cottonwoods, bay, maple, sycamores and alders where they eat insects. Also uses gardens, orchards, residential areas and roadside thickets. Nesting is in shrubs or small trees. Occurs year-round in this area, although is rare in winter.	Potential. Could forage in the Mule Fat Scrub habitat onsite, but may be of insufficient size for breeding. Has been recorded at a few locations in Riparian habitat along the Sisquoc River and individuals have been observed in the surrounding area.
MAMMALS						
American badger	<i>Taxidea taxus</i>	—	—	SSC	Open grasslands, fields and the edge of scrub and woodland habitats; requires dry loose soils for burrowing and shelter and feeds on a variety of small mammals such as California ground squirrel and pocket gopher.	Potential. Suitable habitat is present onsite. Area could be used for foraging, movement between other sites, and denning. No dens or potential prey were seen during the survey. Has been recorded at several locations nearby.
Fringed myotis	<i>Myotis thysanodes</i>	—	—	—	High elevation coniferous forest, oak woodland, mixed deciduous forest and pinyon-juniper woodland. Roosts in caves, buildings, mines and cavities of large trees. Occurs in Santa Barbara County year-round.	Potential. Could forage onsite, and potentially roost under the bridge or in cavities of the large sycamores. No guano piles were observed under bridge. There were no records in the CNDDB, but their year-round range includes all of Santa Barbara County.

Common Name	Scientific Name	Fed	CA	CDFW	Ecological Information	Evaluation of Occurrence/ Site Suitability / Local Records
Pallid bat	<i>Antrozous pallidus</i>	—	—	SSC	Open dry habitats including deserts, grasslands, shrublands, woodlands, and forests. Roosts in rocky outcrops, caves, crevasses, mines, hollow trees, and buildings that moderate temperature. Night roosts on porches and open buildings.	Potential. Could forage onsite and potentially could roost under the bridge, but no evidence of bats was observed during the reconnaissance survey. Large roost site documented nearby at a bridge in Garey.
San Diego desert woodrat	<i>Neotoma lepida intermedia</i>	—	—	SSC	Moderate to dense coastal scrub, pinyon/juniper, chaparral, sagebrush, and deserts, especially in rocky areas with slopes. Builds stick houses against a rock crevice or in the lower branches of trees.	Potential. No rocky areas or slopes occur onsite, but a woodrat stick house was observed in the Mule Fat Scrub habitat during the survey. Site is within the range of this species, but also within the range of the dusky-footed woodrat (<i>Neotoma fuscipes</i>).
Townsend's big-eared bat	<i>Corynorhinus townsendii</i>	—	—	SSC	Desert scrub, grassland, sagebrush, chaparral, oak woodlands, riparian and coniferous forests; prefers mesic habitats and closely tied to rock cliffs with crevasses. Roosts in caves, cliffs, mines, tunnels and bridges. The year-round range of the species is considered to be all of California except high elevations in the Sierra Nevada.	Potential. Could forage onsite and potentially could roost under the bridge, but no evidence of bats was observed during the reconnaissance survey. There is one record in the vicinity but they are known to occur throughout this area.
Western mastiff bat	<i>Eumops perotis californicus</i>	—	—	SSC	Desert scrub, coastal scrub, chaparral, oak woodland, and coniferous forest. Roosts colonially in rock crevasses, buildings, tunnels and in trees. Does not undergo seasonal migrations or prolonged hibernation, and is present in this area year-round.	Potential. Marginally suitable foraging habitat is present onsite, and there is a slight chance they could roost under the bridge or in large sycamores. No records are in the CNDDDB from the vicinity, but known to occur in the area.

Common Name	Scientific Name	Fed	CA	CDFW	Ecological Information	Evaluation of Occurrence/ Site Suitability / Local Records
Western red bat	<i>Lasiurus blossevillei</i>	—	—	SSC	Grasslands, shrublands, open woodlands, and agricultural fields. Roosts in forests and woodlands in trees or occasionally shrubs. Roost sites are on the edge of streams, fields or urban areas. Occurs throughout the state in summer, and in winter in coastal areas south of San Francisco.	Potential. Could forage onsite, and may roost in trees. No records were recorded in the vicinity in the CNDDB, but known to occur in this area.
Yuma myotis	<i>Myotis yumanensis</i>	—	—	—	Open forests and woodlands with water sources such as ponds, streams, and stock tanks; roosts in buildings, mines, caves, crevices and under bridges; night roosts in more open areas.	Potential. Suitable foraging habitat is present and they could roost under the bridge. There were no records in the CNDDB, but their year-round range includes all of Santa Barbara County.

*E = Endangered; T = Threatened; C = Candidate; BCC = Birds of Conservation Concern; SSC = Species of Special Concern; FP = Fully Protected; WL = Watch List; '—' = no status; California Natural Diversity Database (California Department of Fish and Wildlife 2020a); Special Animals List (California Department of Fish and Wildlife 2020c); California Wildlife Habitat Relationships System (CDFW 2020e); A Guide to the Amphibians and Reptiles of California (California Herps 2020); eBird (The Cornell Lab of Ornithology 2020a); All About Birds (The Cornell Lab of Ornithology 2020b); Guide to North American Birds (Audubon 2020); Lehman (2020).

SENSITIVE NATURAL COMMUNITIES	
California Sycamore Woodlands - State Rarity Rank S3	Present. Moderately closed canopy riparian forest dominated by California sycamore (<i>Platanus racemosa</i>). May also have a large component of Fremont cottonwood (<i>Populus fremontii</i>) and/or arroyo willow (<i>Salix lasiolepis</i>) and Pacific willow (<i>S. lasiandra</i>). It occurs in floodplains, canyons and along streams with seasonally variable water availability. Also called Sycamore Alluvial Woodland. Occurs onsite in patches along the former edge of the Sisquoc River that has been converted to agriculture.
Coastal and Valley Freshwater Marsh — State Rarity Rank S2.1	Absent. Occurs in permanently flooded sites with freshwater and lacking significant flow, dominated by perennial, emergent vegetation such as bulrushes (<i>Scirpus</i> sp. and <i>Schoenoplectus</i> sp.) and cattails (<i>Typha</i> sp.). No emergent marsh vegetation was present as the site was highly ephemeral.
Southern Coast Live Oak Riparian Forest — State Rarity Rank S4	Absent. Open to dense evergreen river- and streamside woodland dominated by coast live oak (<i>Quercus agrifolia</i>). Understory tends to be more herbaceous than shrubs. Geographically distinct from Central Coast Live Oak Riparian Forest as it occurs south of Point Conception. A few coast live oak trees occur onsite, but the community more closely aligns with Sycamore Alluvial Woodland.

SENSITIVE NATURAL COMMUNITIES	
Southern Cottonwood-Willow Riparian Forest — State Rarity Rank S3.2	Absent. Winter-deciduous river- and streamside forest dominated by Fremont cottonwood (<i>Populus fremontii</i>) or black cottonwood (<i>P. trichocarpa</i>) and several willow species especially in the understory. Similar to Central Coast Cottonwood-Sycamore Riparian Forest except occurs in the Transverse and Peninsular ranges from Santa Barbara County south to Baja California. No cottonwood trees occurred onsite.
Southern Willow Scrub — State Rarity Rank S2.1	Absent. Dense winter-deciduous streamside thicket dominated by any of several willow (<i>Salix</i> sp.) species. Individual Fremont cottonwood (<i>Populus fremontii</i>) and California sycamore (<i>Platanus racemosa</i>) also occur. This community is an early seral stage of Southern Cottonwood-Willow Riparian Forest and requires scouring floods to prevent succession. The riparian habitat onsite was dominated by mule fat, and more closely aligned with the Mule Fat Scrub community. This community may be located in a very short section of Asphaltum Creek downstream from the study area
Southern Vernal Pool — State Rarity Rank SNR	Absent. Seasonally wet depressions often underlain by hardpan or claypan soils that may have a hummocky topography with mounds intervening between the depressions. They fill after winter rains and dry completely after the rains have ceased. Herbaceous community is comprised of herbs and grasses adapted to seasonal inundation and growing in rings as pools dry. The project site has loamy soils that would not support ponding and vernal pools do not typically occur in floodplain areas such as where the study area is located.
Sycamore Alluvial Woodland — State Rarity Rank S1.1	Present. A moderately open riparian woodland dominated by well-spaced California sycamore (<i>Platanus racemosa</i>). Other species include coast live oak (<i>Quercus agrifolia</i>), blue elderberry (<i>Sambucus nigra</i> ssp. <i>caerulea</i>), and Fremont cottonwood (<i>Populus fremontii</i>). Mule fat (<i>Baccharis salicifolia</i>) or Annual Grassland often occurs in the understory. Occurs in braided channels of intermittent streams usually with cobble or boulder substrates. Occurs onsite in patches along the former edge of the Sisquoc River that has been converted to agriculture.
Valley Needlegrass Grassland — State Rarity Rank S3.1	Absent. Often occurs on clay soils that are moist or saturated in winter and very dry in the summer. It is dominated by purple needlegrass (<i>Stipa pulchra</i>), but may have higher percent cover overall by native and introduced annual grassland species. No purple needlegrass was observed onsite.
Valley Oak Woodland — State Rarity Rank S2	Absent. Valley oak (<i>Quercus lobata</i>) is usually the only tree species and is an open savanna with grassland understory. Most stands have large trees with open canopies. Occurs on well-drained alluvial soils usually in valley bottoms below 2000 feet (610 meters) in elevation. No valley oak trees were present onsite.

Sources: Preliminary Descriptions of the Terrestrial Natural Communities of California (Holland 1986); California Natural Diversity Database (California Department of Fish and Wildlife 2020a); California Sensitive Natural Communities (California Department of Fish and Wildlife 2020d).

DESIGNATED CRITICAL HABITAT	
Arroyo Toad	Absent. Occurs along the Sisquoc River upstream from the confluence with Asphaltum Creek, and extends to lower La Brea Creek, but the study site is not included in this area.
California Red-legged Frog	Absent. Unit STB-1 occurs to the north of the site and STB-3 occurs to the east, but do not include the study area.
Southern California Steelhead	Absent. Occurs along the Sisquoc River but does not extend up Asphaltum Creek.

Source: *Threatened and Endangered Species Active Critical Habitat Report (United States Fish and Wildlife Service 2020b).*

APPENDIX E

Wetland Determination Data Forms



WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Rancho Sisquoc Winery Bridge Replacement City/County: Santa Maria/Santa Barbara Sampling Date: 11/11/20
 Applicant/Owner: Rancho Sisquoc Winery State: CA Sampling Point: 1
 Investigator(s): Kevin Merk Section, Township, Range: Foxen Canyon Quad, T9N, R32@
 Landform (hillslope, terrace, etc.): drainage feature bed Local relief (concave, convex, none): convex Slope (%): 2
 Subregion (LRR): C Lat: 34.848413 N Long: -120.241714 W Datum: _____
 Soil Map Unit Name: Mocho sandy loam NWI classification: Riverine

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes _____ No ☒	Is the Sampled Area within a Wetland? Yes _____ No ☒
Hydric Soil Present? Yes _____ No ☒	
Wetland Hydrology Present? Yes ☒ No _____	
Remarks: Data point characterizes active channel of Asphaltum Creek. Channel with OHWM ranges from 5 feet on the upstream side of the bridge to a maximum of 15 feet wide on the downstream side = non-wetland waters of the U.S.	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>20 ft linear</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A) Total Number of Dominant Species Across All Strata: _____ (B) Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)
1. <u>none</u>				
2. _____				
3. _____				
4. _____				
<u>0</u> = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
Sapling/Shrub Stratum (Plot size: <u>20 ft linear</u>) 1. <u>none</u> 2. _____ 3. _____ 4. _____ 5. _____				
<u>0</u> = Total Cover				
Herb Stratum (Plot size: <u>20 ft linear</u>) 1. <u>Avena barbata</u> 35 Y UPL 2. <u>Bromus hordeaceus</u> 35 Y UPL 3. <u>Bromus diandrus</u> 30 Y UPL 4. _____ 5. _____ 6. _____ 7. _____ 8. _____ Y				
<u>100</u> = Total Cover				
Woody Vine Stratum (Plot size: <u>20 ft linear</u>) 1. <u>none</u> 2. _____ _____ = Total Cover				Hydrophytic Vegetation Indicators: ___ Dominance Test is >50% ___ Prevalence Index is ≤3.0 ¹ ___ Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ___ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
% Bare Ground in Herb Stratum <u>0</u> % Cover of Biotic Crust <u>0</u>				
Hydrophytic Vegetation Present? Yes _____ No ☒				

Remarks:
 Characterizes active channel composed of annual grasses in what appears to be a constructed roadside ditch just upstream from bridge crossing.

SOIL

Sampling Point: 1

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

[illegible]

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

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

Indicators for Problematic Hydric Soils³:

- | | | |
|--|---|---|
| ☐ Histosol (A1) | ☐ Sandy Redox (S5) | ☐ 1 cm Muck (A9) (LRR C) |
| ☐ Histic Epipedon (A2) | ☐ Stripped Matrix (S6) | ☐ 2 cm Muck (A10) (LRR B) |
| ☐ Black Histic (A3) | ☐ Loamy Mucky Mineral (F1) | ☐ Reduced Vertic (F18) |
| ☐ Hydrogen Sulfide (A4) | ☐ Loamy Gleyed Matrix (F2) | ☐ Red Parent Material (TF2) |
| ☐ Stratified Layers (A5) (LRR C) | ☐ Depleted Matrix (F3) | ☐ Other (Explain in Remarks) |
| ☐ 1 cm Muck (A9) (LRR D) | ☐ Redox Dark Surface (F6) | |
| ☐ Depleted Below Dark Surface (A11) | ☐ Depleted Dark Surface (F7) | |
| ☐ Thick Dark Surface (A12) | ☐ Redox Depressions (F8) | |
| ☐ Sandy Mucky Mineral (S1) | ☐ Vernal Pools (F9) | |
| ☐ Sandy Gleyed Matrix (S4) | | |
- ³Indicators of hydrophytic vegetation wetland hydrology must be present unless disturbed or problematic

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ✓

Remarks:

Lack of wetland plants and no change from adjacent upland area presumed soils are not hydric and conform to NRCS soils description.

HYDROLOGY

Wetland Hydrology Indicators:

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

Secondary Indicators (2 or more required)

- | | | |
|--|--|--|
| ☐ Surface Water (A1) | ☐ Salt Crust (B11) | ☒ Water Marks (B1) (Riverine) |
| ☐ High Water Table (A2) | ☐ Biotic Crust (B12) | ☒ Sediment Deposits (B2) (Riverine) |
| ☐ Saturation (A3) | ☐ Aquatic Invertebrates (B13) | ☐ Drift Deposits (B3) (Riverine) |
| ☐ Water Marks (B1) (Nonriverine) | ☐ Hydrogen Sulfide Odor (C1) | ☒ Drainage Patterns (B10) |
| ☐ Sediment Deposits (B2) (Nonriverine) | ☐ Oxidized Rhizospheres along Living Roots (C3) | ☐ Dry-Season Water Table (C2) |
| ☐ Drift Deposits (B3) (Nonriverine) | ☐ Presence of Reduced Iron (C4) | ☐ Crayfish Burrows (C8) |
| ☐ Surface Soil Cracks (B6) | ☐ Recent Iron Reduction in Tilled Soils (C6) | ☐ Saturation Visible on Aerial Imagery (C9) |
| ☐ Inundation Visible on Aerial Imagery (B7) | ☐ Thin Muck Surface (C7) | ☐ Shallow Aquitard (D3) |
| ☐ Water-Stained Leaves (B9) | ☐ Other (Explain in Remarks) | ☐ FAC-Neutral Test (D5) |

Field Observations:

Surface Water Present? Yes _____ No ☒ Depth (inches): _____

Water Table Present? Yes _____ No ☒ Depth (inches): _____

Saturation Present? Yes _____ No ✓ Depth (inches): _____
(includes capillary fringe)

Wetland Hydrology Present? Yes ☒ No ☐

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

Remarks:

Relatively uniform low flow channel through study area. OHWM ranges from 5 feet at sample location to 15 feet on the downstream side of the bridge.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Rancho Sisquoc Winery Bridge Replacement City/County: Santa Maria/Santa Barbara Sampling Date: 11/11/20
 Applicant/Owner: Rancho Sisquoc Winery State: CA Sampling Point: 2
 Investigator(s): Kevin Merk Section, Township, Range: Foxen Canyon Quad, T9N, R32W
 Landform (hillslope, terrace, etc.): drainage feature bank Local relief (concave, convex, none): hill slope Slope (%): 5
 Subregion (LRR): C Lat: 34.848413 N Long: -120.241714 W Datum: _____
 Soil Map Unit Name: Mocho sandy loam NWI classification: Riverine

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes _____ No ☒	Is the Sampled Area within a Wetland? Yes _____ No ☒
Hydric Soil Present? Yes _____ No ☒	
Wetland Hydrology Present? Yes _____ No ☒	
Remarks: Data point characterizes creek bank of Asphaltum Creek upstream from the existing bridge.	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>20 ft linear</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A) Total Number of Dominant Species Across All Strata: _____ (B) Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)
1. <u>none</u>				
2. _____				
3. _____				
4. _____				
Sapling/Shrub Stratum (Plot size: <u>20 ft linear</u>)				
1. <u>none</u>				
2. _____				
3. _____				
Herb Stratum (Plot size: <u>20 ft linear</u>)				
1. <u>Avena barbata</u>	<u>35</u>	<u>Y</u>	<u>UPL</u>	
2. <u>Bromus hordeaceus</u>	<u>35</u>	<u>Y</u>	<u>UPL</u>	
3. <u>Bromus diandrus</u>	<u>30</u>	<u>Y</u>	<u>UPL</u>	
Woody Vine Stratum (Plot size: <u>20 ft linear</u>)				
1. <u>none</u>				
2. _____				
Remarks: Characterizes creek bank above OHWM composed of annual grasses in what appears to be a constructed roadside ditch just upstream from bridge crossing.				

Remarks:

Characterizes creek bank above OHWM composed of annual grasses in what appears to be a constructed roadside ditch just upstream from bridge crossing.

SOIL

Sampling Point: 2

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

[illegible]

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

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

Indicators for Problematic Hydric Soils³:

- | | | |
|--|---|---|
| ☐ Histosol (A1) | ☐ Sandy Redox (S5) | ☐ 1 cm Muck (A9) (LRR C) |
| ☐ Histic Epipedon (A2) | ☐ Stripped Matrix (S6) | ☐ 2 cm Muck (A10) (LRR B) |
| ☐ Black Histic (A3) | ☐ Loamy Mucky Mineral (F1) | ☐ Reduced Vertic (F18) |
| ☐ Hydrogen Sulfide (A4) | ☐ Loamy Gleyed Matrix (F2) | ☐ Red Parent Material (TF2) |
| ☐ Stratified Layers (A5) (LRR C) | ☐ Depleted Matrix (F3) | ☐ Other (Explain in Remarks) |
| ☐ 1 cm Muck (A9) (LRR D) | ☐ Redox Dark Surface (F6) | |
| ☐ Depleted Below Dark Surface (A11) | ☐ Depleted Dark Surface (F7) | |
| ☐ Thick Dark Surface (A12) | ☐ Redox Depressions (F8) | |
| ☐ Sandy Mucky Mineral (S1) | ☐ Vernal Pools (F9) | |
| ☐ Sandy Gleyed Matrix (S4) | | |
- ³Indicators of hydrophytic vegetation wetland hydrology must be present unless disturbed or problematic

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ✓

Remarks:

Lack of wetland plants and no change from adjacent upland area presumed soils are not hydric and conform to NRCS soils description.

HYDROLOGY

Wetland Hydrology Indicators:

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

Secondary Indicators (2 or more required)

- | | | |
|--|--|---|
| ☐ Surface Water (A1) | ☐ Salt Crust (B11) | ☐ Water Marks (B1) (Riverine) |
| ☐ High Water Table (A2) | ☐ Biotic Crust (B12) | ☐ Sediment Deposits (B2) (Riverine) |
| ☐ Saturation (A3) | ☐ Aquatic Invertebrates (B13) | ☐ Drift Deposits (B3) (Riverine) |
| ☐ Water Marks (B1) (Nonriverine) | ☐ Hydrogen Sulfide Odor (C1) | ☐ Drainage Patterns (B10) |
| ☐ Sediment Deposits (B2) (Nonriverine) | ☐ Oxidized Rhizospheres along Living Roots (C3) | ☐ Dry-Season Water Table (C2) |
| ☐ Drift Deposits (B3) (Nonriverine) | ☐ Presence of Reduced Iron (C4) | ☐ Crayfish Burrows (C8) |
| ☐ Surface Soil Cracks (B6) | ☐ Recent Iron Reduction in Tilled Soils (C6) | ☐ Saturation Visible on Aerial Imagery (C9) |
| ☐ Inundation Visible on Aerial Imagery (B7) | ☐ Thin Muck Surface (C7) | ☐ Shallow Aquitard (D3) |
| ☐ Water-Stained Leaves (B9) | ☐ Other (Explain in Remarks) | ☐ FAC-Neutral Test (D5) |

Field Observations:

Surface Water Present? Yes _____ No ☒ Depth (inches): _____

Water Table Present? Yes _____ No ☒ Depth (inches): _____

Saturation Present? Yes _____ No ☒ Depth (inches): _____
(includes capillary fringe)

Wetland Hydrology Present? Yes No ✓

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

Remarks:

Data point characterizes bank of creek composed of annual grasses. Data point located above OHWM and no indicators of high flows or other evidence of wetland hydrology at this location.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Rancho Sisquoc Winery Bridge Replacement City/County: Santa Maria/Santa Barbara Sampling Date: 11/11/20
 Applicant/Owner: Rancho Sisquoc Winery State: CA Sampling Point: 3
 Investigator(s): Kevin Merk Section, Township, Range: Foxen Canyon Quad, T9N, R32W
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): none Slope (%): 1
 Subregion (LRR): C Lat: 34.848413 N Long: -120.241714 W Datum: _____
 Soil Map Unit Name: Mocho sandy loam NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes _____ No ☒	Is the Sampled Area within a Wetland? Yes _____ No ☒
Hydric Soil Present? Yes _____ No ☒	
Wetland Hydrology Present? Yes _____ No ☒	
Remarks: Data point characterizes area beyond the top of creek bank of Asphaltum Creek upstream from the existing bridge.	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>20 ft linear</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A) Total Number of Dominant Species Across All Strata: _____ (B) Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)
1. <u>none</u>				
2. _____				
3. _____				
4. _____				
<u>Sapling/Shrub Stratum</u> (Plot size: <u>20 ft linear</u>) 0 = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
1. <u>none</u>				
2. _____				
3. _____				
4. _____				
<u>Herb Stratum</u> (Plot size: <u>20 ft linear</u>) 0 = Total Cover				Hydrophytic Vegetation Indicators: ___ Dominance Test is >50% ___ Prevalence Index is ≤3.0 ¹ ___ Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ___ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. <u>Avena barbata</u>	35	Y	UPL	
2. <u>Bromus hordeaceus</u>	35	Y	UPL	
3. <u>Bromus diandrus</u>	30	Y	UPL	
4. _____				
5. _____				
6. _____				
7. _____				
8. _____		Y		
<u>Woody Vine Stratum</u> (Plot size: <u>20 ft linear</u>) 100 = Total Cover				
1. <u>none</u>				Hydrophytic Vegetation Present? Yes _____ No ☒
2. _____				
% Bare Ground in Herb Stratum <u>0</u> % Cover of Biotic Crust <u>0</u>				

Remarks:

Characterizes top of bank area adjacent to creek channel upstream from bridge crossing. No change in vegetation from channel to top of bank area.

SOIL

Sampling Point: 3

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

[illegible]

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

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

Indicators for Problematic Hydric Soils³:

- | | | |
|--|---|---|
| ☐ Histosol (A1) | ☐ Sandy Redox (S5) | ☐ 1 cm Muck (A9) (LRR C) |
| ☐ Histic Epipedon (A2) | ☐ Stripped Matrix (S6) | ☐ 2 cm Muck (A10) (LRR B) |
| ☐ Black Histic (A3) | ☐ Loamy Mucky Mineral (F1) | ☐ Reduced Vertic (F18) |
| ☐ Hydrogen Sulfide (A4) | ☐ Loamy Gleyed Matrix (F2) | ☐ Red Parent Material (TF2) |
| ☐ Stratified Layers (A5) (LRR C) | ☐ Depleted Matrix (F3) | ☐ Other (Explain in Remarks) |
| ☐ 1 cm Muck (A9) (LRR D) | ☐ Redox Dark Surface (F6) | |
| ☐ Depleted Below Dark Surface (A11) | ☐ Depleted Dark Surface (F7) | |
| ☐ Thick Dark Surface (A12) | ☐ Redox Depressions (F8) | |
| ☐ Sandy Mucky Mineral (S1) | ☐ Vernal Pools (F9) | |
| ☐ Sandy Gleyed Matrix (S4) | | |
- ³Indicators of hydrophytic vegetation wetland hydrology must be present unless disturbed or problem area

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ☒

Remarks:

Lack of wetland plants and no change from creek channel to upland area, presumed soils are not hydric and conform to NRCS soils description.

HYDROLOGY

Wetland Hydrology Indicators:

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

Secondary Indicators (2 or more required)

- | | | |
|--|--|--|
| ☐ Surface Water (A1) | ☐ Salt Crust (B11) | ☐ Water Marks (B1) (Riverine) |
| ☐ High Water Table (A2) | ☐ Biotic Crust (B12) | ☐ Sediment Deposits (B2) (Riverine) |
| ☐ Saturation (A3) | ☐ Aquatic Invertebrates (B13) | ☐ Drift Deposits (B3) (Riverine) |
| ☐ Water Marks (B1) (Nonriverine) | ☐ Hydrogen Sulfide Odor (C1) | ☐ Drainage Patterns (B10) |
| ☐ Sediment Deposits (B2) (Nonriverine) | ☐ Oxidized Rhizospheres along Living Roots (C3) | ☐ Dry-Season Water Table (C2) |
| ☐ Drift Deposits (B3) (Nonriverine) | ☐ Presence of Reduced Iron (C4) | ☐ Crayfish Burrows (C8) |
| ☐ Surface Soil Cracks (B6) | ☐ Recent Iron Reduction in Tilled Soils (C6) | ☐ Saturation Visible on Aerial Imagery (C9) |
| ☐ Inundation Visible on Aerial Imagery (B7) | ☐ Thin Muck Surface (C7) | ☐ Shallow Aquitard (D3) |
| ☐ Water-Stained Leaves (B9) | ☐ Other (Explain in Remarks) | ☐ FAC-Neutral Test (D5) |

Field Observations:

Surface Water Present? Yes No ☒ Depth (inches): _____

Water Table Present? Yes No ☒ Depth (inches):

Saturation Present? Yes ☐ No ☒ Depth (inches):

Wetland Hydrology Present? Yes No ☒

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

Remarks:

Data point characterizes terrace area outside creek channel, beyond top of bank. No indicators of wetland hydrology at this location.

ATTACHMENT 4: GEOTECHNICAL REPORT



GEOTECHNICAL INVESTIGATION
PROPOSED BRIDGE
6600 FOXEN CANYON (APN 133-040-011)
SANTA MARIA, CALIFORNIA

May 7, 2020
PROJECT
20-9194

FOR
RANCHO SISQUOC
C/O DAVID SANSONE
P.O. BOX 1429
SAN LUIS OBISPO, CA 93406



May 7, 2020
Project 20-9194



P.O. Box 6835
Santa Maria, CA 93456
Tel: (805) 631-5108
Fax: (805) 631-5937

Rancho Sisquoc Winery
c/o David Sansone
P.O. Box 1429
San Luis Obispo. CA 93406

Subject: Geotechnical Investigation, Rancho Sisquoc Winery, Proposed Bridge, 6600
Foxen Canyon Road, Santa Maria, California

Dear David:

Pacific Coast Testing (PCT) is pleased to submit this Geotechnical Investigation Report for the proposed replacement bridge at the Rancho Sisquoc Winery, 6600 Foxen Canyon Road in Santa Maria, California. This report was prepared in accordance with the scope of services presented in our proposal. The report provides geotechnical recommendations for site preparation, bridge foundations, lateral pressures, etc.

As discussed in the report, the primary concerns from a geotechnical standpoint are the presence of loose soils and the potential for liquefaction induced settlements. It is our understanding that conventional continuous abutments are proposed for the proposed bridge. However, the abutment design should be able to accommodate the potential liquefaction settlements (~1-1/2 to 2") otherwise the bridge abutments should be supported on cast-in-drilled-hole (CIDH) concrete piers.

Please contact the undersigned if you have any questions concerning the findings or conclusions provided in this report.

Sincerely,

PACIFIC COAST TESTING INC.

A handwritten signature in blue ink that reads "R. Church".

Ron J. Church
GE #2184



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**GEOTECHNICAL INVESTIGATION
BRIDGE - RANCHO SISQUOC WINERY
6600 FOXEN CANYON ROAD
SANTA MARIA, CALIFORNIA**

PROJECT 20-9194

1.0 INTRODUCTION

This report presents the results of our geotechnical investigation for the proposed replacement bridge at the Rancho Sisquoc Winery, 6600 Foxen Canyon Road in Santa Maria, California. A site location map is presented in Figure 1.

The bridge site is located east of Foxen Canyon Road on Forest Route 10N06. The bridge site is generally surrounded by agricultural and vacant land. The proposed bridge will cross a creek that generally runs north-south on the westside of the property. Topographically, the terrain in the area of the proposed bridge is slightly to moderately sloping with gradients varying from 10 to 30 percent. The proposed bridge abutments are at an elevation of around 495 feet above mean sea level (MSL). At the time of our field exploration the boring locations were covered with asphalt concrete.

The existing bridge (~26' span) will be removed and a new bridge with a 50 foot span constructed in approximately the same location. Footing loads for the bridge are presently unavailable. For the purpose of this report, abutments loads on the order of 10 kips per lineal foot (continuous) have been estimated.

The project description is based on a site reconnaissance performed by a Pacific Coast Testing, Inc., engineer and information provided by Dave Sansone of Sansone Company Inc. An aerial photograph forms the basis for the "Site Plan", Figure 2. A concept sketch by Sansone Company Inc was also provided and is included as an inset on Figure 2.

In the event that there is change in the nature, design or location of improvements, or if the assumed loads are not consistent with actual design loads, the conclusions and recommendations contained in this report should be reviewed and modified, if required. Evaluations of the soils for hydrocarbons or other chemical properties are beyond the scope of the investigation.

2.0 PURPOSE AND SCOPE

The purpose of this study was to explore and evaluate the surface and subsurface soil conditions at the site and to develop geotechnical information and design criteria for the proposed project. The scope of this study included the following items.

1. A review of available soil and geologic information for this area of Santa Maria.
2. A field study consisting of a site reconnaissance and an exploratory boring program to formulate a description of the subsurface conditions.
3. A laboratory testing program performed on representative soil samples collected during our field study.
4. Engineering analysis of the data gathered during our field study, laboratory testing, and literature review. Development of recommendations for site preparation and grading, and geotechnical design criteria for foundations, slab-on-grade construction, retaining walls, pavement design and underground facilities.
5. Preparation of this report summarizing our findings, conclusions, and recommendations regarding the geotechnical aspects of the project site.

3.0 SUBSURFACE SOIL CONDITIONS

In our exploratory borings, the near surface materials to a depth of 4 to 5 feet consisted of sands and silty sands. These materials were encountered in a moist state and in a loose to medium dense condition. The surface materials were underlain similar sands and silty sands to a depth of 30 feet. These materials were generally found in a medium dense to dense condition and in a moist to very moist state. The near surface soils are non-expansive.

Groundwater was not encountered to a depth of 30 feet below existing grades; however, very moist to saturated soils were found at a depth of 26 feet indicating that groundwater can rise to

this elevation (& shallower) in wet winter years. In addition, runoff flows in the creek and perched water conditions should be expected.

A more detailed description of the soils encountered is presented graphically on the "Exploratory Boring Logs," B-1 and B-2, Appendix A. An explanation of the symbols and descriptions used on these logs are presented on the "Soil Classification Chart.

The soil profile described above is generalized; therefore, the reader is advised to consult the boring logs (Appendix A) for soil conditions at specific locations. Care should be exercised in interpolating or extrapolating subsurface conditions between or beyond borings. On the boring logs we have indicated the soil type, moisture content, grain size, dry density, and the applicable Unified Soil Classification System Symbol.

The locations of our exploratory borings, shown on Site Plan, Figure 2, were approximately determined from features at the site. Hence, accuracy can be implied only to the degree that this method warrants. Surface elevations at boring locations were not determined.

4.0 SEISMIC CONSIDERATIONS

4.1 Seismic Coefficients

Structures should be designed to resist the lateral forces generated by earthquake shaking in accordance with the building code and local design practice. This section presents seismic design parameters for use with the California Building Code (CBC) and ASCE 7-16. The site coordinates and the ASCE 7 Hazard Tool were used to obtain the seismic design criteria. The peak ground acceleration was estimated for a 2 percent probability of occurrence in 50 years using the USGS online deaggregation tool.

Seismic Data

California Building Code Seismic Parameter	Values for Site Class D
Latitude, degrees	34.848400
Longitude, degrees	-120.241700

California Building Code Seismic Parameter	Values for Site Class D
S_s Seismic Factor	0.993
S_1 Seismic Factor	0.373
Site Class	Sd, Stiff Soil
F_a , Short-Period Site Coefficient (@ 0.2-s Period)	1.200
F_v , Long-Period Site Coefficient (@ 1.0-s Period)	1.927*
S_{MS} , Site Specific Response Parameter for Site Class at 0.2 sec	1.192
S_{M1} , Site Specific Response Parameter for Site Class at 1 sec	0.719
$S_{DS} = 2/3 S_{MS}$	0.795
$S_{D1} = 2/3 S_{M1}$	0.480
Peak Ground Acceleration (2% probability in 50 years)	0.518
Likely Magnitude (M)	6.8
*For the proposed structure a simplified design procedure (Section 12.14 of ASCE 7-16) is anticipated to be used. Values for F_v , S_{MS} and S_{M1} would not be required using this procedure. If F_v , S_{MS} and S_{M1} are required a design response spectrum can be prepared, upon request.	

4.2 Liquefaction Analysis

Liquefaction is described as the sudden loss of soil shear strength due to a rapid increase of pore water pressures caused by cyclic loading from a seismic event. In simple terms it means that the soil acts more like a fluid than a solid in a liquefiable event. In order for liquefaction to occur, the following are generally needed; granular soils (sand, silty sand and sandy silt), groundwater and low density (very loose to medium dense) conditions. A liquefaction study was not part of our scope for this project; however, an opinion can be provided based on the results of our soil borings and experience in this area of Santa Maria. Sands and silty sands in a medium dense to dense condition were encountered below a depth of 5 feet. Based on our past experience similar materials can be expected to a depth of 50 feet with an estimated high groundwater elevation of 15 feet below abutment grade. Using this information our preliminary analysis indicates that overall (total) seismic settlements on the order of 1-1/2 to 2 inches can be expected. However, this is a preliminary assessment and a detailed liquefaction study and site-specific seismic analysis would be required to fully investigate the potential for liquefaction.

4.3 Lateral Spreading

An estimate of lateral spread displacement to occur at the site was made using equations developed by Youd, Hansen and Bartlett. The parameters used in the equation included data from the Los Alamos Fault (M=7.2, 12.5 km from the site), a thickness of liquefiable soils of 15 feet, an average fines content of 20 percent and a mean grain size of 0.15 mm. The results of this analysis indicates lateral displacements on the order of 1 foot could occur. To reduce the potential for these lateral movements to influence the bridge, PCT would recommend that the abutments be setback a minimum of 10 feet from the top of the creek bank.

4.4 Slope Stability

The bridge site is located in slightly to moderately sloping terrain with gradients on the order of 20 to 30 percent along the creek banks. There was no visual evidence of overall instability at the bridge site; although, erosion and shallow instability could happen, if over-saturated conditions were to occur. However, the potential for movement to influence the proposed construction would be low.

4.5 Faulting

There are no active or potentially active faults in the direct vicinity of the proposed bridge. The nearest known active fault (Los Alamos-Baseline Fault) is located south of the site. The site is not within a State of California Fault Hazards Zone (Alquist-Priolo). It is our opinion that there is a negligible potential for fault rupture to impact the proposed bridge based on review of the published maps.

4.6 Scour Considerations

Based on the soil types encountered in the borings scour depths along the creek (based solely on soil types) could potentially exceed 5 to 10 feet depending on creek flow rates. A more detailed channel stability analysis and depth of scour should be performed by the civil engineer and would depend on the flow rate of the creek, channel geometry, and the properties of the soils.

5.0 CONCLUSIONS AND RECOMMENDATIONS

1. The site is suitable for the proposed bridge provided the recommendations presented in this report are incorporated into the project plans and specifications. The conclusions and recommendations are based on the results of our exploration and laboratory testing program, and on our understanding of the project. The potential for soil erosion and/or scour at the site should be evaluated by the project civil engineer.
2. Due to the loose subsurface materials and potential for liquefaction settlements, the preferred foundation system for the bridge would be cast-in-place drilled piers extending to a depth of at least 50 feet below existing grades. Driven piles could also be considered. Recommendations for this option can be provided upon request. However, based on our understanding of the project, conventional deep continuous footings (abutments) would be preferred and the bridge designed to accommodate the potential liquefaction settlements. As discussed in the report the abutments should be setback at least 10 feet from top of creek banks and be on the order of 5 feet deep.
3. All grading and foundation plans should be reviewed by Pacific Coast Testing Inc., hereinafter described as the Geotechnical Engineer, prior to contract bidding. This review should be performed to determine whether the recommendations contained within this report are incorporated into the project plans and specifications.
4. The Geotechnical Engineer should be notified at least two (2) working days before site clearing or grading operations commence and should be present to observe the stripping of deleterious material and provide consultation to the Grading Contractor in the field.
5. Field observation and testing during the grading operations should be provided by the Geotechnical Engineer so that a decision can be formed regarding the adequacy of the site preparation, the acceptability of fill materials, and the extent

to which the earthwork construction and the degree of compaction comply with the project geotechnical specifications. Any work related to grading performed without the full knowledge of, and under direct observation of the Geotechnical Engineer, may render the recommendations of this report invalid.

5.1 Clearing and Stripping

1. All surface and subsurface deleterious materials should be removed from the proposed bridge location and disposed of off-site. This includes, but is not limited to the existing bridge, asphalt concrete flatwork, any buried utility lines, loose fills, septic systems, debris, building materials, and any other surface and subsurface structures within proposed building areas. Voids left from site clearing, should be cleaned and backfilled as recommended for structural fill.
2. Once the site has been cleared, the exposed ground surface should be stripped to remove surface vegetation and organic soil. Strippings should be disposed of off-site or stockpiled for future use in landscape areas if approved by the landscape architect.

5.2 Site Preparation

1. After clearing and stripping, areas to receive fill (bridge approaches) should be excavated to a minimum depth of two (2) feet below lowest existing grade. The bottom of the excavation should then be scarified to a depth of 12 inches, moisture conditioned, and compacted to 95 percent (ASTM D1557-02). A select material such as Class II/III base should be placed and compacted to 95 percent to the bottom of the approach structures. Fill and cut slopes should be constructed at a maximum slope of 3:1 (horizontal:vertical). Fill slopes should be compacted in-place to a minimum of 95 percent of the maximum dry density as determined by the ASTM D1557-02 test procedure. Fill slopes should be overfilled and trimmed back to competent material.
2. For the drilled pier option, pier caps should extend at least three (3) feet below lowest adjacent ground surface. The pier cap excavations should be deepened a

further one (1) foot and a layer of stabilization fabric (Mirafi HP570 or equivalent) with one (1) foot of Class II Base or recycled Class II/III base placed to the bottom of the cap. The base materials should be compacted to at least 95 percent of ASM D1557-02.

3. The soils engineer should be consulted for specific site recommendations during site excavation, grading and foundation construction.
4. The above grading is based on the strength characteristics of the materials under conditions of normal moisture that would result from rain water and do not take into consideration the additional activating forces applied by seepage from springs or subsurface water. Areas of observed seepage should be provided with subsurface drains to release the hydrostatic pressures.
5. The near-surface soils may become partially or completely saturated during the rainy season. Grading and foundation construction operations during this time period may be difficult since the saturated materials may not be compactable, and they may not support construction equipment. Consideration should be given to the seasonal limit of the grading operations on the site.
6. All final grades should be provided with a positive drainage gradient away from foundations. Final grades should provide for rapid removal of surface water runoff. Ponding of water should not be allowed adjacent to foundations.

5.3 Preparation of Paved Areas

1. After clearing and grubbing, the existing soils should be removed to a depth of at least 2 feet below the existing ground surface or 1 foot below the proposed structural section, whichever is deeper. The bottom of the excavation should then be scarified, moisture-conditioned and compacted to at least 95 percent. Native fill materials can then be placed and similarly compacted.

2. The upper 12 inches of subgrade beneath all paved areas should be compacted to at least 95 percent relative compaction. Subgrade soils should not be allowed to dry out or have excessive construction traffic between the time of water conditioning and compaction, and the time of placement of the pavement structural section.

5.4 Structural Fill

1. On-site silty sand and sand soils, free of organic and deleterious material maybe suitable for use as structural fill below the select base materials on approach and pavement structures. These fills should not contain rocks larger than 3 inches in greatest dimension and should have no more than 15 percent larger than 1.5 inches in greatest dimension.
2. Select import (Class II/III Base) should be free of organic and other deleterious material and should be non-expansive with a plasticity index of 10 or less and a sand equivalent of at least 30. Before delivery to the site, a sample of the proposed import should be tested in our laboratory to determine its suitability for use as structural fill.
3. Structural fill using on-site inorganic soil or approved import should be placed in layers, each not exceeding eight inches in thickness before compaction. On-site inorganic or imported soil should be conditioned with water, or allowed to dry, to produce a soil water content at approximately optimum value and should be compacted to at least 90 and 95 percent relative compaction, where applicable based on ASTM D1557-02.

5.5 Conventional Foundations

1. For conventional deep continuous concrete footings (abutments) the bridge should be designed to tolerate differential settlements on the order of 1½ to 2 inches during a liquefiable event. The footing excavations should be dug to a minimum depth of 5 feet below lowest adjacent grade. In addition, the toe of the abutments should also be at least 2 feet below a 5:1 (horizontal:vertical) slope

drawn up from the creek bottom. The top of the footings should also have a minimum set back distance of 10 feet from the top of the creek bank. The exposed bearing surfaces should then be evaluated by the geotechnical engineer and if approved scarified and compacted to 95 percent of ASTM D1557-02.

2. For continuous footings at least 2 feet wide an allowable dead plus live load bearing pressure of 2500 psf may be used. Reinforcement for the footings should be designed by the structural engineer.
3. The above allowable pressures are for support of dead plus live loads and may be increased by one-third for short-term wind and seismic loads.
4. Lateral forces may be resisted by passive pressure acting against the sides of the abutments and/or friction between the soil and the bottom of the footings. For resistance to lateral loads, a friction factor of 0.35 may be utilized for sliding resistance at the base of the abutments in engineered fill. A passive resistance of 350 pcf equivalent fluid weight may be used against the sides of the abutments. If friction and passive pressures are combined, the lesser value should be reduced by 33 percent.

5.6 Drilled Pier Foundations

1. Drilled cast-in-place concrete (CIDH) pier foundations can be used to support the bridge. We recommend that drilled shafts be designed based on frictional resistance alone, and that the end bearing resistance be neglected for the purposes of design. Drilled pier foundations that are designed based on frictional resistance alone can typically be cleaned without requiring downhole observation or special cleaning of the drilled shafts.
2. The drilled (CIDH) friction piers should be a minimum of 2 feet in diameter and extend a minimum of 50 feet below existing grades. We recommend that a maximum allowable frictional resistance of 750 pounds per square foot be used for downward and uplift loads below a depth of 10 feet. A one third increase in

the recommend resistance values can be used when considering seismic or other transient loading conditions. To accommodate the variability of the materials and to adjust the pier lengths accordingly, a representative of Pacific Coast Testing should be continuously on-site to monitor drilling, rebar placement and concrete placement. The reinforcement for the drilled piers and pile caps should be designed by the structural engineer.

3. We estimate that settlements of drilled piers under static loading conditions, when installed as recommended, should not exceed $\frac{1}{2}$ inch total and $\frac{1}{4}$ inch differential between adjacent drilled piers.
4. No reduction in pier capacity is necessary provided the drilled piers are not spaced closer than 2-1/2 pier widths on-center. If piers are to be spaced closer than 2-1/2 widths, the Geotechnical Engineer should provide additional recommendations, as needed.
5. A lateral bearing value of 300 pcf can be used for design of the piers. The soils encountered in the upper 2' below existing grades should be neglected.

5.7 Drilled Pier Considerations

1. Groundwater is likely to be encountered and depending on the time of year the piers are drilled, perched water conditions maybe present resulting in collapse of the pier excavations. The pier excavations should therefore be cased. The pier holes are usually drilled slightly larger than the design diameter allowing the placement of the casing (typical 3/8-inch wall).
2. Concrete should have a minimum compressive strength of 3,000 psi with a water/cement ratio not greater than 0.5, or as specified by the Project Structural Engineer. A higher concrete compressive strength may be required for structural considerations. For concrete placed in dry excavations a 4 to 6-inch slump would be appropriate. For concrete placed by tremie methods a 7 to 9-inch slump is recommended. The shaft(s) should contain steel reinforcement as determined

by the bridge Project Structural Engineer in accordance with applicable bridge design specifications. Based on our experience a standard auger with rock teeth should be sufficient to penetrate the native materials.

5.8 Lateral Pressures

1. Abutment and retaining walls should be designed to resist lateral pressures from adjacent soils and surcharge loads applied behind the walls.

Lateral Pressure and Condition (Compacted Fill)		Equivalent Fluid Pressure, pcf	
		Unrestrained Wall	Rigidly Supported Wall
Active Case, Drained	Level-native soils	35	--
	Level-granular backfill	30	--
At-Rest Case, Drained	Level-native soils	--	55
	Level-sand backfill		45
Passive Case, Drained	Level 2:1 Sloping Down	350	--
		200	
For sloping backfill add 1 pcf for every 2 deg. (Active case) and 1.5 pcf for every 2 deg. (At-rest case)			

2. For walls greater than 6 feet, as measured from the top of the foundation, a seismic horizontal surcharge of $10H^2$ (pounds per linear foot of wall) may be assumed to act on retaining walls. The surcharge will act at a height of $0.33H$ above the wall base (where H is the height of the wall in feet). This surcharge force shall be added to an active design equivalent fluid pressure of 35 pounds per square foot of depth for the seismic condition.
3. In addition to the lateral soil pressure given above, abutment/retaining walls should be designed to support any design live load, such as from vehicle and construction surcharges, etc., to be supported by the wall backfill. If construction vehicles are required to operate within 10 feet of a wall, supplemental pressures will be induced and should be taken into account through design.

4. The above-recommended pressures are based on the assumption that sufficient subsurface drainage will be provided behind the walls to prevent the build-up of hydrostatic pressure. To achieve this, we recommend that a filter material be placed behind all proposed walls. The blanket of filter material should be a minimum of 12 inches thick and should extend from the bottom of the wall to within 12 inches of the ground surface. The top 12 inches should consist of water conditioned, compacted native soil. A 4-inch diameter drain pipe should be installed near the bottom of the filter blanket with perforations facing down. The drain pipe should be underlain by at least 4 inches of filter type material. Adequate gradients should be provided to discharge water that collects behind the retaining wall to an adequately controlled discharge system with suitably projected outlets. The filter material should conform to Class I, Type B permeable material as specified in Section 68 of the California Department of Transportation Standard Specifications, current edition. A typical 1" x #4 concrete coarse aggregate mix approximates this specification.
5. For hydrostatic loading conditions (i.e. no free drainage behind walls), an additional loading of 60 pcf equivalent fluid weight should be added to the above soil pressures. If it is necessary to design retaining structures for submerged conditions, passive pressures should be reduced by 50 percent. In addition, soil friction beneath the base of the abutments should be neglected.
6. Precautions should be taken to ensure that heavy compaction equipment is not used immediately adjacent to walls, so as to prevent undue pressure against, and movement of, the walls.

5.9 Pavement Design

1. The following table provides recommended pavement sections based on an estimated R-Value of 40 for the near surface silty sand soils encountered at the site.

RECOMMENDED MINIMUM ASPHALT CONCRETE PAVEMENT SECTIONS DESIGN THICKNESS		
T.I.	A.C.-in.	A.B.-in.
4.5	2.5	6.0
5.0	2.5	6.0
5.5	3.0	7.0
6.0	3.0	8.0
T.I. = Traffic Index A.C. = Asphaltic Concrete - must meet specifications for Caltrans Type A Asphalt Concrete A.B. = Aggregate Base - must meet specifications for Caltrans Class II Aggregate Base (R-Value = minimum 78)		

2. R-value samples should be obtained and tested at the completion of rough grading and the pavement sections confirmed or revised. All asphaltic concrete pavement sections and all sections should be crowned for good drainage.
3. All asphalt pavement construction and materials used should conform with Sections 26 and 39 of the latest edition of the Standard Specifications, State of California, Department of Transportation. Aggregate bases and sub-bases should also be compacted to a minimum relative compaction of 95 percent based on ASTM D1557-02

5.10 Temporary Excavations and Slopes

1. We recommend that temporary trench walls exceeding four (4) feet in depth be sloped at an inclination of 1-1/2:1 (horizontal:vertical). However, during the rainy season, slopes of 2:1 (horizontal:vertical) or flatter are more likely.
2. It should be noted that it is the *Contractor's* responsibility to maintain safe cut slopes based on actual field conditions and according to OSHA requirements. Temporary Slopes should not be open for more than 2 to 3 days. Perched water may be present locally in the slope face in wet winter months. The stability of the slopes may be compromised somewhat where these conditions exist due to softening of the saturated materials.

3. Where the temporary trench slopes are inclined as described above, no shoring as required. However, where adjacent features may influence establishment of appropriate slopes, the *Contractor* may elect to use shoring. In no case should personnel enter trenches with vertical sidewalls greater than 5 feet deep without proper shoring. Design and installation of the shoring should be the responsibility of the *Contractor* and should be performed according to OSHA requirements.
4. Shoring should be designed to resist the lateral earth pressures provided, assuming no hydrostatic loads. If ground water is encountered the shoring should be designed for the required hydrostatic pressures.

5.11 Geotechnical Observation and Testing

1. Field exploration and site reconnaissance provides only a limited view of the geotechnical conditions of the site. Substantially more information will be revealed during the foundation construction. Special inspection of grading should be provided in accordance with California Building Code Section 1705.6 and Table 1705.6. For concrete cast-in-drilled-hole (CIDH) piers, special inspection should be provided in accordance with California Building Code Section 1705.8 and Table 1705.8. As indicated below continuous inspection should be provided for the concrete cast-in-drilled-hole (CIDH) piers.

CBC Table 1705.6 REQUIRED VERIFICATION AND INSPECTION OF SOILS		
VERIFICATION AND INSPECTION TASK	CONTINUOUS DURING TASK LISTED	PERIODIC DURING TASK LISTED
1. Verify materials below shallow foundations are adequate to achieve the design bearing capacity		X
2. Verify excavations are extended to proper depth and have reached proper material		X
3. Perform classification and testing of compacted fill		X
4. Verify use of proper materials, densities and lift thicknesses during placement and compaction of compacted fill	X	
5. Prior to placement of compacted fill, observe subgrade and verify that site has been prepared properly.		X

CBC Table 1705.8 REQUIRED VERIFICATION AND INSPECTION OF CAST-IN-PLACE DEEP FOUNDATION ELEMENTS		
VERIFICATION AND INSPECTION TASK	CONTINUOUS DURING TASK LISTED	PERIODIC DURING TASK LISTED
1. Observe drilling operations and maintain complete and accurate records for each element.	X	
2. Verify placements locations and plumbness; confirm elements diameters, lengths, embedment into bedrock and adequate end-bearing strata capacity.	X	
3. For concrete elements perform additional inspections in accordance with section 1705.3.	X	

3. The validity of the recommendations contained in this report are also dependent upon a prescribed testing and observation program. Our firm assumes no responsibility for construction compliance with these design concepts and recommendations unless we have been retained to perform on-site testing and review during all phases of site preparation, grading, and foundation/slab construction. The Geotechnical Engineer should be notified at least two (2) working days before site clearing or grading operations commence to develop a program of quality control

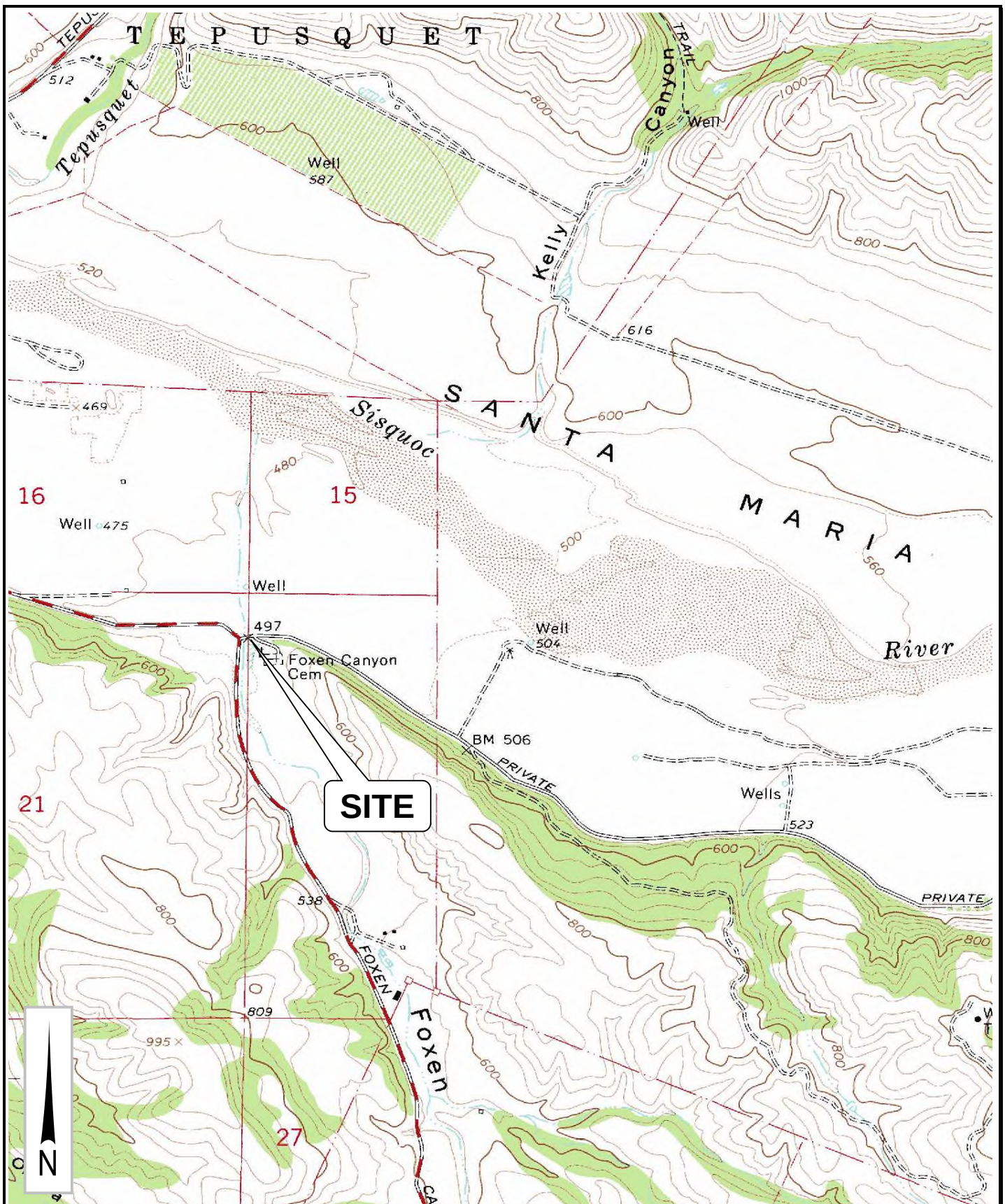
6.0 LIMITATIONS AND UNIFORMITY OF CONDITIONS

1. It should be noted that it is the responsibility of the owner or his/her representative to notify Pacific Coast Testing Inc. a minimum of 48 hours before any stripping, grading, or foundation excavations can commence at this site.
2. The recommendations of this report are based upon the assumption that the soil conditions do not deviate from those disclosed during our study. Should any variations or undesirable conditions be encountered during grading of the site, Pacific Coast Testing Inc. will provide supplemental recommendations as dictated by the field conditions.
3. This report is issued with the understanding that it is the responsibility of the owner or his/her representative to ensure that the information and recommendations contained herein are brought to the attention of the architect

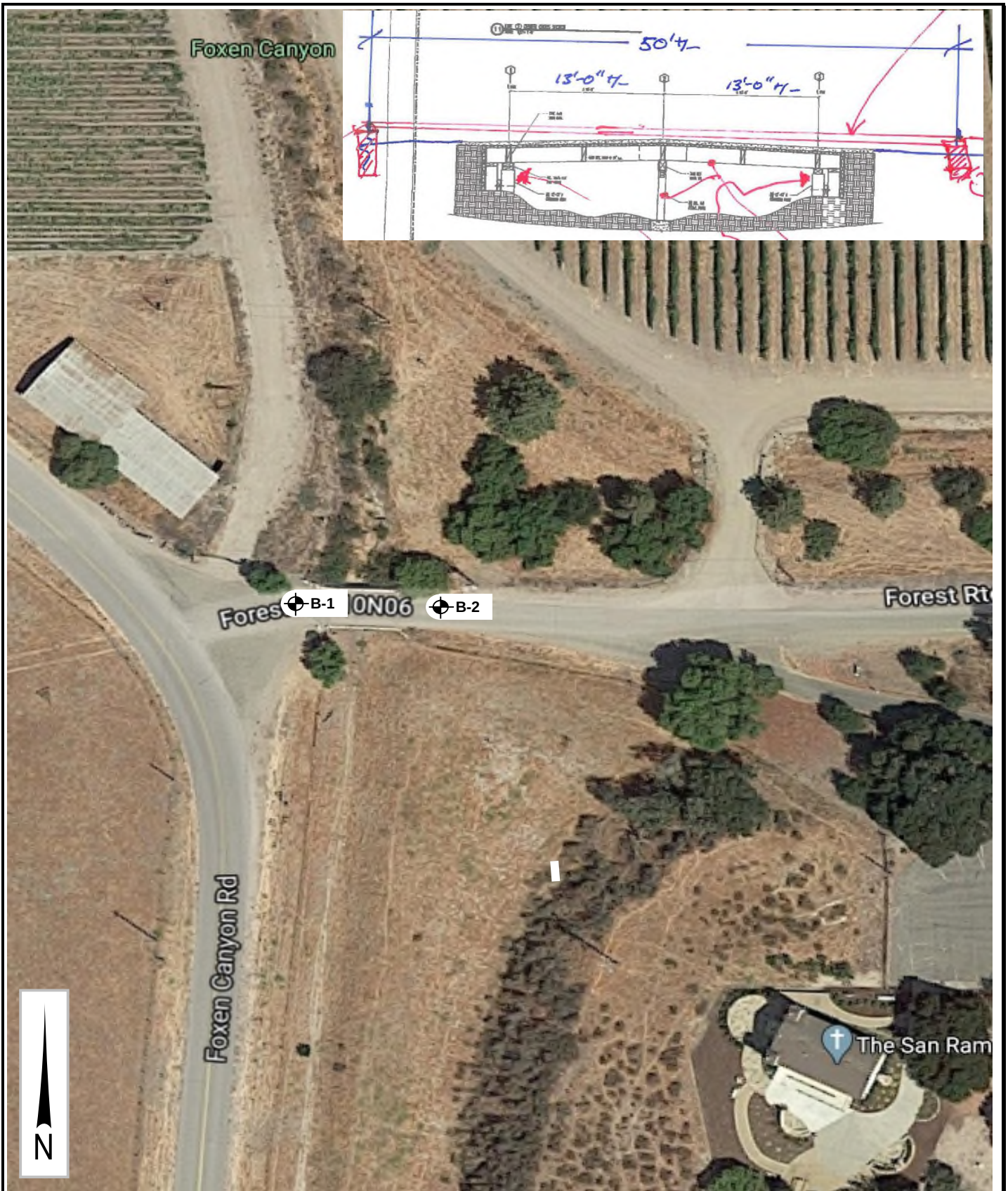
and engineer for the project and incorporated into the project plans and specifications. The owner or his/her representative is responsible for ensuring that the necessary steps are taken to see that the contractor and subcontractors carry out such recommendations in the field.

4. As of the present date, the findings of this report are valid for the property studied. With the passage of time, changes in the conditions of a property can occur whether they are due to natural processes or to the works of man on this or adjacent properties. Legislation or the broadening of knowledge may result in changes in applicable standards. Changes outside of our control may find this report to be invalid, wholly or partially. Therefore, this report should not be relied upon after a period of three (3) years without our review nor is it applicable for any properties other than those studied.
5. Validity of the recommendations contained in this report is also dependent upon the prescribed testing and observation program during the site preparation and construction phases. Our firm assumes no responsibility for construction compliance with these design concepts and recommendations unless we have been retained to perform continuous on-site testing and review during all phases of site preparation, grading, and foundation/slab construction.

FIGURES



 Pacific Coast Testing, Inc.	SITE MAP PROPOSED BRIDGE 6600 FOXEN CANYON (APN 133-040-011) SANTA MARIA, CALIFORNIA	Project No.	Figure No.
		20-9194	1



⊕ Boring Location



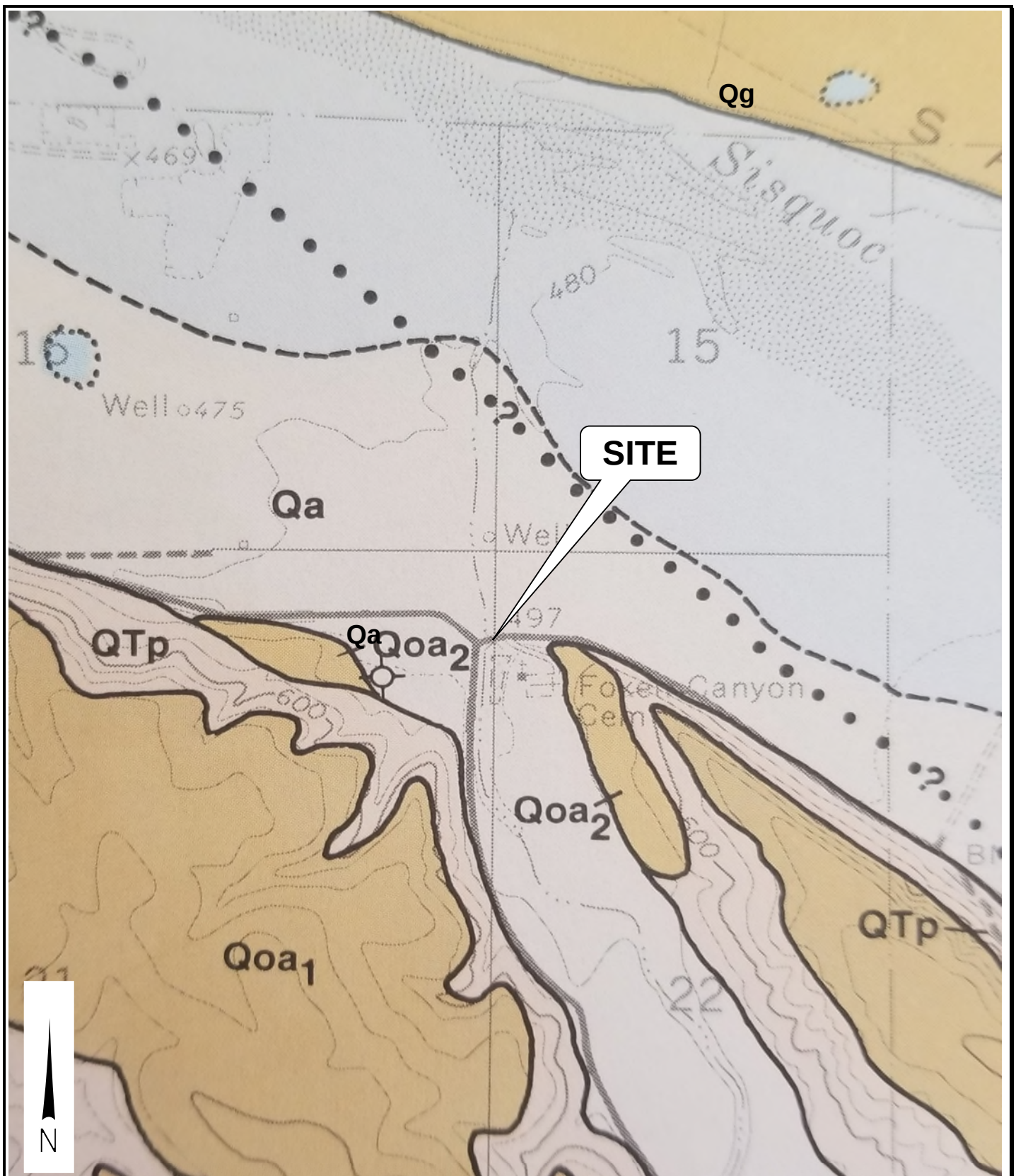
SITE PLAN
PROPOSED BRIDGE
 6600 FOXEN CANYON (APN 133-040-011)
 SANTA MARIA, CALIFORNIA

Project No.

20-9194

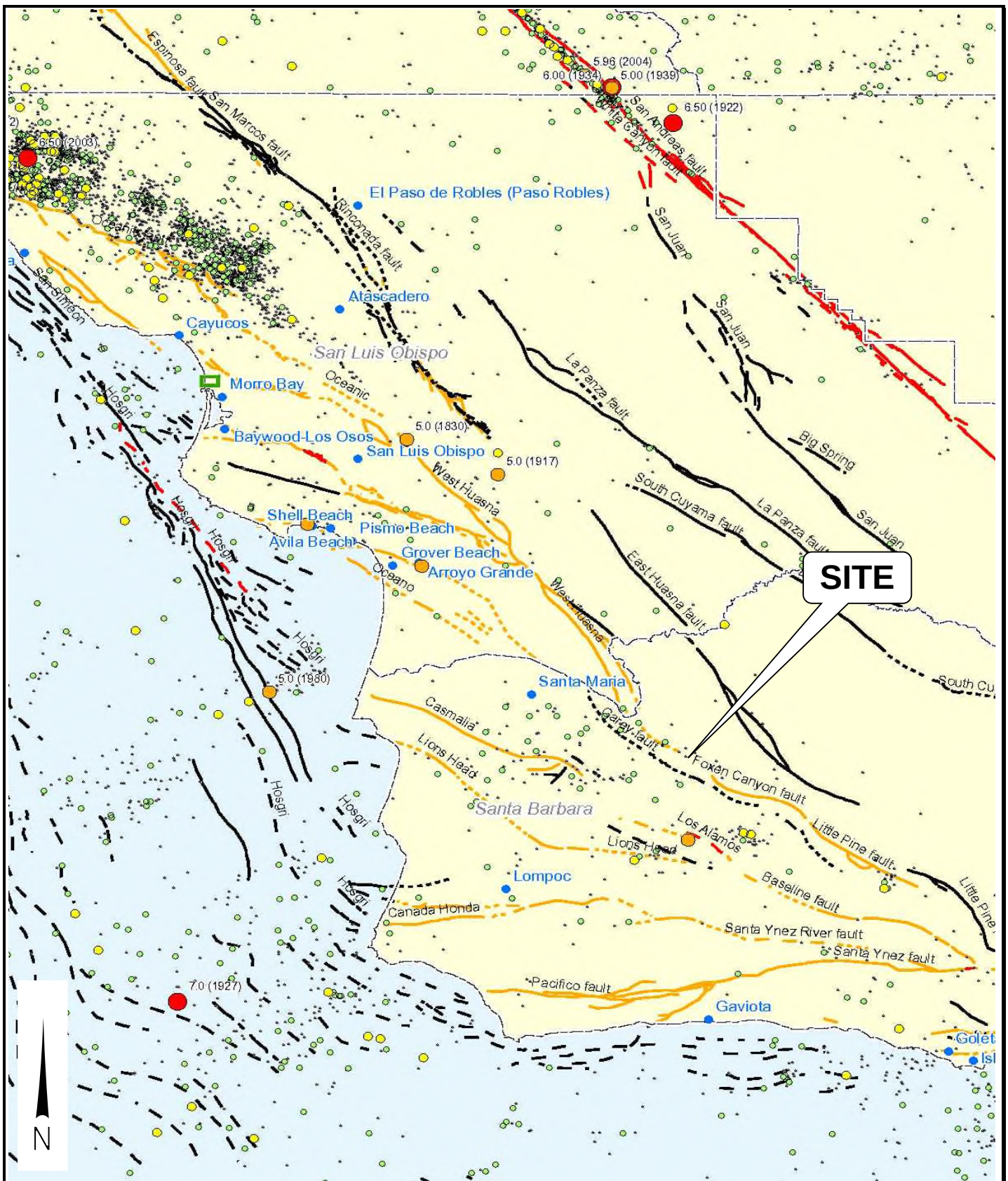
Figure No.

2



Reference - Geologic Map of Santa Maria & Twitchell Dam Quadrangles, Dibblee 1994, Qa - Alluvial Deposits, Qg - Sand & Gravel of Stream Channels

 Pacific Coast Testing, Inc.	GEOLOGIC MAP PROPOSED BRIDGE 6600 FOXEN CANYON (APN 133-040-011) SANTA MARIA, CALIFORNIA	Project No.	Figure No.
		20-9194	3



Base Map Source: Seismotectonics of Central Coast of California (Geologic Society Special Paper)

 Pacific Coast Testing, Inc.	HISTORIC SEISMICITY MAP PROPOSED BRIDGE 6600 FOXEN CANYON (APN 133-040-011) SANTA MARIA, CALIFORNIA	Project No.	Figure No.
		20-9194	4

APPENDIX A

Field Investigation
Key to Boring Logs
Boring Logs

FIELD INVESTIGATION

Test Hole Drilling

The field investigation was conducted on April 15, 2020. Two (2) exploratory borings were drilled at the approximate locations indicated on the Site Plan, Figure 2. The locations of these borings were approximated in the field.

Undisturbed and bulk samples were obtained at various depths during test hole drilling. The undisturbed samples were obtained by driving a 2.4-inch inside diameter sampler into soils. Bulk samples were also obtained during drilling.

Logs of Boring

A continuous log of soils, as encountered in the borings was recorded at the time of the field investigation. The Exploration Boring Logs are attached.

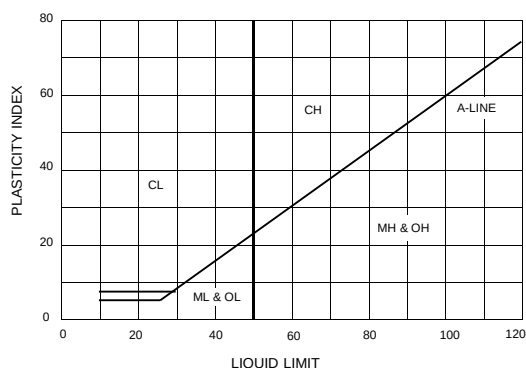
Locations and depth of sampling, in-situ soil dry densities and moisture contents are tabulated in the Boring Logs.

UNIFIED SOIL CLASSIFICATION SYSTEMS

MAJOR DIVISION			SYMBOLS	TYPICAL NAMES
COARSE GRAINED SOILS Over 50% > #200 sieve	GRAVELS Over 50% > #4 sieve	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 Over 50% < #4 sieve	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 Over 50% < #200 sieve	SILTS AND CLAYS Liquid limit < 50	ML	INORGANIC SILTS, SILTY OR CLAYEY FINE SANDS, OR CLAYEY SILTS WITH SLIGHT PLASTICITY	
		CL	INORGANIC CLAYS OF LOW TO MEDIUM PLASTICITY, GRAVELLY, SANDY, OR SILTY CLAYS, LEAN CLAYS	
		OL	ORGANIC CLAYS AND ORGANIC SILTY CLAYS OF LOW PLASTICITY	
	SILTS AND CLAYS Liquid limit > 50	MH	INORGANIC SILTS , MICACEOUS OR DIATOMACIOUS 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 CLAYS		Pt

PLASTICITY CHART

USED FOR CLASSIFICATION OF FINE GRAINED SOILS



SOIL GRAIN SIZE

		GRAVEL			SAND			SILT	CLAY
		COARSE	FINE		COARSE	MEDIUM	FINE		
U.S. STANDARD SIEVE		6"	3"	3/4"	4	10	40	200	
		150	75	19	4.75	2.0	0.425	0.075	0.002
		SOIL GRAIN SIZE IN MILLIMETERS							

SAMPLE DRIVING RECORD

BLOWS PER FOOT	DESCRIPTION
25	25 BLOWS DROVE SAMPLER 12 INCHES, AFTER INITIAL 6 INCHES OF SEATING
50/7"	50 BLOWS DROVE SAMPLER 7 INCHES, AFTER INITIAL 6 INCHES OF SEATING
Ref/3"	50 BLOWS DROVE SAMPLER 3 INCHES DURING OR AFTER INITIAL 6 INCHES OF SEATING

NOTE: TO AVOID DAMAGE TO SAMPLING TOOLS, DRIVING IS LIMITED TO 50 BLOWS PER 6 INCHES DURING OR AFTER SEATING INTERVAL

KEY TO TEST DATA

	Bag Sample	CONS	Consolidation (ASTM D2435)
	Drive, No Sample Collected	DS	Cons. Drained Direct Shear (ASTM D3080)
	2 1/2" O.D. Mod. California Sampler, Not Tested	PP	Pocket Penetrometer
	2 1/2" O.D. Mod. California Sampler, Tested	GSD	Grain Size Distribution (ASTM D422)
	Standard Penetration Test	CP	Compaction Test (ASTM D1557)
	Sample Attempted with No Recovery	EI	Expansion Index (ASTM D4829)
	Water Level at Time of Drilling	LL	Liquid Limit (in percent)
	Water Level after Drilling	PI	Plasticity Index

RELATIVE DENSITY

SANDS, GRAVELS, AND NON PLASTIC SILTS	BLOWS/FOOT
VERY LOOSE	0 - 4
LOOSE	4 - 10
MEDIUM DENSE	10 - 30
DENSE	30 - 50
VERY DENSE	OVER 50

RELATIVE DENSITY

CLAYS AND PLASTIC SILTS	STRENGTH	BLOWS/FOOT
VERY SOFT	0 - 1/4	0 - 2
SOFT	1/4 - 1/2	2 - 4
FIRM	1/2 - 1	4 - 8
STIFF	1 - 2	8 - 16
VERY STIFF	2 - 4	16 - 32
HARD	OVER 4	OVER 32



PROJECT NO.: 20-9194

DATE DRILLED: 4/15/2020

**SOIL CLASSIFICATION CHART
AND BORING LOG LEGEND**

**PROPOSED BRIDGE
SANTA MARIA, CALIFORNIA**

FIGURE NO.

A-1

LOGGED BY: JM		DRILL RIG: Simco 2400		BORING NO.: B-1								
ELEVATION: 500'		BORING DIAMETER (INCH): 5		DATE DRILLED: 15 April 2020								
GROUNDWATER DEPTH (FT):												
ELEVATION (FT)	DEPTH (FT)	GRAPHIC LOG	GEOTECHNICAL DESCRIPTION	SOIL TYPE	SAMPLE	CONV. SPT BLOW COUNT	WATER CONTENT (%)	DRY DENSITY (PCF)	LIQUID LIMIT	PLASIT. INDEX	UNC. COMP. STRENGTH (PSF)	COMMENTS AND ADDITIONAL TESTS
499	1		Sand: greyish brown, moist, fine to coarse grained, some gravel & silt, loose	SP-SM	B	10	10.4					EI = 0
498	2											
497	3		medium dense									
496	4											
495	5											
494	6		Sand: greyish brown, moist, fine to coarse grained, some silt, medium dense	SP	B	18	9.3					
493	7											
492	8											
491	9											
490	10											
489	11		Sand: brown, moist, fine to medium grained, trace silt, some gravel, medium dense	SP	B	29	7.8					
488	12											
487	13											
486	14											
485	15											
484	16		Silty Sand: brown, moist, fine grained, some clay, medium dense to dense	SM-SC	B	7.5						
483	17											
482	18											
481	19											
480	20											
			Boring terminated at 20 feet									
EXPLORATORY BORING LOGS												
 Pacific Coast Testing, Inc.				PROPOSED BRIDGE 6600 FOXEN CANYON (APN 133-040-011)								
				PROJECT NO. 20-9194			DATE May-20			FIGURE NO. A-2		

LOGGED BY: JM		DRILL RIG: Simco 2400		BORING NO.: B-2								
ELEVATION: 495'		BORING DIAMETER (INCH): 5		DATE DRILLED: 15 April 2020								
GROUNDWATER DEPTH (FT):												
ELEVATION (FT)	DEPTH (FT)	GRAPHIC LOG	GEOTECHNICAL DESCRIPTION	SOIL TYPE	SAMPLE	CONV. SPT BLOW COUNT	WATER CONTENT (%)	DRY DENSITY (PCF)	LIQUID LIMIT	PLASIT. INDEX	UNC. COMP. STRENGTH (PSF)	COMMENTS AND ADDITIONAL TESTS
494	1		Silty Sand: brown, moist, fine to medium grained, some gravel, trace clay, loose	SM								EI = 0
493	2			B								
492	3		medium dense									
491	4			II	14	10.1						
490	5											
489	6		brown to dark brown									
488	7			B								
487	8											
486	9			II	23	10.9						
485	10											
484	11		Silty Sand: brown, moist, fine to medium grained, some clay and gravel, medium dense	SM-SC								
483	12			B								
482	13											
481	14		dense		II	34	8.1					
480	15											
479	16											
478	17											
477	18											
476	19			B								
475	20											
EXPLORATORY BORING LOGS												
 Pacific Coast Testing, Inc.				PROPOSED BRIDGE 6600 FOXEN CANYON (APN 133-040-011)								
				PROJECT NO. 20-9194			DATE May-20			FIGURE NO. A-3		

LOGGED BY: JM		DRILL RIG: Simco 2400		BORING NO.: B-2									
ELEVATION: 495'		BORING DIAMETER (INCH): 5		DATE DRILLED: 15 April 2020									
GROUNDWATER DEPTH (FT):													
ELEVATION (FT)	DEPTH (FT)	GRAPHIC LOG	GEOTECHNICAL DESCRIPTION	SOIL TYPE	SAMPLE	CONV. SPT BLOW COUNT	WATER CONTENT (%)	DRY DENSITY (PCF)	LIQUID LIMIT	PLASIT. INDEX	UNC. COMP. STRENGTH (PSF)	COMMENTS AND ADDITIONAL TESTS	
474	21		Silty Sand: brown, moist, fine to medium grained, some clay and gravel, dense	SM									
473	22				B								
472	23												
471	24												
470	25												
469	26					very moist							
468	27												
467	28												
466	29							B		14.3			
465	30												
464	31	Boring terminated at 30 feet											
463	32												
462	33												
461	34												
460	35												
459	36												
458	37												
457	38												
456	39												
455	40												
EXPLORATORY BORING LOGS													
 Pacific Coast Testing, Inc.				PROPOSED BRIDGE 6600 FOXEN CANYON (APN 133-040-011)									
				PROJECT NO. 20-9194			DATE May-20			FIGURE NO. A-4			

APPENDIX B

Moisture-Density Tests
Direct Shear Test
R-Value Test
Expansion Index Test

LABORATORY TESTING

Moisture-Density Tests

The field moisture content, as a percentage of the dry weight of the soil, was determined by weighing samples before and after oven drying. Dry densities, in pounds per cubic foot, were also determined for the undisturbed samples. Results of these determinations are shown in the Exploration Drill Hole Logs.

Direct Shear Test

Direct shear tests were performed on undisturbed samples, to determine strength characteristics of the soil. The test specimens were soaked prior to testing. Results of the shear strength tests are attached.

Resistance (R) Value Test

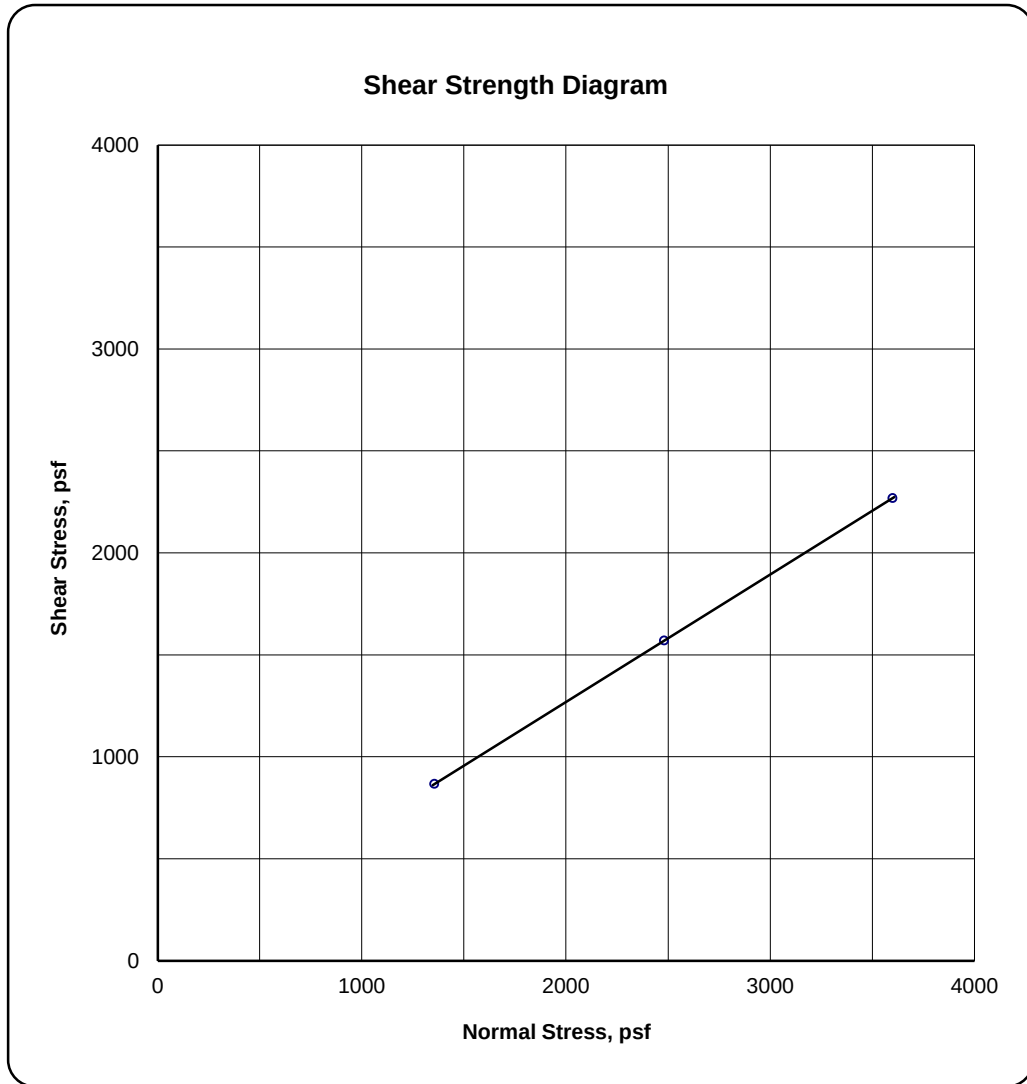
An R-Value test was estimated based on sieve analysis and plasticity on a bulk sample obtained from boring B-1. The results of the tests indicate that the silty sand soils have an R-Value of 40.

Expansion Index Test

An expansion index of 0 was obtained for the native silty sand encountered at the site. The test procedure was performed in accordance with ASTM D4829 – Standard Test Method for Expansion Index of Soils.

DIRECT SHEAR TEST

ASTM D3080-11 (Modified for unconsolidated-undrained conditions)



Project: PROPOSED BRIDGE

Project No. 20-9194

Sample Location: B-1 @ 3 Feet

Initial Dry Density (pcf) 103.6

Soil Description: Sand

Initial Moisture (%) 10.4

Sample Type: ☐ Remolded
☒ Ring

Peak Shear Angle 32
Cohesion (psf) 20