COUNTY OF SAN MATEO
PLANNING AND BUILDING DEPARTMENT

DATE: May 12, 2021

TO: Planning Commission

FROM: Planning Staff

SUBJECT: EXECUTIVE SUMMARY: Consideration of a Coastal Development Permit to implement the Butano Farms San Francisco Garter Snake Habitat Enhancement Project. The project is located on undeveloped farm land south of the Town of Pescadero, in the unincorporated Pescadero area of San Mateo County. This project is appealable to the California Coastal Commission.

County File Number: PLN 2021-00010
(San Mateo Resource Conservation District)

PROPOSAL

The applicant, San Mateo Resource Conservation District, is proposing to construct a habitat enhancement project for the San Francisco Garter Snake. The project area is approximately 65 acres in size and includes open grassland, a large amount of coyote brush dominated coastal scrub, and an existing, partially silted in pond. The project proposes to enhance the upland habitat by reducing the amount of coyote brush in order to allow the re-establishment of open grassland in those areas. The project will also remove accumulated silt from the existing pond to create both shallower and deeper water areas as well as a wetland bench area around the northern side of the pond. The actions are intended to restore grassland and freshwater wetland habitats that support movement, foraging, and breeding habitat used by San Francisco garter snake (SFGS), California Red-Legged Frog (CRLF), and a variety of other native wetland and grassland dependent species.

RECOMMENDATION

Approve the Coastal Development Permit, County File Number PLN 2021-00010, by adopting the required findings and conditions of approval contained in Attachment A.

SUMMARY

The Butano Farms property is currently owned by Peninsula Open Space Trust (POST). Current land uses on the property consist primarily of preserved open space and livestock grazing. The pond is used by the cattle operation as a water source, and the project includes development of an access point for cattle to utilize the water source in a manner consistent with the habitat enhancement measures that are proposed.

The goals of the project are consistent with the recovery actions outlined in the San Francisco Garter Snake Recovery Plan (USFWS, 1985), that stresses the importance of restoring upland, riparian and aquatic habitat in order to aid the recovery of both the SFGS and California Red-Legged Frog. This project was suggested by the Integrated Regional Watershed Restoration Program (IWRP) in 2015. Integrated Regional Watershed Restoration Program is a collaborative species recovery effort that works to provide a coordinated regional process to improve fish and wildlife habitat. The IWRP Technical Advisory Committee saw this project as an important opportunity to reduce sediment loading into Butano Creek and to restore habitat for the SFGS and California Red-Legged Frog.

Staff has completed a review of the project and all submitted documents and reports in order to determine the project's conformity to applicable LCP policies. Potential impacts to biological resources were identified during this review, and conditions of approval were included to reduce these potential impacts to a less than significant level. With these conditions, the project will comply with the County's General Plan and Local Coastal Program.

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COUNTY OF SAN MATEO
PLANNING AND BUILDING DEPARTMENT

DATE: May 12, 2021

TO: Planning Commission

FROM: Planning Staff

SUBJECT: Consideration of a Coastal Development Permit, pursuant to Section 6328.4 of the County Zoning Regulations, to implement the Butano Farms San Francisco Garter Snake Habitat Enhancement Project. The project is located on undeveloped farm land south of the Town of Pescadero, in the unincorporated Pescadero area of San Mateo County. This project is appealable to the California Coastal Commission.

County File Number: PLN 2021-00010
(San Mateo Resource Conservation District)

PROPOSAL

The applicant, San Mateo Resource Conservation District, is proposing to construct a habitat enhancement project for the San Francisco Garter Snake. The project area is approximately 65 acres in size and includes open grassland, a large amount of coyote brush dominated coastal scrub, and an existing, partially silted in pond. The project proposes to enhance the upland habitat by reducing the amount of coyote brush in order to allow the re-establishment of open grassland in those areas. The project will also remove accumulated silt from the existing pond to create both shallower and deeper water areas as well as a wetland bench area around the northern side of the pond. The actions are intended to restore grassland and freshwater wetland habitats that support movement, foraging, and breeding habitat used by San Francisco garter snake (SFGS), California Red-Legged Frog (CRLF), and a variety of other native wetland and grassland dependent species.

RECOMMENDATION

Approve the Coastal Development Permit, County File Number PLN 2021-00010, by adopting the required findings and conditions of approval contained in Attachment A.

BACKGROUND

Report Prepared By: Michael Schaller, Senior Planner

Applicant: San Mateo Resource Conservation District

Owner: Peninsula Open Space Trust (POST)

Location: Undeveloped farm land one mile south of the Town of Pescadero

APN(s): 086-080-030

Existing Zoning: Planned Agricultural Development (PAD)

General Plan Designation: Agriculture (Rural)

Parcel Legality: Parcel legality confirmed by Certificate of Compliance, Type A (PLN 2012-00064). Certificate recorded on July 5, 2012.

Existing Land Use: The Project Area and surrounding vicinity is currently grazed by cattle and the pond is used as a stock pond.

Flood Zone: A portion of the project area is within Zone A (Areas of 100 Year Flood Hazard, No Base Flood Elevations Determined) though no work is proposed in this portion of the project area. The rest of the project area, where the work will be occurring is within Zone X (Areas of Minimal Flood Hazard), FEMA Community Panel 06081C-0432E, Effective Date: October 16, 2012.

Environmental Evaluation: For purposes of compliance with CEQA, the District is claiming the role of lead agency. As such, they prepared an Initial Study/Mitigated Negative Declaration which was circulated for public comment from March 6, 2020 to April 4, 2020. The District certified the Mitigated Negative Declaration on May 22, 2020 and filed a Notice of Determination with the State Clearinghouse and the County Recorder, at that time.

Setting: Current land uses on the property include preserved open space and livestock grazing. The existing pond is currently used by the cattle operation as a stock water source and the project will include development of an access point for cattle to utilize the water source in a manner consistent with the habitat enhancement measures that are proposed. Dominant land uses in the vicinity of the project site include cattle

pasturelands, agriculture, and open space. Adjacent to and directly east of the project area is a cut flower operation with greenhouses and an agricultural pond.

San Francisco Garter Snake and the CRLF have been documented within or adjacent to the Project Area. The project area also occurs within CRLF critical habitat. The project has been specifically designed as a recovery action for the SFGS and will also result in significantly improved breeding and foraging conditions for the California Red-Legged Frog.

The existing pond within the Project Area provides breeding habitat for CRLF and the species has been documented in the Project Area. California Red-Legged Frog egg masses were observed by RCD staff during a 2018 site visit.

The Project Area lies within the 'Pescadero' population of SFGS, which encompasses Pescadero Marsh Natural Preserve and a series of natural and artificial ponds along Butano Creek. San Francisco Garter Snake individuals have been found both upstream and downstream of the project site, but none have been found within the project site. Extensive surveys for SFGS were completed during the adjacent Butano Floodplain Restoration Project in 2017 and no individuals were observed. Nevertheless, the Project Area provides suitable habitat for San Francisco Garter Snake. The pond, although heavily vegetated, does provide habitat for prey and some basking space. There is plenty of vegetative cover and rodent burrows in the surrounding area for SFGS shelter. It is possible that SFGS could be encountered during project construction given suitable habitat and nearby occurrences.

Western pond turtle, a California Species of Special Concern, inhabits a broad range of aquatic habitats including ponds, slow-moving streams, and man-made canals and reservoirs. Though pond turtles have not been observed in the Project Area, the pond and associated upland habitat provide suitable habitat for this species. Multiple woodrat nests have been documented in the adjacent Butano Creek riparian corridor.

DISCUSSION

A. KEY ISSUES

1. Conformance with the County General Plan

The County's Local Coastal Program (LCP) is a subset of the County General Plan, and the two documents are internally consistent. The following analysis of the project's consistency with the LCP, which is more specific than the General Plan with regard to issues raised by this project,

therefore also addresses, by extension, the project's consistency with the County's General Plan.

2. Conformance with the Local Coastal Program

a. Locating and Planning New Development

Policy 1.25 (*Protection of Archaeological/Paleontological Resources*). This policy requires an archaeological reconnaissance of project sites when they are in areas of potentially high sensitivity for archaeological or paleontological resources. As stated previously, the RCD prepared the Initial Study for this project as the Lead Agency. In preparation of that document, the RCD relied upon two archaeological surveys that were conducted within and adjacent to the Project Area by Mark Hylkema, RPA in July 2016 and again in February 2020 for other restoration projects that have occurred in the area. The area studied by both surveys included the entire project site, including staging and access areas. Mr. Hylkema determined that two archaeological resources are present outside the Project area and that neither site is currently threatened or in any way involved with this proposed project.

The RCD's IS/MND found that while there were no known archaeological resources on the project site, there is nevertheless the possibility that subsurface resources could be uncovered during the construction process. To address this potential impact, the IS/MND proposed mitigation measures requiring worker training to identify archaeological resources and Stop Work procedures if human remains are discovered during construction. These measures have been included as conditions of approval in Attachment A.

b. Agriculture Component

Policy 5.1 (*Definition of Prime Agricultural Lands*). This policy defines prime agricultural lands as all lands which qualify for rating as Class I or Class II in the U.S. Department of Agriculture Soil Conservation Service Land Use Capability Classification, or all lands which have a rating of 80-100 in the Storie Index Rating system. The Soil Conservation Service mapping for this area indicates that the area in and immediately surrounding the existing shallow pond on the site meets the definition of "prime agricultural lands". The remaining soils within the project area do not meet these qualifications, however, they are still considered "Lands Suitable for Agriculture" per Policy 5.4.

Policy 5.5 (*Permitted Uses on Prime Agricultural Lands Designated as Agriculture*). This policy permits agricultural and agriculturally related development on prime agricultural lands. Specifically, included in this definition is grazing and non-residential development customarily considered accessory to agricultural uses including water impoundments. While habitat restoration is not specifically listed as a "land use" within the LCP, the proposed activities will not exclude the continued use of the project parcel for cattle grazing, which is the current use of the parcel. In order to ensure that adequate water will be available for the cattle once restoration of the pond occurs, additional water impoundments and a catchment system will be created. It should be noted that the current shallow pond on the site is not easily accessible to cattle due to the dense vegetation surrounding the pond. Part of the project involves trimming back some of this vegetation along the northwestern side of the pond to allow for easier cattle access to this area, away from the new restoration areas. Additionally, the restoration plan envisions allowing limited cattle grazing in parts of the upland area of the project site as a means of vegetation management. A less dense vegetation pattern in these areas will benefit the SFGS and California Red Legged Frog.

c. Sensitive Habitats Component

Policy 7.1 (*Definition of Sensitive Habitats*). This policy defines sensitive habitats as any area in which plant or animal life or their habitats are either rare or especially valuable, and includes endangered species habitat, intermittent streams, and lakes and ponds. As discussed in the Project Setting section, the project site provides habitat for both the San Francisco Garter Snake (SFGS) and the California Red-legged Frog (CRLF). The project area surrounding the existing pond contains both riparian and wetland plant species and soils.

Policy 7.9 (*Permitted Uses in Riparian Corridors*). This policy stipulates which uses are permitted in riparian corridors, one allowed use being fish and wildlife management activities. As stated in the project description, the goal of this project is to enhance and expand the amount of available habitat for the SFGS and California Red Legged Frog.

Policy 7.10 (*Performance Standards in Riparian Corridors*). This policy requires permitted development in corridors to minimize erosion, sedimentation, and runoff by appropriately grading and replanting modified areas, use only adapted native or non-invasive

exotic plant species when replanting, and maintain natural vegetation buffer areas that protect riparian habitats. The project design will excavate a portion of the existing shallow pond as well as an adjacent upland area to create a deep water (approx. five-foot-deep) pond as well as two shallower ponds. The excavated material will then be placed adjacent to the ponds to create an upland bench. The project design calls for natural recolonization of disturbed areas from adjacent areas, however, a contingency plan to seed disturbed areas with native plant species is also part of the project design if recolonization does not occur.

Policy 7.16 (*Permitted Uses in Wetlands*). This policy stipulates which uses are permitted in wetlands, one allowed use being fish and wildlife management activities. As stated in the project description, the goal of this project is to enhance and expand the amount of available habitat for the SFGS and CRLF, two species whose primary habitat is wetlands and riparian area and the adjacent upland areas.

Policy 7.17 (*Performance Standards in Wetlands*). This policy requires that development permitted in wetlands minimize adverse impacts during and after construction. Specifically, the policy requires that all paths be elevated so as not to impede movement of water, all construction which alters wetland vegetation be required to replace the vegetation to the satisfaction of the Planning Director including “no action” in order to allow for natural reestablishment, and all projects be reviewed by the State Department of Fish and Game and State Water Quality Board to determine appropriate mitigation measures.

The project design includes the construction of a series of low berms to catch silt and debris from the adjacent upland area to the east of the proposed ponds. These berms are not intended as paths or walkways for pedestrian use; however, they will incorporate passages within their design to allow for the movement of surface water and flows from the intermittent stream. As with the riparian plant species discussed previously, the project intends to let the existing wetland plants recolonize the area as appropriate. It should be noted that the RCD has worked with the U.S. Fish and Wildlife Service on the design of this project and incorporated their recommendations into the project that is before the Planning Commission today.

d. <u>Visual Resources Component</u>

Policy 8.5 – (*Location of Development*.) This policy requires that development be located on a portion of a parcel where it is least visible from State and County Scenic Roads, is least likely to significantly impact views from public viewpoints; and best preserves the visual and open space qualities of the parcel overall. The project location is not within the boundaries of any State Scenic Corridor, but it is within the boundaries of the Cloverdale Road County Scenic Corridor. However, the project site is not visible from Cloverdale Road or any other public viewing point due to distance and intervening topography. Upon completion of the project (including revegetation) there will be no discernable negative change in the visual landscape of the project site.

3. Compliance with the PAD Zoning Regulations

The project site is zoned Planned Agricultural Development (PAD). The soils where the restoration plan will be primarily carried out are considered non-prime by the Soil Conservation Service. As discussed previously, upon completion the project will include continued cattle grazing within portions of the project work area. While habitat restoration is not listed as a "use" in any of the County's zoning or LCP regulations, it is compatible with continued use of the site for cattle grazing, and consistent with the policies of the GP and LCP that strive to protect and enhance sensitive habitat areas. As such, the project is consistent with the PAD zoning district.

4. Compliance with the County Grading Ordinance

Projects approved by the San Mateo County Resource Conservation District (RCD) for purposes of soil conservation and agricultural water impoundments are exempt from the requirements of the Grading Regulations, per Section 8603.15 and .16 of the County Ordinance Code. In this case, the RCD is the applicant and will oversee all work associated with this permit.

B. ENVIRONMENTAL REVIEW

For purposes of compliance with CEQA, the RCD is the lead agency. As such, they prepared an Initial Study which was circulated for public comment from March 6, 2020 to April 4, 2020. On May 22, 2020 the RCD, acting as Lead Agency, approved the Initial Study and Proposed Mitigated Negative Declaration. The RCD filed a Notice of Determination with the State Clearinghouse and the County Recorder, on May 28, 2020.

C. REVIEWING AGENCIES

California Coastal Commission
California Department of Conservation
California Department of Fish & Wildlife, Bay Delta Region 3
California Department of Water Resources
California Native American Heritage Commission
California Natural Resources Agency
California Regional Water Quality Control Board, San Francisco Bay Region 2
California State Lands Commission
State Water Resources Control Board, Division of Water Quality
SMC Building Dept. – Geotechnical Review Section
Pescadero Municipal Advisory Council

ATTACHMENTS

A) Recommended Findings and Conditions of Approval
B) Location Map
C) Project Plans
D) RCD's Initial Study/Mitigated Negative Declaration

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Attachment A

County of San Mateo
Planning and Building Department

RECOMMENDED FINDINGS AND CONDITIONS OF APPROVAL

Permit or Project File Number: PLN 2021-00010 Hearing Date: May 12, 2021

Prepared By: Michael Schaller, Senior Planner For Adoption By: Planning Commission

RECOMMENDED FINDINGS

Regarding the Environmental Review, Find:

1. That the Commission, acting as a responsible agency, has reviewed and considered the Mitigated Negative Declaration, prepared by the San Mateo County Resource Conservation District as Lead Agency.

Regarding the Coastal Development Permit, Find:

2. That the project, as described in the application and accompanying materials required by Zoning Regulations Section 6328.7 and as conditioned in accordance with Section 6328.14, conforms with the plans, policies, requirements and standards of the San Mateo County General Plan and Local Coastal Program with regard to the protection of biotic and visual resources.

3. That the project conforms to the specific findings required by policies of the San Mateo County Local Coastal Program as discussed in Section A (2) of this Staff Report. Protection measures will be implemented to prevent any impact to biological resources, including San Francisco garter snake and California Red-Legged Frog.

RECOMMENDED CONDITIONS OF APPROVAL

Current Planning Section

1. The approval applies only to the proposal as described in this report and materials submitted for review and approval by the Planning Commission on May 12, 2021. The Community Development Director may approve minor revisions or modifications to the project if they are found to be consistent with the intent of and in substantial conformance with this approval.

Mitigation Measures from the RCD's Initial Study/Mitigated Negative Declaration

2. ***Mitigation Measure BIO-1:*** Rare Plant Surveys

   Rare plant surveys of the proposed disturbance areas will be conducted by a qualified botanist for the plant species that have the potential to occur within the project site. Surveys shall be done in accordance with CNPS's Botanical Survey Guidelines (CNPS 2001), CDFW's Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities (CDFW 2018), and USFWS's Guidelines for Conducting and Reporting Botanical Inventories for Federally Listed, Proposed and Candidate Plants (USFWS 1996). If present, special-status plant populations will be flagged and if possible, avoided during construction. If the populations cannot be avoided during construction a mitigation plan will be developed for approval by the Department and CDFW which will include transplanting the plant population.

3. ***Mitigation Measure BIO-2:*** CRLF Avoidance and Minimization Measures

   a. Within two days of the start of work on a pond, the pond will be sampled by a qualified biologist to ensure that all frogs from that pond are in post-metamorphic stage and will be minimally affected by draining the pond. If the construction plans allow for existing open water and emergent vegetation areas to remain wetted and be isolated from construction activities, a qualified biologist will be on-site during draining of the work area to ensure that any remaining tadpoles or metamorphs are safely relocated to areas with standing water.

   b. Draining of ponds to perform authorized work shall only occur during the part of the year when the tadpole life stage of CRLF has been completed and before the subsequent breeding season (i.e., between August 15 and November 1).

   c. All biological monitors for the project shall be approved by USFWS prior to commencement of project activities. The biological monitors and qualified biologists shall have the responsibility and authority of stopping the proposed project if any crews or personnel are not complying with the provisions outlined in this Initial Study/Mitigated Negative Declaration.

d. Biological monitor(s) and/or qualified biologists shall be on the project site while initial ground-disturbing activities (excavation) or pond draining activities take place. A Service approved biologist will be on-call during all project activities in the event a San Francisco Garter Snake or California Red-Legged Frog is discovered, or for any other assistance relating to the avoidance and minimization measures.

e. Prior to project activities, a biological monitor shall clearly mark/flag or erect temporary construction fencing to designate the work area and to delineate the areas that shall be avoided. Flagging and or temporary construction fencing shall be removed immediately after the completion of construction work.

f. Dredge spoils shall be placed in a containment area away from the creek. The area where dredge spoils will be placed shall be surveyed for CRLF and San Francisco Garter Snake. If burrows are present in this area, Permittee shall hand excavate burrows until the burrow terminates or until a maximum depth of 30 centimeters. If CRLF or SFGS are found, all work shall cease, and Permittee shall notify CDFW and USFWS immediately.

g. Any vehicle parked on site for more than 15 minutes shall be inspected by the biological monitor before it is moved to ensure that CRLF and/or SFGS have not moved under the vehicle. Any parking areas shall be checked in advance by the biological monitor or qualified biologist.

h. If CRLF enters the work area, all work shall stop until the qualified biologist relocates the animal or it leaves on its own. Only the qualified biologist can handle and relocate California Red Legged Frog. Any sightings and/or injuries of this species shall be immediately reported to the CDFW per instructions below:

i. California Red Legged Frog Relocation. Prior to the onset of any project-related activities, the qualified biologist must identify appropriate areas to receive CRLF adults from the Project Areas. These areas must be in proximity to the capture site, contain suitable habitat, not be affected by project activities, and be free of exotic predatory species to the best of the approved biologist's knowledge. Translocation shall only be performed by the qualified biologist.

4. ***Mitigation Measure BIO-3:*** SFGS Avoidance and Minimization Measures

   a. Prior to and within 48 hours of the planned start of project activities, a focused survey for SFGS using agency approved protocol shall be conducted by a USFWS-approved biological monitor to determine if they are in the area. If SFGS are found, the USFWS shall be notified immediately to determine the correct course of action and proposed project shall not begin until approved by the USFWS.

   b. Activities that result in ground disturbance will occur May 1–October 30 (active season). Vegetation will be cut using to 3 inches in height. Once the ground is visible, a visual survey for SFGS will be conducted by the biologist prior to additional ground disturbance. If SFGS is found, USFWS will be notified immediate to determine the correct course of action. If work needs to occur during the inactive period (November 1– April 30) and is located in an area of known occupancy, flag and avoid any burrows by at least 10 feet wherever possible. If any burrows cannot be avoided by this distance, a biologist will inspect following activities to determine whether or not the burrow has been collapsed. If a burrow is collapsed, the biologist shall make efforts to open the burrow.

   c. Prior to conducting non-native plant removal or treatments (e.g. spraying with herbicide, cutting, pulling, digging out), the permittee shall make every reasonable attempt to ensure that SFGS are not hidden within the plant or residual plant matter to be treated.

   d. The USFWS approved biological monitor shall walk roads cleared for vehicle access each morning prior to vehicle traffic to ensure San Francisco garter snakes are not in the road. Vehicles shall not drive at speeds greater than 5 miles per hour within the project area and drivers shall observe the road for San Francisco Garter Snakes. If a San Francisco Garter Snake is found on the road, the vehicle operator shall stop, and the San Francisco Garter Snake shall be allowed to leave on its own volition.

5. ***Mitigation Measure BIO-4:*** Western Pond Turtle Avoidance and Minimization Measures

   a. Prior to and within 48 hours of the planned start of construction, a focused survey for WPT shall be conducted by a CDFW approved biological monitor to determine if they are in the area. If these species are found, the CDFW shall be notified immediately to determine the correct course of action and construction activities shall not begin until approved by the California Department of Fish & Wildlife.

b. In the event WPT are found in the project area, the RCD shall exercise measures to avoid direct injury to them as well as avoid areas where they are observed to occur. If a WPT is observed, it shall be left alone to move out of the area on its own. If it does not move on its own, it can be relocated by the biological monitor or the qualified biologist to at least 100-meters away from project location to a suitable habitat.

6. ***Mitigation Measure BIO-5:*** Nesting Bird Avoidance and Minimization Measures

   a. To the extent feasible, vegetation removal activities shall not occur during the bird breeding season of February 15 through August 31.

   b. If vegetation removal must occur during the breeding season the project site shall be surveyed by a qualified biologist to verify the presence or absence of nesting birds.

   c. Preconstruction surveys will be conducted no more than two weeks prior to the start of work from February 15 – August 31.

   d. If the survey indicates the potential presence of nesting birds, a buffer will be placed around the nest in which no work will be allowed until the young have successfully fledged. The size of the nest buffer will be determined by the biologist in consultation with the CDFW and will be based to a large extent on the nesting species and its sensitivity to disturbance. The buffers may be increased or decreased, as appropriate, depending on the bird species and the level of disturbance anticipated near the nest.

7. ***Mitigation Measure BIO-6:*** San Francisco Dusky Woodrat Avoidance and Minimization Measures

   a. The removal of trees and large shrubs shall be minimized to the maximum extent practicable and shall be limited to those areas directly adjacent within the project footprint.

   b. Tree removal or construction activities with potential to disturb suitable habitat for dusky footed woodrat (riparian scrub) shall only occur after a biologist conducts a preconstruction survey for woodrat nests within the woody riparian habitats to be removed and adjacent riparian habitat. If any woodrat nest is identified outside the proposed disturbance footprint, exclusion zones around each den entrance or cluster of entrances will be demarcated. The configuration of exclusion zones should be circular, with a radius measured outward from the next. No construction activities will occur within the exclusion zones. Exclusion zone radii for active nests will be 50 feet, if possible. Exclusion zones will be demarcated with staking and

flagging that encircles each den or cluster of dens but does not prevent access to the nest. If a nest is identified within the disturbance footprint, then nest relocation procedure will be determined by the biologist, in consultation with California Department of Fish and Wildlife.

8. ***Mitigation Measure BIO-7:*** American Badger Avoidance and Minimization Measure

Pre-construction surveys shall be conducted in any grassland habitat within the project footprint for active badger dens. If a badger den is identified within the proposed disturbance footprint, exclusion zones around each den entrance will be demarcated. The configuration of exclusion zones should be circular, with a radius measured outward from the den entrance(s). No construction activities will occur within the exclusion zones. Exclusion zone radii for active dens will be at least 50 feet. Exclusion zones will be demarcated with staking and flagging that encircles each den or entrance but does not prevent access to the den by a badger.

9. ***Mitigation Measure BIO-8:*** Open Water Protective Measures

a. The project applicant would implement the BMPs outlined in Table 2 to minimize stormwater runoff, erosion, and potential water quality impacts associated with construction activities. In addition, all contractors working in a capacity that could increase the potential for adverse water quality impacts shall receive training regarding the environmental sensitivity of the site and need to minimize impacts. Contractors shall be trained in implementation of stormwater BMPs for protection of water quality.

b. No debris, rubbish, creosote-treated wood, soil, silt, sand, cement, concrete, or washings thereof, or other construction related materials or wastes, oil or petroleum products or other organic or earthen material shall be allowed to enter into or be placed where it may be washed by rainfall or runoff into open water habitat and/or waters of the State. Any of these materials placed within or where they may enter waters shall be removed immediately. When operations are completed, any excess material shall be removed from the work area and any areas adjacent to the work area where such material may be washed into adjacent waters.

c. During construction the contractor shall not dump any litter or construction debris within the riparian/stream zone. All such debris and waste shall be picked up daily and properly disposed of at an appropriate site.

d. Any excavation necessary shall be completed from outside of wetlands, where feasible, by using an excavator or backhoe tractor, thereby limiting the driving of heavy equipment across wetlands.

e. Prohibit vehicular and equipment refueling 100 feet from the edge of other wetlands, streams, or waterways. If refueling must be conducted closer to wetlands, construct a secondary containment area subject to review by the RCD and/or consulting biologist. Maintain spill prevention and cleanup equipment in refueling areas.

10. ***Mitigation Measure BIO-9:*** Wetland Protective Measures

    a. Prior to the start of construction within areas containing sensitive biological resources, the biological monitor should delineate and conspicuously flag all sensitive aquatic resources to prevent impacts to these resources. If required, setback or non-disturbance buffer zones around these resources should be established and monitored by a biologist.

    b. Construction activities nearby or within aquatic habitats should be limited to the maximum extent feasible.

    c. Any aquatic habitat that does not fall within the construction footprint should be flagged and avoided.

    d. Work within waters should be conducted during the dry season, when water is not flowing, to the extent possible.

    e. Worker environmental awareness training should be conducted for all construction crews and contractors. The education training should be conducted prior to starting work on the project and upon the arrival of any new worker. The training should include: locations of sensitive areas; possible fines for violations; environmental permits and regulatory compliance requirements including all relevant avoidance and mitigation measures and required actions should sensitive species be encountered. Additional training should be conducted as needed, including morning "tailgate" sessions to update crews as they advance into sensitive areas for projects with multiple work areas. In addition, a record of all personnel trained during the project should be maintained for compliance verification.

11. ***Mitigation Measure CUL-1:*** Conduct Identification Training and Stop Work if Archaeological Resources are Encountered During Construction or if Unique Paleontological or Geological Resources are Encountered During Construction

    a. The construction contractor shall participate in a cultural and paleontological resource identification training session by a qualified archaeologist in order to be aware of the potential resources that might be uncovered. If archaeological or paleontological resources are encountered during project

construction, work shall be temporarily halted in the vicinity of the discovered materials and construction contractor shall avoid altering these materials and their context until a qualified archaeologist or paleontologist has evaluated the resource. Recommendations on how to treat the resource may include evaluation, preservation in place, archaeological test excavation and/or archaeological data recovery, and a draft and final report documenting such activities.

12. ***Mitigation Measure CUL-2:*** Discovery of Human Remains

    a. If at any time during site preparation, excavation, or other ground disturbance associated with the proposed project, human remains are discovered, the construction contractor shall immediately cease and desist from all further site excavation and notify the Resource Conservation District. The RCD shall notify the sheriff-coroner. If the coroner determines the remains are Native American, the coroner will contact the Native American Heritage Commission. The Native American Heritage Commission will identify the person or persons believed to be most likely descended from the deceased Native American. The most likely descendent makes recommendations regarding the treatment of the remains with appropriate dignity. Disturbance shall not resume until the significance of the human remains is determined and appropriate mitigations to preserve the resource on the site are established.

MJS:cmc – MJSFF0632_WCU.DOCX

County of San Mateo - Planning and Building Department

ATTACHMENT B

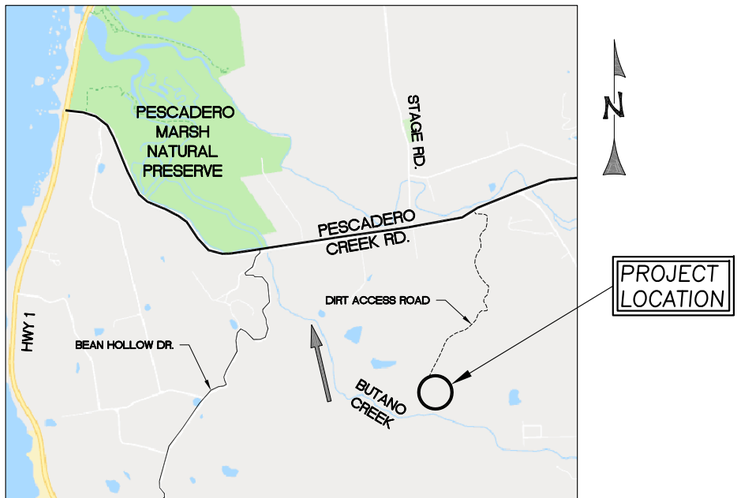

ARCANGELI GROCERY
Central Office
PSCDCA11
Bradley Creek
Duarte's Tavern
R & R Herbs
Pescadero Creek Rd
Pescadero IDES Hall
Pescadero Creek
Pescadero High School
Project Location
Butano Creek
Oku
Google

County of San Mateo - Planning and Building Department

ATTACHMENT C

BUTANO POND MITIGATION PROJECT

65% DESIGN SUBMITTAL



VICINITY MAP

N.T.S. (GOOGLE)

REGIONAL MAP

N.T.S. (GOOGLE)

GENERAL NOTES

1. TOPOGRAPHIC MAPPING WAS PERFORMED BY:
   WATERWAYS CONSULTING, INC.
   509A SWIFT STREET
   SANTA CRUZ, CA 95060
   SURVEY DATES: OCTOBER 30, 2018
   OCTOBER 31, 2018
   NOVEMBER 1, 2018
   NOVEMBER 27, 2018
2. ELEVATION DATUM: GPS TIES TO NAVD88 USING THE LEICA GEOSYSTEMS SMARTNET GLOBAL NAVIGATION SATELLITE SYSTEM (GNSS) NETWORK.
3. BASIS OF BEARINGS: GPS TIES TO NAD83 CALIFORNIA STATE PLANE, ZONE 3 USING THE LEICA GEOSYSTEMS SMARTNET GLOBAL NAVIGATION SATELLITE SYSTEM (GNSS) NETWORK.
4. CONTOUR INTERVAL IS ONE FOOT. ELEVATIONS AND DISTANCES SHOWN ARE IN DECIMAL FEET.
5. THIS IS NOT A BOUNDARY SURVEY. PROPERTY LINES ARE NOT SHOWN HEREON.
6. ALL CONSTRUCTION AND MATERIALS SHALL CONFORM TO THE 2018 EDITION OF THE STATE OF CALIFORNIA STANDARD SPECIFICATIONS, ISSUED BY THE DEPARTMENT OF TRANSPORTATION (HEREAFTER REFERRED TO AS "STANDARD SPECIFICATIONS").
7. THESE DESIGNS ARE INCOMPLETE WITHOUT THE FINAL STAMPED TECHNICAL SPECIFICATIONS PREPARED BY WATERWAYS CONSULTING, INC. REFER TO TECHNICAL SPECIFICATIONS FOR DETAILS NOT SHOWN HEREON.

ABBREVIATIONS

AVG.	AVERAGE
CC	CONCRETE
CY	CUBIC YARDS
DIA.	DIAMETER
E	EXISTING
EG	EXISTING GROUND
ELEV.	ELEVATION
FG	FINISHED GRADE
FT	FEET
INV	INVERT
MIN	MINIMUM
N	NEW
NIC	NOT IN CONTRACT
N.T.S.	NOT TO SCALE
O.C.	ON CENTER
RC	RELATIVE COMPACTION
RSP	ROCK SLOPE PROTECTION
SFGS	SAN FRANCISCO GARTER SNAKE
SPK	SPIKE
SQ.FT.	SQUARE FOOT
T	TREE
T.B.D.	TO BE DETERMINED
TYP	TYPICAL
UNK	UNKNOWN
WSE	WATER SURFACE ELEVATION
YR	YEAR

TREE SPECIES

O	OAK
R	REDWOOD
T	TREE (SPECIES UNKNOWN)
W	WILLOW

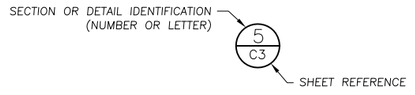
PROJECT DESCRIPTION

THESE DRAWINGS PROVIDE 65% DESIGN LEVEL DETAILS FOR THE CREATION OF TWO FRESHWATER PONDS AND THE ENHANCEMENT OF AN EXISTING FRESHWATER POND IN PESCADERO, CALIFORNIA.

WORK SHALL CONSIST OF DEVELOPING TEMPORARY ACCESS, CLEARING OF VEGETATION WITHIN THE GRADING FOOTPRINT, EXCAVATION OF NEW PONDS, PLACEMENT OF EXCESS SOILS TO CREATE AN UPLAND BENCH, AND THINNING OF RIPARIAN VEGETATION ALONG THE PERIMETER OF THE EXISTING WETLAND AREA TO CREATE IMPROVED HABITAT FOR SAN FRANCISCO GARTER SNAKE.

SHEET INDEX

SECTION AND DETAIL CONVENTION



** CALL BEFORE YOU DIG **

CONTACT UNDERGROUND SERVICE ALERT (USA)
PRIOR TO ANY CONSTRUCTION WORK 1-800-227-2600

WATERWAYS CONSULTING INC.
509A SWIFT ST.
SANTA CRUZ, CA 95060
PH:(831)421-9291 // FAX:(888)819-6847
WWW.WATWAYS.COM

DRAFT

NOT FOR CONSTRUCTION

PREPARED AT THE REQUEST OF:
SAN MATEO RESOURCE CONCERVATION DISTRICT

COVER

BUTANO POND MITIGATION PROJECT
65% DESIGN

DESIGNED BY:	M.W.
DRAWN BY:	C.H/D.R.
CHECKED BY:	M.W.W.
DATE:	1/7/21
JOB NO.:	18-058

BAR IS ONE INCH ON ORIGINAL DRAWING, ADJUST SCALES FOR REDUCED PLOTS
0 1"

C1 | 1 OF 8

PLACE FILL TO CREATE BENCH
AREA AT 10H:1V SLOPE
AREA = 24,950 SF (0.57 ACRES)

(N) DEEP WATER POND
AREA = 13,400 S.F. (0.31 ACRES)

TRIM AND THIN WILLOW TREE CANOPY
TO PROVIDE GRASSLAND DOMINATED
AREA AND CATTLE ACCESS
AREA = 14,950 S.F. (0.34 ACRES)

LIMITS OF WATERWAYS
TOPOGRAPHIC SURVEY

(N) SHALLOW POND
AREA = 3,300 S.F. (0.08 ACRES)

(E) TRIBUTARY
FLOWLINE TO
NORTH EAST.

30" TREE

EDGE OF (E)
TULE (TYP.)

BUTANO CREEK

17"M
22"W

(E) TREE
TO REMAIN
(TYP.)

(N) SWALE

(N) WETLAND BENCH
AREA = 8,100 S.F. (0.19 ACRES)

(N) SEDIMENT RETENTION BERM (TYP.)
AREA = 5,550 S.F. (0.13 ACRES)

(N) SHALLOW POND
AREA = 4,600 S.F. (0.11 ACRES)

WETLAND BOUNDARY
PER ARMY CORPS

WETLAND BOUNDARY PER
COASTAL COMMISSION

12"A
10"A
14"A

LEGEND

- EXISTING CONTOURS
- EXISTING LIDAR BASED CONTOURS
- LIMITS OF WATERWAYS TOPOGRAPHIC SURVEY
- EXISTING FLOW LINE
- SURVEY CONTROL POINT
- EXISTING FENCE
- APPROXIMATE EDGE OF WILLOWS
- APPROXIMATE EDGE OF TULE
- NEW SWALE
- 12"A — EXISTING TREE TO REMAIN
- SP — LOCATION OF STAFF PLATE AND WATER LEVEL RECORDER

SITE OVERVIEW
SCALE: 1" = 40'

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SITE OVERVIEW

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MITIGATION PROJECT
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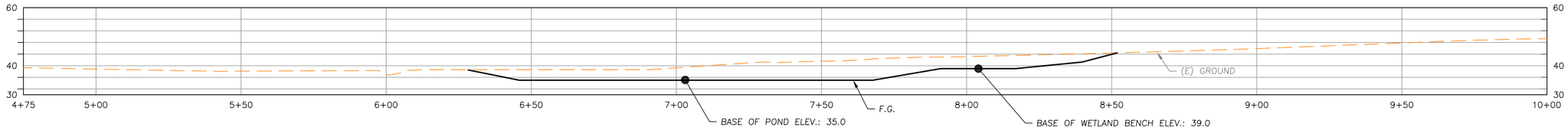
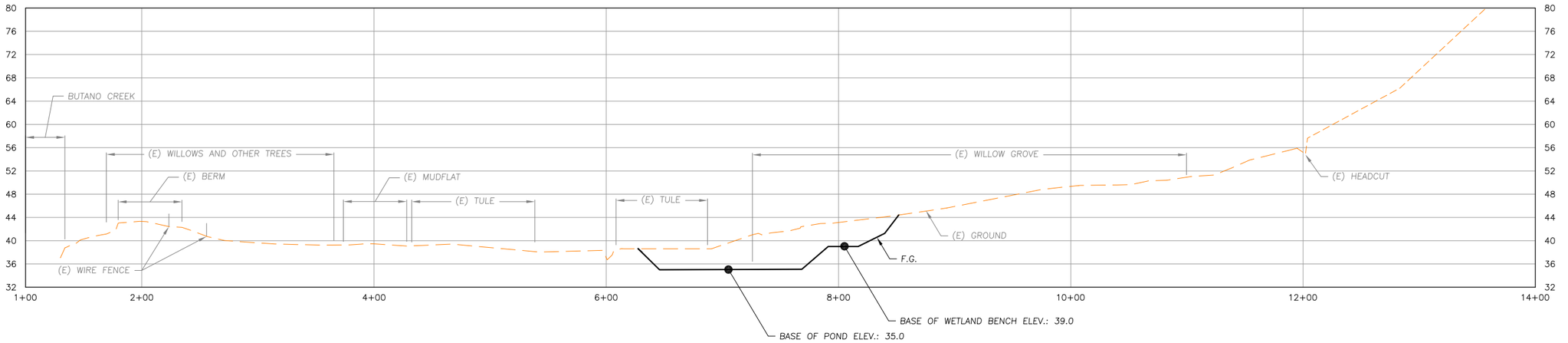
0 1"

C2 | 2 OF 8



PROFILE
SCALE: 1"=20



PROFILE - OVERVIEW
SCALE: H:1" = 50'; V:1" = 10'

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PROFILE

BUTANO POND
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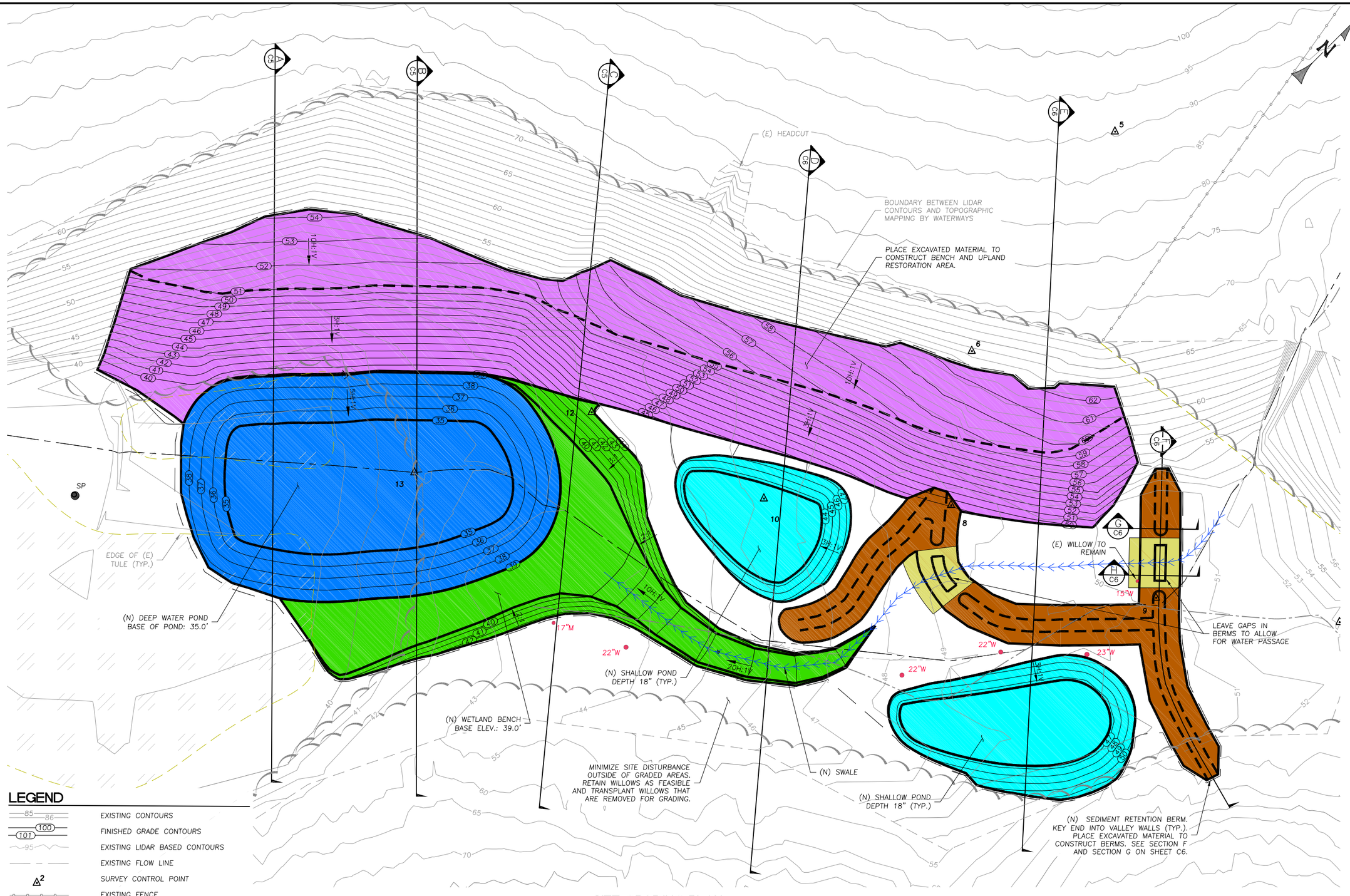
0 1"

C3



LEGEND

- EXISTING CONTOURS
- FINISHED GRADE CONTOURS
- EXISTING LIDAR BASED CONTOURS
- EXISTING FLOW LINE
- SURVEY CONTROL POINT
- EXISTING FENCE
- APPROXIMATE EDGE OF WILLOWS
- APPROXIMATE EDGE OF TULE
- EXISTING TREE TO REMAIN
- LOCATION OF EXISTING STAFF PLATE AND WATER LEVEL RECORDER

SITE GRADING PLAN

SCALE: 1" = 20'

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SITE GRADING PLAN

BUTANO POND MITIGATION PROJECT
65% DESIGN

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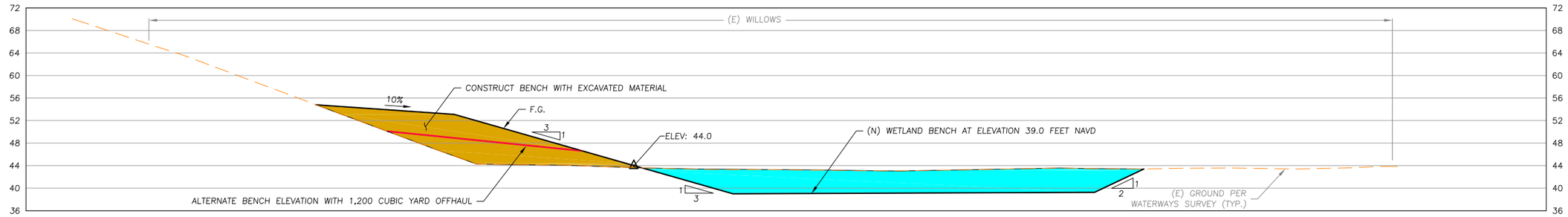
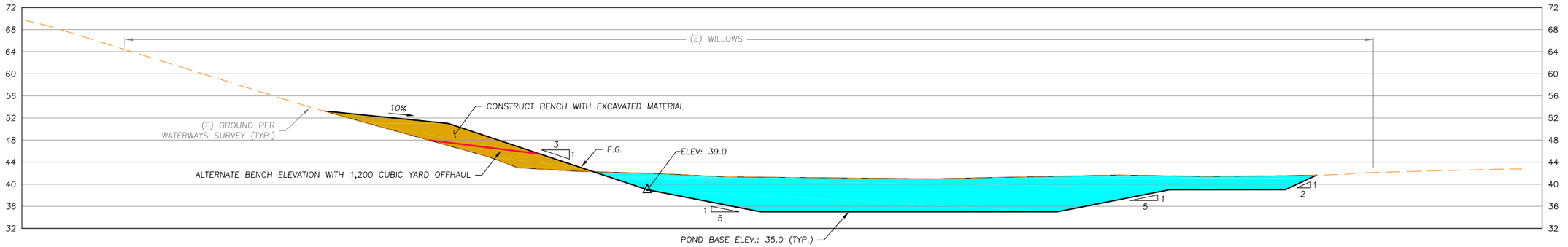
0 1"

C4

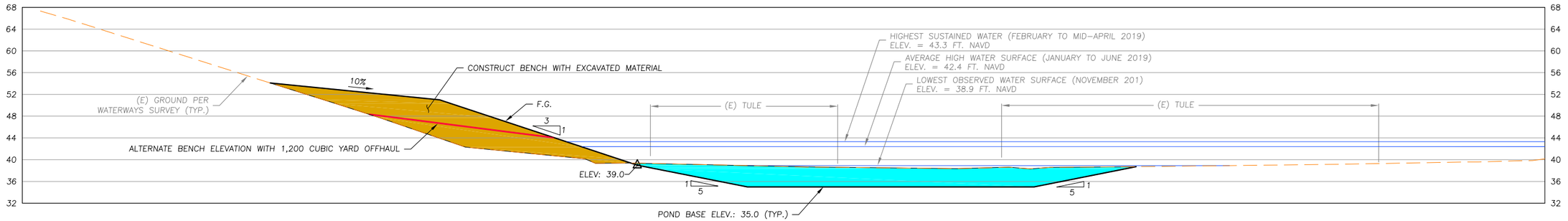
4 OF 8



SECTION
SCALE: 1" = 10'
C4



SECTION
SCALE: 1" = 10'
B
C4



SECTION
SCALE: 1" = 10'
A
C4

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SECTIONS

BUTANO POND
MITIGATION PROJECT
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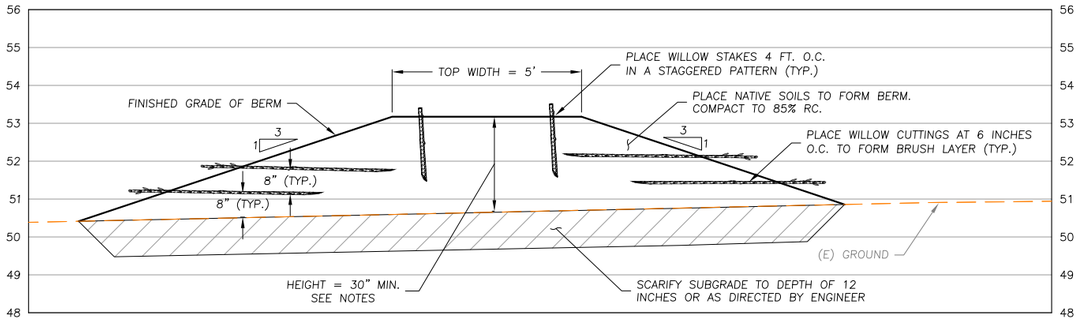
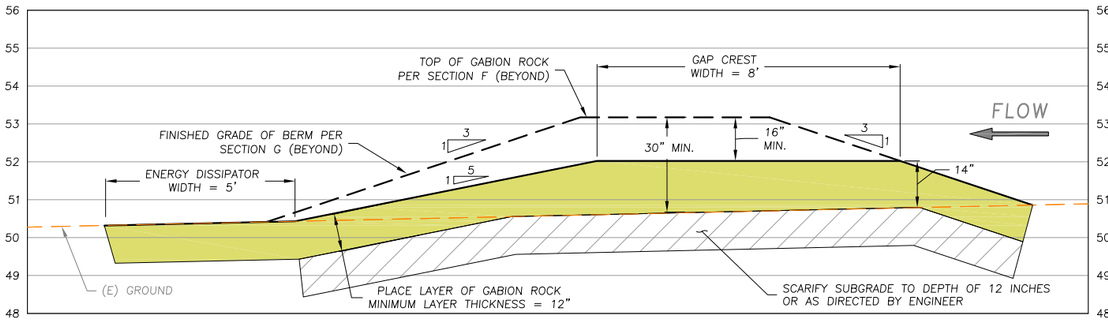
0 1"

C5



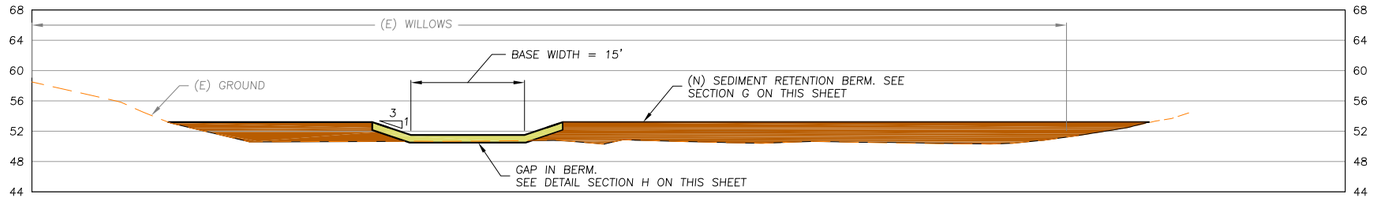
SEDIMENT RETENTION BERM (G / C4)
SCALE: 1" = 2'



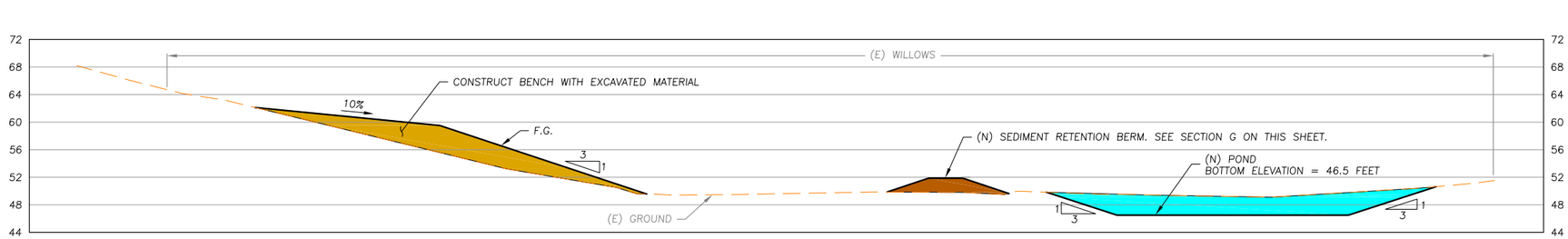
GAP IN SEDIMENT RETENTION BERM (H / C4)
SCALE: 1" = 2'

SEDIMENT RETENTION BERM NOTES:

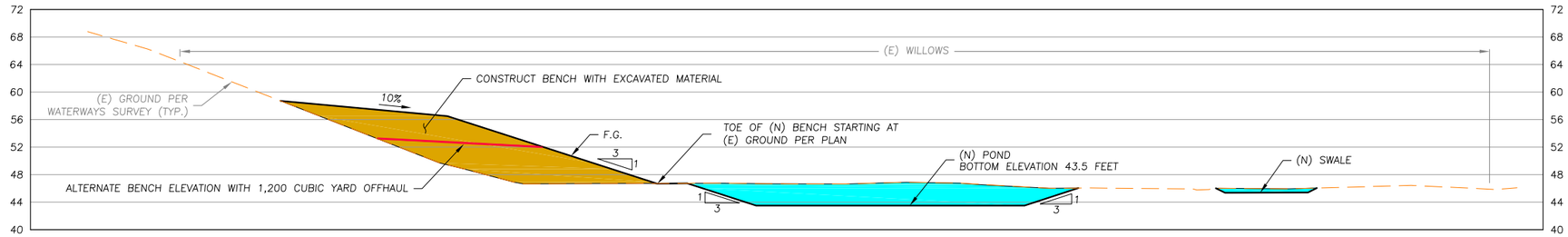
1. CREST ELEVATION TYPICALLY SET TO A MINIMUM OF 30 INCHES ABOVE EXISTING ADJACENT VALLEY FLOW LINE.



SECTION (F / C4)
SCALE: 1" = 10'



SECTION (E / C4)
SCALE: 1" = 10'



SECTION (D / C4)
SCALE: 1" = 10'

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SECTIONS AND DETAILS

BUTANO POND MITIGATION PROJECT
65% DESIGN

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0 1"

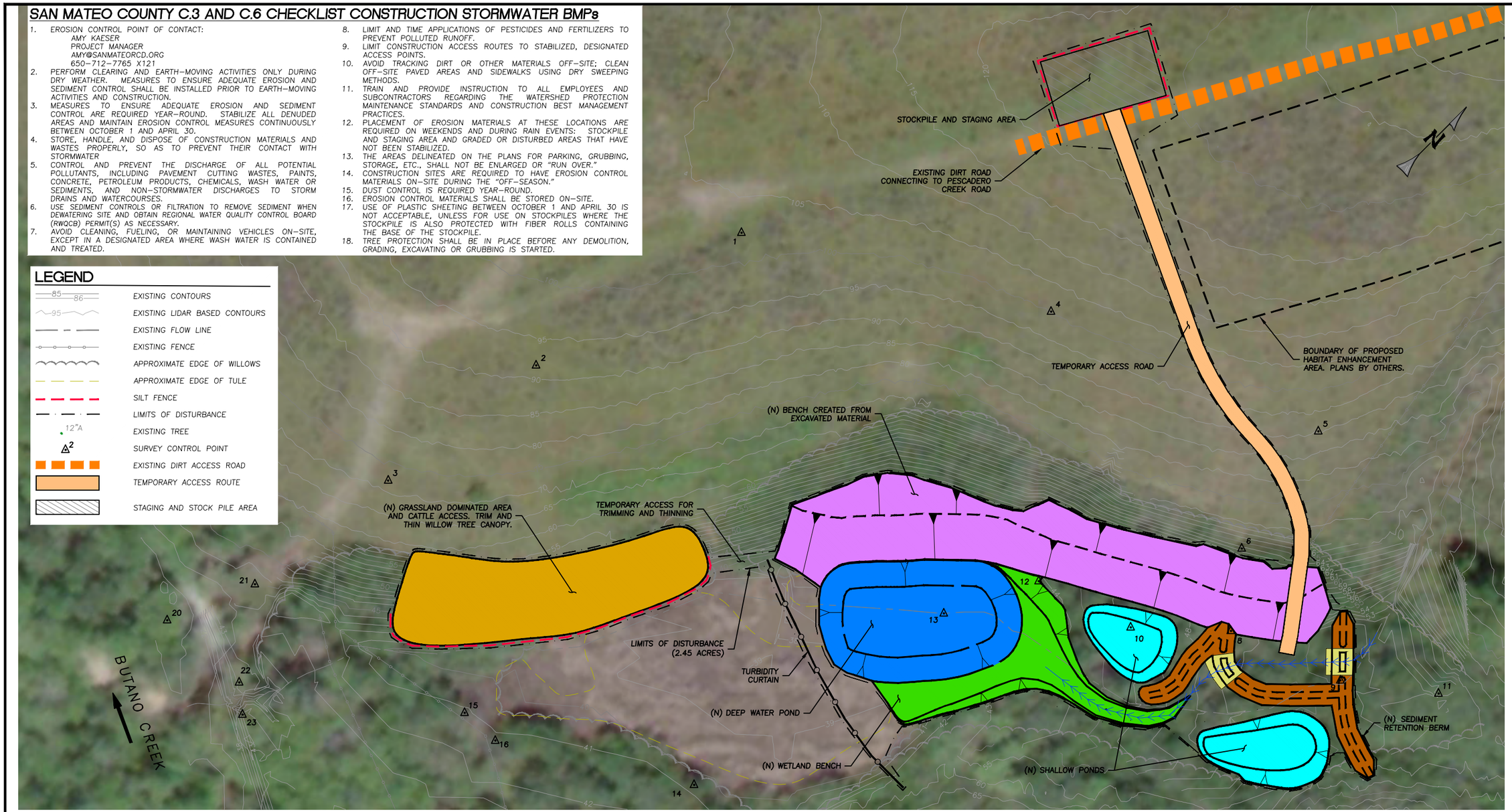
C6 | 6 OF 8

SAN MATEO COUNTY C.3 AND C.6 CHECKLIST CONSTRUCTION STORMWATER BMPs

1. EROSION CONTROL POINT OF CONTACT:
   AMY KAESER
   PROJECT MANAGER
   AMY@SANMATEORCD.ORG
   650-712-7765 X121
2. PERFORM CLEARING AND EARTH-MOVING ACTIVITIES ONLY DURING DRY WEATHER. MEASURES TO ENSURE ADEQUATE EROSION AND SEDIMENT CONTROL SHALL BE INSTALLED PRIOR TO EARTH-MOVING ACTIVITIES AND CONSTRUCTION.
3. MEASURES TO ENSURE ADEQUATE EROSION AND SEDIMENT CONTROL ARE REQUIRED YEAR-ROUND. STABILIZE ALL DENUDED AREAS AND MAINTAIN EROSION CONTROL MEASURES CONTINUOUSLY BETWEEN OCTOBER 1 AND APRIL 30.
4. STORE, HANDLE, AND DISPOSE OF CONSTRUCTION MATERIALS AND WASTES PROPERLY, SO AS TO PREVENT THEIR CONTACT WITH STORMWATER
5. CONTROL AND PREVENT THE DISCHARGE OF ALL POTENTIAL POLLUTANTS, INCLUDING PAVEMENT CUTTING WASTES, PAINTS, CONCRETE, PETROLEUM PRODUCTS, CHEMICALS, WASH WATER OR SEDIMENTS, AND NON-STORMWATER DISCHARGES TO STORM DRAINS AND WATERCOURSES.
6. USE SEDIMENT CONTROLS OR FILTRATION TO REMOVE SEDIMENT WHEN DEWATERING SITE AND OBTAIN REGIONAL WATER QUALITY CONTROL BOARD (RWQCB) PERMIT(S) AS NECESSARY.
7. AVOID CLEANING, FUELING, OR MAINTAINING VEHICLES ON-SITE, EXCEPT IN A DESIGNATED AREA WHERE WASH WATER IS CONTAINED AND TREATED.
8. LIMIT AND TIME APPLICATIONS OF PESTICIDES AND FERTILIZERS TO PREVENT POLLUTED RUNOFF.
9. LIMIT CONSTRUCTION ACCESS ROUTES TO STABILIZED, DESIGNATED ACCESS POINTS.
10. AVOID TRACKING DIRT OR OTHER MATERIALS OFF-SITE; CLEAN OFF-SITE PAVED AREAS AND SIDEWALKS USING DRY SWEEPING METHODS.
11. TRAIN AND PROVIDE INSTRUCTION TO ALL EMPLOYEES AND SUBCONTRACTORS REGARDING THE WATERSHED PROTECTION MAINTENANCE STANDARDS AND CONSTRUCTION BEST MANAGEMENT PRACTICES.
12. PLACEMENT OF EROSION MATERIALS AT THESE LOCATIONS ARE REQUIRED ON WEEKENDS AND DURING RAIN EVENTS: STOCKPILE AND STAGING AREA AND GRADED OR DISTURBED AREAS THAT HAVE NOT BEEN STABILIZED.
13. THE AREAS DELINEATED ON THE PLANS FOR PARKING, GRUBBING, STORAGE, ETC., SHALL NOT BE ENLARGED OR "RUN OVER."
14. CONSTRUCTION SITES ARE REQUIRED TO HAVE EROSION CONTROL MATERIALS ON-SITE DURING THE "OFF-SEASON."
15. DUST CONTROL IS REQUIRED YEAR-ROUND.
16. EROSION CONTROL MATERIALS SHALL BE STORED ON-SITE.
17. USE OF PLASTIC SHEETING BETWEEN OCTOBER 1 AND APRIL 30 IS NOT ACCEPTABLE, UNLESS FOR USE ON STOCKPILES WHERE THE STOCKPILE IS ALSO PROTECTED WITH FIBER ROLLS CONTAINING THE BASE OF THE STOCKPILE.
18. TREE PROTECTION SHALL BE IN PLACE BEFORE ANY DEMOLITION, GRADING, EXCAVATING OR GRUBBING IS STARTED.

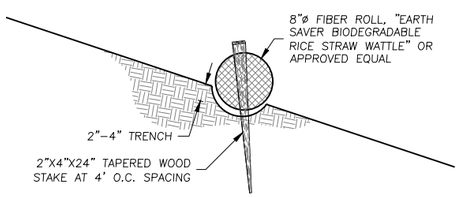
LEGEND

- EXISTING CONTOURS
- EXISTING LIDAR BASED CONTOURS
- EXISTING FLOW LINE
- EXISTING FENCE
- APPROXIMATE EDGE OF WILLOWS
- APPROXIMATE EDGE OF TULE
- SILT FENCE
- LIMITS OF DISTURBANCE
- EXISTING TREE (12"A)
- SURVEY CONTROL POINT (2)
- EXISTING DIRT ACCESS ROAD
- TEMPORARY ACCESS ROUTE
- STAGING AND STOCK PILE AREA



ACCESS,STAGING, AND EROSION CONTROL PLAN

SCALE: 1" = 40'



FIBER ROLL
SCALE: 1"=1'

FIBER ROLL NOTES

1. CONSTRUCT TRENCHES TO THE DEPTH SHOWN, AND TO A SUFFICIENT WIDTH TO HOLD THE FIBER ROLL. INSTALL STAKES AT THE ON-CENTER SPACING SHOWN ALONG THE LENGTH OF THE FIBER ROLL AND STOPPED AT 12 INCHES FROM EACH END OF THE ROLLS. DRIVE STAKES TO BETWEEN TWO AND THREE INCHES ABOVE THE TOP OF THE ROLL.
2. PLACE FIBER ROLLS 10 FEET APART ALONG THE SLOPE FOR SLOPE INCLINATION OF 2H:1V AND STEEPER, AND 15 FEET APART ALONG THE SLOPE FOR SLOPE INCLINATION BETWEEN 2H:1V AND 4H:1V.
3. CLEAR THE BEDDING AREA FOR THE FIBER ROLL OF OBSTRUCTIONS INCLUDING ROCKS, CLODS, AND DEBRIS GREATER THAN ONE INCH IN DIAMETER BEFORE INSTALLATION.
4. INSTALL FIBER ROLLS APPROXIMATELY PARALLEL TO THE SLOPE CONTOUR. ANGLE THE TERMINUS OF ROWS UP-SLOPE AT 45 DEGREES FOR A DISTANCE OF THREE FEET. WHERE FIBER ROLLS MEET, PROVIDE AN OVERLAP OF 18 INCHES, WITH ADJACENT ROLLS TIGHTLY ABUTTING EACH OTHER.
5. INSTALL FIBER ROLLS PRIOR TO SEEDING WHERE USED WITHOUT SLOPE PROTECTION FABRIC.
6. INSTALL FIBER ROLLS OVER FABRIC (AFTER SEEDING) WHERE SLOPE PROTECTION FABRIC IS TO BE INSTALLED.

ACCESS AND STAGING AREA NOTES

1. USE ONLY THE APPROVED ACCESS POINTS, AS SHOWN ON THE DRAWINGS. STOCKPILE MATERIALS WITHIN AN EXISTING FLAT AND PREVIOUSLY DISTURBED AREA.
2. THE ACCESS PLAN SHOWN ON THE DRAWINGS IS SCHEMATIC. SUBMIT A SITE ACCESS PLAN FOR APPROVAL BY THE ENGINEER, PRIOR TO MOBILIZATION.
3. CONTAIN THE DOWNSLOPE PERIMETER OF STAGING OR STOCKPILE AREAS WITH SILT FENCE.
4. STORE, MAINTAIN AND REFUEL ALL EQUIPMENT AND MATERIALS IN A DESIGNATED PORTION OF THE STAGING AREA.

DEWATERING NOTES

1. WE ANTICIPATE A WATER SURFACE OF APPROXIMATELY ELEVATION 40.0 FEET NAVD DURING THE CONSTRUCTION WINDOW. WORK WOULD BE PERFORMED BY ISOLATING THE WORK LIMITS USING A TURBIDITY CURTAIN PLACED ALONG THE WESTERN LIMIT OF WORK, AND ALLOWING WATER LEVELS TO EQUILIBRATE WITHIN WORK AREAS AS EXCAVATIONS PROGRESS.
2. WATER LEVELS WOULD INUNDATE WORK AREAS ASSOCIATED WITH THE DEEP WATER POND AND THE WETLAND BENCH. WORK WITHIN THESE AREAS WOULD BEGIN AT THEIR UPSTREAM LIMITS, LEAVING A PLUG IN PLACE AS LONG AS POSSIBLE.
3. FINAL EXCAVATION OF THE PLUG WOULD OCCUR AS TURBID WATER IS PUMPED CONTINOUSLY TO A SETTLING POND, LIKELY THE ONE OF THE TWO SHALLOW PONDS COSTRUCTED TO THE EAST.

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PREPARED AT THE REQUEST OF:
SAN MATEO RESOURCE CONCERVATION DISTRICT

ACCESS, STAGING, AND EROSION CONTROL PLAN

BUTANO POND MITIGATION PROJECT
65% DESIGN

DESIGNED BY:	M.W.
DRAWN BY:	C.H/D.R.
CHECKED BY:	M.W.W.
DATE:	1/7/21
JOB NO.:	18-058

BAR IS ONE INCH ON ORIGINAL DRAWING, ADJUST SCALES FOR REDUCED PLOTS
0 1"

GENERAL NOTES

1. THIS IS NOT A BOUNDARY SURVEY. PROPERTY LINES, IF SHOWN, WERE COMPILED FROM RECORD INFORMATION AND FROM FIELD TIES TO EXISTING BOUNDARY MONUMENTATION. THE LOCATION OF THESE LINES IS SUBJECT TO CHANGE, PENDING THE RESULTS OF A COMPLETE BOUNDARY SURVEY.
2. ALL CONSTRUCTION AND MATERIALS SHALL CONFORM TO THE DRAWINGS, SPECIFICATIONS, AND THE 2018 EDITION OF THE STATE OF CALIFORNIA STANDARD SPECIFICATIONS, ISSUED BY THE DEPARTMENT OF TRANSPORTATION (HEREAFTER REFERRED TO AS "STANDARD SPECIFICATIONS").
3. THESE DESIGNS ARE NOT COMPLETE WITHOUT THE FINAL STAMPED TECHNICAL SPECIFICATIONS PREPARED BY WATERWAYS CONSULTING, INC. REFER TO SPECIFICATIONS FOR DETAILS NOT SHOWN HEREON.
4. NOTIFY THE ENGINEER AT LEAST 48 HOURS PRIOR TO CONSTRUCTION. THE ENGINEER OR A DESIGNATED REPRESENTATIVE SHALL OBSERVE THE CONSTRUCTION PROCESS, AS NECESSARY TO ENSURE PROPER INSTALLATION PROCEDURES.
5. EXISTING UNDERGROUND UTILITY LOCATIONS:
   A. CALL UNDERGROUND SERVICE ALERT (1-800-642-2444) TO LOCATE ALL UNDERGROUND UTILITY LINES PRIOR TO COMMENCING CONSTRUCTION.
   B. PRIOR TO BEGINNING WORK, CONTACT ALL UTILITIES COMPANIES WITH REGARD TO WORKING OVER, UNDER, OR AROUND EXISTING FACILITIES AND TO OBTAIN INFORMATION REGARDING RESTRICTIONS THAT ARE REQUIRED TO PREVENT DAMAGE TO THE FACILITIES.
   C. EXISTING UTILITY LOCATIONS SHOWN ARE COMPILED FROM INFORMATION SUPPLIED BY THE APPROPRIATE UTILITY AGENCIES AND FROM FIELD MEASUREMENTS TO ABOVE GROUND FEATURES READILY VISIBLE AT THE TIME OF SURVEY. LOCATIONS SHOWN ARE APPROXIMATE. THE CONTRACTOR IS CAUTIONED THAT ONLY ACTUAL EXCAVATION WILL REVEAL THE DIMENSIONS, SIZES, MATERIALS, LOCATIONS, AND DEPTH OF UNDERGROUND UTILITIES.
   D. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR THE LOCATION AND/OR PROTECTION OF ALL EXISTING AND PROPOSED PIPING, UTILITIES, TRAFFIC SIGNAL EQUIPMENT (BOTH ABOVE GROUND AND BELOW GROUND), STRUCTURES, AND ALL OTHER EXISTING IMPROVEMENTS THROUGHOUT CONSTRUCTION.
   E. PRIOR TO COMMENCING FABRICATION OR CONSTRUCTION, DISCOVER OR VERIFY THE ACTUAL DIMENSIONS, SIZES, MATERIALS, LOCATIONS, AND ELEVATIONS OF ALL EXISTING UTILITIES AND POTHOLE THOSE AREAS WHERE POTENTIAL CONFLICTS ARE LIKELY OR DATA IS OTHERWISE INCOMPLETE.
   F. TAKE APPROPRIATE MEASURES TO PROTECT EXISTING UTILITIES DURING CONSTRUCTION OPERATIONS. CONTRACTOR IS SOLELY RESPONSIBLE FOR THE COST OF REPAIR/REPLACEMENT OF ANY EXISTING UTILITIES DAMAGED DURING CONSTRUCTION.
   G. UPON LEARNING OF THE EXISTENCE AND/OR LOCATIONS OF ANY UNDERGROUND FACILITIES NOT SHOWN OR SHOWN INACCURATELY ON THE PLANS OR NOT PROPERLY MARKED BY THE UTILITY OWNER, IMMEDIATELY NOTIFY THE UTILITY OWNER AND THE CITY BY TELEPHONE AND IN WRITING.
   H. UTILITY RELOCATIONS REQUIRED FOR THE CONSTRUCTION OF THE PROJECT FACILITIES WILL BE PERFORMED BY THE UTILITY COMPANY, UNLESS OTHERWISE NOTED.
12. IF DISCREPANCIES ARE DISCOVERED BETWEEN THE CONDITIONS EXISTING IN THE FIELD AND THE INFORMATION SHOWN ON THESE DRAWINGS, NOTIFY THE ENGINEER PRIOR TO PROCEEDING WITH CONSTRUCTION.
13. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO BE FULLY INFORMED OF AND TO COMPLY WITH ALL LAWS, ORDINANCES, CODES, REQUIREMENTS AND STANDARDS WHICH IN ANY MANNER AFFECT THE COURSE OF CONSTRUCTION OF THIS PROJECT, THOSE ENGAGED OR EMPLOYED IN THE CONSTRUCTION AND THE MATERIALS USED IN THE CONSTRUCTION.
14. ALL TESTS, INSPECTIONS, SPECIAL OR OTHERWISE, THAT ARE REQUIRED BY THE BUILDING CODES, LOCAL BUILDING DEPARTMENTS, OR THESE PLANS, SHALL BE DONE BY AN INDEPENDENT INSPECTION COMPANY. JOB SITE VISITS BY THE ENGINEER DO NOT CONSTITUTE AN OFFICIAL INSPECTION. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ENSURE THAT THE REQUIRED TESTS AND INSPECTIONS ARE PERFORMED.
15. PROJECT SCHEDULE: PRIOR TO COMMENCEMENT OF WORK, SUBMIT TO THE ENGINEER FOR REVIEW AND APPROVAL A DETAILED CONSTRUCTION SCHEDULE. DO NOT BEGIN ANY CONSTRUCTION WORK UNTIL THE PROJECT SCHEDULE AND WORK PLAN IS APPROVED BY THE ENGINEER. ALL CONSTRUCTION SHALL BE CLOSELY COORDINATED WITH THE ENGINEER SO THAT THE QUALITY OF WORK CAN BE CHECKED FOR APPROVAL. PURSUE WORK IN A CONTINUOUS AND DILIGENT MANNER TO ENSURE A TIMELY COMPLETION OF THE PROJECT.
16. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DESIGN, PERMITTING, INSTALLATION, AND MAINTENANCE OF ANY AND ALL TRAFFIC CONTROL MEASURES DEEMED NECESSARY.
17. THE CONTRACTOR SHALL BE RESPONSIBLE FOR GENERAL SAFETY DURING CONSTRUCTION. ALL WORK SHALL CONFORM TO PERTINENT SAFETY REGULATIONS AND CODES. THE CONTRACTOR SHALL BE SOLELY AND COMPLETELY RESPONSIBLE FOR FURNISHING, INSTALLING, AND MAINTAINING ALL WARNING SIGNS AND DEVICES NECESSARY TO SAFEGUARD THE GENERAL PUBLIC AND THE WORK, AND PROVIDE FOR THE PROPER AND SAFE ROUTING OF VEHICULAR AND PEDESTRIAN TRAFFIC DURING THE PERFORMANCE OF THE WORK. THE CONTRACTOR SHALL BE SOLELY AND COMPLETELY RESPONSIBLE FOR COMPLIANCE WITH ALL APPLICABLE PROVISIONS OF OSHA IN THE CONSTRUCTION PRACTICES FOR ALL EMPLOYEES DIRECTLY ENGAGED IN THE CONSTRUCTION OF THIS PROJECT.
18. CONSTRUCTION CONTRACTOR AGREES THAT IN ACCORDANCE WITH GENERALLY ACCEPTED CONSTRUCTION PRACTICES, CONSTRUCTION CONTRACTOR WILL BE REQUIRED TO ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THE PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY; THAT THIS REQUIREMENT SHALL BE MADE TO APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS, AND CONSTRUCTION CONTRACTOR FURTHER AGREES TO DEFEND, INDEMNIFY AND HOLD DESIGN PROFESSIONAL HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT, EXCEPTION LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF DESIGN PROFESSIONAL. NEITHER THE PROFESSIONAL ACTIVITIES OF CONSULTANT NOR THE PRESENCE OF CONSULTANT OR HIS OR HER EMPLOYEES OR SUB-CONSULTANTS AT A CONSTRUCTION SITE SHALL RELIEVE THE CONTRACTOR AND ITS SUBCONTRACTORS OF THEIR RESPONSIBILITIES INCLUDING, BUT NOT LIMITED TO, CONSTRUCTION MEANS, METHODS, SEQUENCE, TECHNIQUES OR PROCEDURES NECESSARY FOR PERFORMING, SUPERINTENDING OR COORDINATING ALL PORTIONS OF THE WORK OF CONSTRUCTION IN ACCORDANCE WITH THE CONTRACT DOCUMENTS AND APPLICABLE HEALTH OR SAFETY REQUIREMENTS OF ANY REGULATORY AGENCY OR OF STATE LAW.
19. MAINTAIN A CURRENT, COMPLETE, AND ACCURATE RECORD OF ALL AS-BUILT DEVIATIONS FROM THE CONSTRUCTION AS SHOWN ON THESE DRAWINGS AND SPECIFICATIONS, FOR THE PURPOSE OF PROVIDING THE ENGINEER OF RECORD WITH A BASIS FOR THE PREPARATION OF RECORD DRAWINGS.
20. MAINTAIN THE SITE IN A NEAT AND ORDERLY MANNER THROUGHOUT THE CONSTRUCTION PROCESS. STORE ALL MATERIALS WITHIN APPROVED STAGING AREAS.
21. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO BE FULLY INFORMED OF AND TO COMPLY WITH ALL PERMIT CONDITIONS, LAWS, ORDINANCES, CODES, REQUIREMENTS AND STANDARDS, WHICH IN ANY MANNER AFFECT THE COURSE OF CONSTRUCTION OF THIS PROJECT, THOSE ENGAGED OR EMPLOYED IN THE CONSTRUCTION AND THE MATERIALS USED IN THE CONSTRUCTION.
22. PROVIDE, AT CONTRACTOR'S SOLE EXPENSE, ALL MATERIALS, LABOR AND EQUIPMENT REQUIRED TO COMPLY WITH ALL APPLICABLE PERMIT CONDITIONS AND REQUIREMENTS.
23. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CONSTRUCTION STAKING AND LAYOUT, UNLESS OTHERWISE SPECIFIED.
24. FIELD INSPECTIONS AND OR THE PROVISION OF CONSTRUCTION STAKES DO NOT RELIEVE THE CONTRACTOR OF THEIR SOLE RESPONSIBILITY FOR ESTABLISHING ACCURATE CONSTRUCTED LINES AND GRADES, AS SPECIFIED.
25. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION AND PRESERVATION OF ALL SURVEY MONUMENTS OR PROPERTY CORNERS. DISTURBED MONUMENTS SHALL BE RESTORED BACK TO THEIR ORIGINAL LOCATION AND SHALL BE CERTIFIED BY A REGISTERED CIVIL ENGINEER OR LAND SURVEYOR AT THE SOLE EXPENSE OF THE CONTRACTOR.
26. THE OWNER SHALL BE RESPONSIBLE FOR VERIFYING THE LOCATION OF ALL PROPERTY LINES AND EASEMENTS AND CONFIRMING THAT PROPOSED PROJECT ELEMENTS ARE LOCATED ON DISTRICT OWNED LANDS OR ARE COORDINATED WITH OWNERS AND APPROPRIATE PERMISSIONS ARE GRANTED FOR THE WORK.
27. CONSTRUCTION WATER TO BE IMPORTED BY THE CONTRACTOR.
28. TREE DIMENSIONS: TRUNK DIAMETERS SHOWN REPRESENT DIAMETER AT BREAST HEIGHT (DBH), MEASURED IN INCHES. DBH IS MEASURED 4.5 FT ABOVE GROUND FOR SINGLE TRUNKS AND TRUNKS THAT SPLIT INTO SEVERAL STEMS CLOSE TO THE GROUND. THE DBH FOR TREES THAT SPLIT INTO SEVERAL STEMS CLOSE TO THE GROUND MAY BE CONSOLIDATED INTO A SINGLE DBH BY TAKING THE SQUARE ROOT OF THE SUM OF ALL SQUARED STEM DBH'S, UNLESS OTHERWISE NOTED. WHERE TREES FORK NEAR BREAST HEIGHT, TRUNK DIAMETER IS MEASURED AT THE NARROWEST PART OF THE MAIN STEM BELOW THE FORK. FOR TREES ON A SLOPE, BREAST HEIGHT IS REFERENCED FROM THE UPPER SIDE OF THE SLOPE. FOR LEANING TREES, BREAST HEIGHT IS MEASURED ON THE SIDE THAT THE TREE LEANS TOWARD. TREES WITH DBH LESS THAN 8" ARE TYPICALLY NOT SHOWN.

    12"P = 12" DBH PINE
29. TREE SPECIES ARE IDENTIFIED WHEN KNOWN. HOWEVER, FINAL DETERMINATION SHOULD BE MADE BY A QUALIFIED BOTANIST. REFER TO THE LEGEND FOR TREE SPECIES SYMBOLS.
30. TREE TRUNK DIMENSIONS MAY BE SHOWN OUT-OF-SCALE FOR PLOTTING CLARITY. CAUTION SHOULD BE USED IN DESIGNING NEAR TREE TRUNKS. THERE ARE LIMITATIONS ON FIELD ACCURACY, DRAFTING ACCURACY, MEDIUM STRETCH AS WELL AS THE "SPREAD" OR "LEANING" OF TREES. REQUEST ADDITIONAL TOPOGRAPHIC DETAIL WHERE CLOSE TOLERANCES ARE ANTICIPATED. INDIVIDUAL TREES ARE NOT TYPICALLY LOCATED WITHIN DRIPLINE CANOPY AREAS SHOWN.
31. WILLOWS TO BE REMOVED SHALL BE TRIMMED, TRANSPLANTED, AND UTILIZED IN THE REVEGETATION PLAN.
32. CONTRACTOR IS REQUIRED TO ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THE PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY; THIS REQUIREMENT SHALL BE MADE TO APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS.
33. THE CONTRACTOR SHALL CONFORM TO THE RULES AND REGULATIONS OF THE CONSTRUCTION SAFETY ORDERS OF THE CALIFORNIA DIVISION OF OCCUPATIONAL SAFETY AND HEALTH PERTAINING TO EXCAVATION AND TRENCHES THE CALIFORNIA CODE OF REGULATIONS TITLE 8, SUBCHAPTER 4 CONSTRUCTION SAFETY ORDERS, ARTICLE 6 EXCAVATION.
34. CULTURAL RESOURCES: IN THE EVENT THAT HUMAN REMAINS AND/OR CULTURAL MATERIALS ARE FOUND, ALL PROJECT-RELATED CONSTRUCTION SHALL CEASE WITHIN A 100-FOOT RADIUS. THE CONTRACTOR SHALL, PURSUANT TO SECTION 7050.5 OF THE HEALTH AND SAFETY CODE, AND SECTION 5097.94 OF THE PUBLIC RESOURCES CODE OF THE STATE OF CALIFORNIA, NOTIFY THE SAN MATEO COUNTY CORONER IMMEDIATELY.

EROSION CONTROL NOTES

1. THE EROSION CONTROL PLAN SHOWN IS INTENDED FOR THE SUMMER CONSTRUCTION SEASON (APRIL 30TH TO OCTOBER 1ST). IF THE DRAINAGE FEATURES SHOWN ON THESE DRAWINGS ARE NOT COMPLETED AND DISTURBED AREAS STABILIZED BY OCTOBER 1ST, CONSULT THE ENGINEER FOR ADDITIONAL RAINY SEASON EROSION CONTROL MEASURES.
2. COMPLY WITH THE APPROVED STORM WATER POLLUTION PREVENTION PLAN, TO BE PREPARED AND IMPLEMENTED BY THE CONTRACTOR IN COMPLIANCE WITH THE REQUIREMENTS OF THE STATE WATER RESOURCES CONTROL BOARD (SWRCB) NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) GENERAL PERMIT FOR STORM WATER DISCHARGES ASSOCIATED WITH CONSTRUCTION AND LAND DISTURBANCE ACTIVITIES, WATER QUALITY ORDER NO. 2009-0009-DWQ, GENERAL PERMIT NO. CAS000002, ADOPTED SEPTEMBER 2, 2009, (HEREAFTER CONSTRUCTION GENERAL PERMIT (CGP).
3. DO NOT BEGIN SITE DISTURBING ACTIVITIES UNTIL THE SWPPP HAS BEEN APPROVED BY THE CLIENT, UPLOADED TO SMARTS AND A WASTE DISCHARGE IDENTIFICATION (WDID) NUMBER RECEIVED.
4. IMPLEMENT SWPPP MEASURES AS THE FIRST ORDER OF BUSINESS UPON SITE MOBILIZATION.
5. PRIOR TO COMMENCING WORK, PROTECT AREAS TO REMAIN UNDISTURBED WITH ESA FENCING, AS SHOWN ON THE DRAWINGS. ADDITIONAL FENCING MAY BE REQUIRED AT THE DIRECTION OF THE ENGINEER.
6. UTILIZE ONLY THE APPROVED HAUL ROADS AND ACCESS POINTS (AS SHOWN ON THE DRAWINGS) FOR TRANSPORT OF MATERIALS AND EQUIPMENT.
7. BETWEEN OCTOBER 1 AND APRIL 30, PROTECT EXPOSED SOIL FROM EROSION AT ALL TIMES. DURING CONSTRUCTION, SUCH PROTECTION MAY CONSIST OF MULCHING AND/OR PLANTING OF NATIVE VEGETATION OF ADEQUATE DENSITY. BEFORE COMPLETION OF THE PROJECT, STABILIZE ALL EXPOSED SOIL ON DISTURBED SLOPES AGAINST EROSION.
8. MAINTAIN A STANDBY CREW FOR EMERGENCY WORK AT ALL TIMES DURING THE RAINY SEASON (OCTOBER 1 THROUGH APRIL 30). STOCKPILE NECESSARY MATERIALS AT CONVENIENT LOCATIONS TO FACILITATE RAPID CONSTRUCTION OF TEMPORARY DEVICES.
9. 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.
10. INCORPORATE ADEQUATE DRAINAGE PROCEDURES DURING THE CONSTRUCTION PROCESS TO ELIMINATE EXCESSIVE PONDING AND EROSION.
11. CONSTRUCT AND MAINTAIN EROSION CONTROL MEASURES TO PREVENT THE DISCHARGE OF EARTHEN MATERIALS TO THE CREEK FROM DISTURBED AREAS UNDER CONSTRUCTION AND FROM COMPLETED CONSTRUCTION AREAS.
12. INSTALL ALL PROTECTIVE DEVICES AT THE END OF EACH WORK DAY WHEN THE FIVE-DAY RAIN PROBABILITY EQUALS OR EXCEEDS 50 PERCENT AS DETERMINED FROM THE NATIONAL WEATHER SERVICE FORECAST OFFICE: WWW.SRH.NOAA.GOV.
13. AFTER EACH RAINSTORM, REMOVE ALL SILT AND DEBRIS FROM (CHECK BERMS AND SEDIMENTATION BASIN) OR (SEDIMENTATION DEVICES) AND PUMP THE BASIN DRY.
14. THE EROSION CONTROL DEVICES ON THIS PLAN ARE A SCHEMATIC REPRESENTATION 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, AT THE DISCRETION OF THE ENGINEER.
15. MAINTAIN ALL EROSION CONTROL DEVICES AND MODIFY THEM AS SITE PROGRESS DICTATES.
16. MONITOR THE EROSION CONTROL DEVICES DURING STORMS AND MODIFY THEM IN ORDER TO PREVENT PROGRESS OF ANY ONGOING EROSION.
17. CLEAN DAILY ANY EROSION OR DEBRIS SPILLING ONTO A PUBLIC STREET.
18. CONTACT THE ENGINEER IN THE EVENT THAT THE EROSION CONTROL PLAN AS DESIGNED REQUIRES ANY SUBSTANTIAL REVISIONS.
19. IMPLEMENT ALL REQUIRED BMP'S PRIOR TO COMMENCING SITE DISTURBING ACTIVITIES.

EARTHWORK NOTES

1. ALL GRADING SHALL COMPLY WITH THE RECOMMENDATIONS OF THE ENGINEER AND WITH THE APPLICABLE REQUIREMENTS OF THE SAN MATEO COUNTY GRADING ORDINANCE.
2. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VISIT THE SITE AND MAKE HIS OWN INTERPRETATIONS WITH REGARD TO MATERIALS, METHODS AND EQUIPMENT NECESSARY TO PERFORM THE WORK REQUIRED FOR THIS PROJECT.
3. GRADING SUMMARY:

TOTAL CUT VOLUME =	3,500 CY
TOTAL FILL VOLUME =	2,800 CY (COMPACTED IN PLACE WITH 20% LOSSES)
NET (CUT/FILL) =	0 CY

   THE ABOVE QUANTITIES ARE APPROXIMATE IN-PLACE VOLUMES CALCULATED AS THE DIFFERENCE BETWEEN EXISTING GROUND AND THE PROPOSED FINISH GRADE, PREPARED FOR PERMITTING PURPOSES ONLY. EXISTING GROUND IS DEFINED BY THE TOPOGRAPHIC CONTOURS AND/OR SPOT ELEVATIONS ON THE PLAN. PROPOSED FINISH GRADE IS DEFINED AS THE DESIGN SURFACE ELEVATION OF WORK TO BE CONSTRUCTED. THE QUANTITIES HAVE NOT BEEN FACTORED TO INCLUDE ALLOWANCES FOR BULKING, CLEARING AND GRUBBING, SUBSIDENCE, SHRINKAGE, OVER EXCAVATION, AND RECOMPACTION, UNDERGROUND UTILITY AND SUBSTRUCTURE SPOILS AND CONSTRUCTION METHODS.

   THE CONTRACTOR SHALL PERFORM AN INDEPENDENT EARTHWORK ESTIMATE FOR THE PURPOSE OF PREPARING BID PRICES FOR EARTHWORK. THE BID PRICE SHALL INCLUDE COSTS FOR ANY NECESSARY IMPORT AND PLACEMENT OF EARTH MATERIALS OR THE EXPORT AND PROPER DISPOSAL OF EXCESS OR UNSUITABLE EARTH MATERIALS.
4. PRIOR TO COMMENCING WORK, PROTECT ALL SENSITIVE AREAS TO REMAIN UNDISTURBED WITH TEMPORARY FENCING, AS SHOWN ON THE DRAWINGS, AS SPECIFIED, OR AS DIRECTED BY THE ENGINEER.
5. DO NOT DISTURB AREAS OUTSIDE OF THE DESIGNATED LIMITS OF DISTURBANCE, UNLESS AUTHORIZED IN WRITING BY THE ENGINEER. THE COST OF ALL ADDITIONAL WORK ASSOCIATED WITH RESTORATION AND REVEGETATION OF DISTURBED AREAS OUTSIDE THE DESIGNATED LIMITS OF DISTURBANCE, AS SHOWN ON THE DRAWINGS, SHALL BE BORNE SOLELY BY THE CONTRACTOR.
6. REMOVE ALL EXCESS SOILS TO AN APPROVED DUMP SITE OR DISPOSE OF ON SITE AT A LOCATION TO BE APPROVED BY THE ENGINEER, IN A MANNER THAT WILL NOT CAUSE EROSION.
7. CLEARING AND GRUBBING, SUBGRADE PREPARATION AND EARTHWORK SHALL BE PERFORMED IN ACCORDANCE WITH SECTION 19 OF THE STANDARD SPECIFICATIONS, THESE DRAWINGS, AND THE TECHNICAL SPECIFICATIONS.
8. PRIOR TO STARTING WORK ON THE PROJECT, SUBMIT FOR ACCEPTANCE BY THE ENGINEER A HAZARDOUS MATERIALS CONTROLS AND SPILL PREVENTION PLAN. INCLUDE PROVISIONS FOR PREVENTING HAZARDOUS MATERIALS FROM CONTAMINATING SOIL OR ENTERING WATER COURSES, AND ESTABLISH A SPILL PREVENTION AND COUNTERMEASURE PLAN.
9. UNLESS AUTHORIZED BY THE GEOTECHNICAL ENGINEER, THE FOLLOWING MATERIALS SHALL NOT BE INCORPORATED INTO THE WORK:
   A. ORGANIC MATERIALS SUCH AS PEAT, MULCH, ORGANIC SILT OR SOD.
   B. SOILS CONTAINING EXPANSIVE CLAYS.
   C. MATERIAL CONTAINING EXCESSIVE MOISTURE.
   D. POORLY GRADED COURSE MATERIAL.
   E. PARTICLE SIZES IN EXCESS OF 6 INCHES.
   F. MATERIAL WHICH WILL NOT ACHIEVE SPECIFIED DENSITY OR BEARING.
   G. MATERIAL WITH EXCESSIVE MOISTURE CONTENT.
10. FINE GRADING ELEVATIONS, CONFORMS, AND SLOPES NOT CLEARLY SHOWN ON THE DRAWINGS SHALL BE DETERMINED BY THE CONTRACTOR IN THE FIELD TO DIRECT DRAINAGE TO PROTECTED DRAINAGE CONTROL STRUCTURES OR NATURAL WATERWAYS IN A MANNER THAT SUPPORTS THE INTENT OF THE DESIGN. ALL FINAL GRADING SHALL BE SUBJECT TO APPROVAL OF THE ENGINEER.
11. UNLESS OTHERWISE DIRECTED BY ENGINEER, ALL FILL TO BE COMPACTED TO A MINIMUM OF 85% MAXIMUM DENSITY AS DETERMINED BY ASTM-D1557 AND SO CERTIFIED BY TESTS AND REPORTS FROM THE CIVIL ENGINEER IN CHARGE OF THE GRADING CERTIFICATION.
12. SPREAD FILL MATERIAL IN LIFTS OF APPROXIMATELY 8 INCHES, MOISTENED OR DRIED TO NEAR OPTIMUM MOISTURE CONTENT AND RECOMPACTED. THE MATERIALS FOR ENGINEERED FILL SHALL BE APPROVED BY A REGISTERED CIVIL ENGINEER. ANY IMPORTED MATERIALS MUST BE APPROVED BEFORE BEING BROUGHT TO THE SITE. THE MATERIALS USED SHALL BE FREE OF ORGANIC MATTER AND OTHER DELETERIOUS MATERIALS.
13. ALL CONTACT SURFACES BETWEEN ORIGINAL GROUND AND RECOMPACTED FILL SHALL BE EITHER HORIZONTAL OR VERTICAL. ALL ORGANIC MATERIAL SHALL BE REMOVED AND THE REMAINING SURFACE SCARIFIED TO A DEPTH OF AT LEAST 12 INCHES, UNLESS DEEPER EXCAVATION IS REQUIRED BY THE ENGINEER.
14. REGULATORY AGENCIES MAY REQUIRE A FINAL GRADING COMPLIANCE LETTER. WE CAN ONLY OFFER THIS LETTER IF WE ARE CALLED TO THE SITE TO OBSERVE AND TEST, AS NECESSARY, ANY GRADING AND EXCAVATION OPERATIONS FROM THE START OF CONSTRUCTION. WE CANNOT PREPARE A LETTER IF WE ARE NOT AFFORDED THE OPPORTUNITY OF OBSERVATION FROM THE BEGINNING OF THE GRADING OPERATION. THE CONTRACTOR MUST BE MADE AWARE OF THIS AND EARTHWORK TESTING AND OBSERVATION MUST BE SCHEDULED ACCORDINGLY. PLEASE CONTACT OUR OFFICE: (831) 421-9291.

WATERWAYS CONSULTING INC.
509A SWIFT ST.
SANTA CRUZ, CA 95060
PH:(831)421-9291 // FAX:(888)819-6847
WWW.WATWAYS.COM

DRAFT
NOT FOR CONSTRUCTION

PREPARED AT THE REQUEST OF:
SAN MATEO RESOURCE
CONCERVATION DISTRICT

NOTES

BUTANO POND
MITIGATION PROJECT
65% DESIGN

DESIGNED BY:	M.W.
DRAWN BY:	C.H/D.R.
CHECKED BY:	M.W.W.
DATE:	1/7/21
JOB NO.:	18-058

BAR IS ONE INCH ON ORIGINAL DRAWING, ADJUST SCALES FOR REDUCED PLOTS
0 1"

County of San Mateo - Planning and Building Department

ATTACHMENT D

INITIAL STUDY AND MITIGATED NEGATIVE DECLARATION

BUTANO FARMS SAN FRANCISCO GARTER SNAKE HABITAT ENHANCEMENT PROJECT

Pursuant to the California Environmental Quality Act, as amended

Prepared for San Mateo Resource Conservation District
80 Stone Pine Road, Suite 100
Half Moon Bay, CA 94019

Prepared by Vinnedge Environmental Consulting
1800 Grant Street
Berkeley, CA 94703

May 2020

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ACRONYMS AND ABBREVIATIONS

BMPs – Best Management Practices

CalEEMod – California Emissions Estimator Model

CARB – California Air Resources Board

CCC – California Coastal Commission

CDFW – California Department of Fish and Wildlife

CESA – California Endangered Species Act

CEQA – California Environmental Quality Act

CFGC – California Fish and Game Code

CNDDB – California Natural Diversity Database

CRLF – California Red-legged Frog

CO_2 – carbon dioxide

CO_2E – carbon dioxide equivalents

CWA – Clean Water Act

CY – cubic yards

FMMP – Farmland Mapping and Mitigation Program

FEMA – Federal Emergency Management Agency

FESA – Federal Endangered Species Act

kW – Kilowatts

GHG – greenhouse gases

HCP – Habitat Conservation Plan

HFC – hydrofluorocarbons

IS/MND – Initial Study / Mitigated Negative Declaration

LSAA – Lake and Streambed Alteration Agreement

LCP – Local Coastal Plan

MBTA – Migratory Bird Treaty Act

MMRP – Mitigation Monitoring Reporting Program

NHPA – National Historic Preservation Act

NWI – National Wetland Inventory

NAHC – Native American Heritage Commission

NF_3 – nitrogen trifluoride

N_2O – nitrous oxide

NOx – nitrogen oxide

NRCS – Natural Resources Conservation Service

OHP – California Office of Historic Preservation

PG&E – Pacific Gas and Electric

POST – Peninsula Open Space Trust

PFC – perfluorocarbons

PM_{10} – particulate matter less than 10 microns in diameter

$PM_{2.5}$ – particulate matter less than 2.5 microns in diameter

ROG – reactive organic gases

RWQCB – Regional Water Quality Control Board

RCD – Resource Conservation District

SFGS – San Francisco Garter Snake

SHPO – State Historic Preservation Office

SWPPP – Storm Water Pollution Prevention Plan

SF_6 – sulfur hexafluoride

TAC – toxic air contaminants

USACE – U.S. Army Corps of Engineers

USDA – U.S. Department of Agriculture

USFWS – U.S. Fish and Wildlife Service

INITIAL STUDY / MITIGATED NEGATIVE DECLARATION
Pursuant to the California Environmental Quality Act, as amended

A. PROJECT INFORMATION

1. Project title: Butano Farms San Francisco Garter Snake Habitat Enhancement Project

2. Lead agency name and address: San Mateo Resource Conservation District
80 Stone Pine Road, Suite 100
Half Moon Bay, CA 94019

3. Contact person & phone number: Amy Kaeser, (650) 712-7765 x 121

4. Project location: The project is located one mile south of the town of Pescadero, in San Mateo County, California.

5. Project sponsor's name and address: San Mateo Resource Conservation District

6. General Plan Designation: Agriculture

7. Zoning: Coastal Development District and Planned Agricultural District

A.1 PROJECT DESCRIPTION

San Mateo Resource Conservation District (RCD) proposes to implement the Butano Farms San Francisco Garter Snake Habitat Enhancement Project (proposed project) located in San Mateo County, California. The Butano Farms Project Area consists of 65 acres (Project Area), which is owned and managed by the Peninsula Open Space Trust (POST). The proposed project includes vegetation management targeted across upland habitat and modification to the existing 1-acre pond in the aquatic habitat. For the purposes of this evaluation, the term "project site" includes only the portion of the Project Area that would be directly impacted by project restoration and enhancement activities. The project site consists of 16.57 acres of upland and aquatic habitats. The entire 65 acre Project Area will maintained and managed for 30 years to enhance aquatic and upland habitat for San Francisco garter snake (*Thamnophis sirtalis tetrataenia*) and California red-legged frog (*Rana draytonii*).

The proposed project provides mitigation for biological impacts associated with Pacific Gas & Electric Company (PG&E) Line 101 Inline Inspection and Upgrade, and Lomita Park Station Rebuild Project in the City of Millbrae, San Mateo County. PG&E provided financial contribution to the RCD for management of land with emphasis on management for San Francisco garter snake. Restoration activities evaluated in this IS/MND are consistent with the recovery actions outlined in the federal San Francisco Garter Snake Recovery Plan, which concludes that restoration of upland, riparian and aquatic habitat is necessary for the recovery of the San Francisco garter snake (SFGS), and will support recovery of the California red-legged frog (CRLF) (USFWS 1985; USFWS 2006a).

The goal of the proposed project is to improve habitat conditions for SFGS on this property. In their 5-year review of SFGS, USFWS identified reduction of habitat quality through woody encroachment and lack of disturbance as one of the "greatest threats" to SFGS and states that "uplands may be essential to the snake's survival" (USFWS 2006b). USFWS also highlights reduction in open, freshwater water habitat as another threat to SFGS habitat. According to USFWS, the ideal percent cover of brush in uplands utilized by SFGS should be between at 10 to 30% cover (1 shrub per 20-30 square meters) (USFWS 2006b). Coastal scrub currently takes up to 75% percent of the grassland habitat. Finally, USFWS recommends livestock grazing to maintain grassland and prevent conversion to shrubland. In light of these recommendations, the proposed project includes the following suite of actions aimed at enhancing both aquatic and upland habitat:

- Excavate existing pond to increase the depth and area of open water;
- Create a sediment retention forebay upstream of the existing pond to reduce erosion in the adjacent drainages and as well as sediment transport into the pond;
- Restore grassland habitat within the pond's watershed to enhance the grassland components and reduce woody vegetation, removing woody vegetation that is encroaching into the grassland, controlling invasive plants through various treatment approaches, increasing soil health through application of soil amendments, and seeding with native grasses; and
- Minimize bank erosion along the pond edges through creation of designated areas for controlled cattle access the pond (drinking water source), and/or development of alternative water systems to reduce erosion and improve distribution of cattle across the landscape.

Implementation of these actions will restore grassland and herbaceous wetland habitats within the Project Area that support movement, foraging, and breeding habitat used by SFGS, CRLF and a variety of other native wetland and grassland dependent species.

A1.1. Revisions to the Draft Initial Study/Mitigated Negative Declaration

The RCD reviewed the Draft IS/MND and concluded that implementation of the proposed project would not result in any significant unmitigable impacts. All impacts would be mitigated to less-than-significant levels or would be less than significant. This section of the Final IS/MND presents all revisions to the following sections of the Draft IS/MND. Where appropriate, revisions are shown in underline and strikeout to display any additions and/or removals, respectively, to the Draft IS/MND.

1. Section A1.4 Project Description, Table 1. Project Design Elements Table, Pages 9-10

The term "permanent impact" was replaced with "habitat conversion" to more accurately reflect results of restoration activities post construction.

2. Section A1.4 Project Description, Page 22

Figure 5 was revised to depict an accurate representation of existing aquatic features.

3. Biological Resources Section, Page 53
Mitigation Measure BIO-3: SFGS Avoidance and Minimization Measures

- Activities that result in ground disturbance will occur May 1–October 30 (active season). Vegetation will be cut to 3 inches in height. Once the ground is visible, a visual survey for SFGS will be conducted by the biologist prior to additional ground disturbance. ~~Field crews will install solid exclusion fencing if the work is in areas of known species presence.~~ If SFGS is found, USFWS will be notified immediate to determine the correct course of action. If work needs to occur during the inactive period (November 1– April 30) and is located in an area of known occupancy, flag and avoid any burrows by at least 10 feet wherever possible. If any burrows cannot be avoided by this distance, a biologist will inspect following activities to determine whether or not the burrow has been collapsed. If a burrow is collapsed, the biologist shall make efforts to open the burrow.

This document has been prepared in compliance with the 1970 CEQA (as amended), codified in California Public Resources Code § 21000 et seq., and the CEQA Guidelines in the California Code of Regulations, Title 14, Division 6, Chapter 3, § 15000 et seq. The RCD has opted to prepare an IS/MND to achieve the goals and objectives of the proposed project.

A1.2. Regional and Project Setting

Regional Setting

The proposed project is situated within the Central Coast subregion near the boundary of the San Francisco Bay Area subregion of the California Floristic Province in the Butano Creek watershed which is part of the Pescadero Creek watershed (Figure 1). As described in the *Ecological Subregions of California* (USDA 1997) the farm is located within the Santa Cruz Mountains subsection of the Central California Coast Section. The Santa Cruz Mountains subsection is between the San Andreas Fault and the Pacific Ocean. The climate is temperate to hot and sub-humid to humid and is very mild, because of prevalent marine effects.

Project Setting

The Project Area consists of 65 acres located one mile south of the town of Pescadero, San Mateo County California, on the Pigeon Point U.S. Geological Survey (USGS) 7.5 minute topographic quadrangle. The project lies within Assessor Parcel Number 086080030. Access to project site is from Stage Road and Pescadero Creek Road in Pescadero.

The Project Area and surrounding vicinity is currently grazed by cattle and the pond is used as a stock pond (Figure 2). Existing conditions within the Project Area provide a diverse array of vegetation communities, making it suitable for SFGS habitat. Major vegetation communities include coyote bush dominated grassland, willow and red alder riparian and mixed coastal scrub (Figure 3).

Dominant land uses in the vicinity of the project include cattle pasturelands, agriculture, and open space. Adjacent to and directly east of the Project Area is a cut flower operation with greenhouses and agricultural pond. To the immediate south of the Project Area is the Butano Creek channel, which generally flows east to west from the Santa Cruz Mountains to Pescadero Marsh. To the south and west of the Project Area is the

Butano Creek Floodplain Restoration Project, a recently completed RCD habitat enhancement project that reconnected 100 acres of historic floodplain to the Butano Creek channel. The Pacific Ocean is approximately 2 miles west of the Project Area.

A1.3. Ecological Goal and Objectives of Project

The goal of the proposed project is to improve habitat conditions for SFGS by meeting the following objectives.

(1) Create and maintain shallow "bench" habitat around the northern and western sides of the pond margin with open emergent or submergent vegetation that allows sunlight to penetrate and warm the water to increase successful metamorphosis of California red-legged frog and chorus frog tadpoles.

(2) Maintain at least 25% cover of open water habitat in the pond through a combination of deepening and extending the existing pond footprint to provide deep water refuge for various prey species of the San Francisco garter snake, including California red-legged frog.

(3) Maintain a 25-50% cover of emergent vegetation around pond margins for frog breeding and snake cover.

(4) Protect pond water quality and longevity (sediment, nutrients and pathogens) to the greatest extent practicable.

(5) Control and eradicate invasive species, especially bullfrogs (*Lithobates catesbeianus*).

(6) Reduce woody encroachment into grassland in the surrounding upland areas.

1. Create and Protect Shallow Open Bench Habitat

The proposed project includes creation of shallow bench habitat, which is a key habitat component for both CRLF and Sierra treefrog (*Pseudacris sierra*) tadpole and juvenile rearing and for SFGS basking and foraging. The bench habitat would also provide pond access and egress locations for target species and other native wildlife.

Shallow bench habitat is defined as submerged habitat, typically around a pond margin, with a low gradient (<10:1 slope) and a ponding depth of 10-20 inches. Bench width may vary from 2 to 10 feet or more. In natural ponds, or ponds within drainage networks, this habitat is a common feature at the pond inlet which is often created by alluvial deposits. This habitat is generally devoid of dense, tall stands of emergent vegetation and therefore maintains a warm and shallow aquatic environment but does have a cover of low emergent marsh or submergent marsh plants with intermittent unvegetated open water patches.

In areas where bench habitat already exists, the project has been designed to maintain water levels to provide appropriate ponding depth during the period of tadpole and juvenile development (March-August), and facilitate water drawdown later in the season (September-December) to prevent encroachment of tall emergent vegetation into the bench habitat.

2. Maintain at least 25% Open Water Habitat

Open water is important as escape habitat for CRLF and foraging habitat for SFGS. The existing open water habitat within the 1-acre pond currently provides low quality foraging habitat for SFGS because of siltation, vegetation encroachment, and detrital build-up. Research has shown that emergent vegetation generally won't establish on areas that are more than 3 feet deep. Therefore, the project will excavate the pond to a depth of between 3 to 7 feet, to slow growth of emergent vegetation and maintain ideal water temperature for species (USFWS 2002). In addition, construction of a system of sediment catchment basins will control pond sedimentation and improve quality of open water habitat through capture of large sediment size particles (i.e. sand) before they reach the pond.

3. Maintain 25-50% Cover of Emergent Vegetation

Emergent vegetation such as tules, cattails, bur-reed, or spikerush are essential habitat components for CRLF and Sierra tree frogs, as these species attach egg masses to emergent vegetation. In addition, emergent vegetation also supports growth of periphyton (algae and heterotrophic microbes) that forms the foundation of the aquatic food web and provides multiple food sources for tadpoles, juveniles, and adults. Dense stands of emergent vegetation can also be used for both foraging and cover by SFGS.

Although emergent vegetation is an important habitat component for target species, too much emergent vegetation can become problematic. Lack of management can lead to the development of nearly impenetrable stands of tules, cattails, and bur-reed around the pond margin and accelerated filling in of the pond by accumulated detritus. Dense emergent vegetation can also encroach on other important pond habitat components such as shallow bench habitat and open water habitat and can ring the entire pond, making access and egress for target species as well as other native amphibians and reptiles difficult. Finally, high levels of emergent vegetation can lead to high levels of detritus, in turn leading to reduced levels of dissolved oxygen. It is generally agreed that allowing cattle unrestricted access to ponds can result in degraded aquatic and wetland habitat for CRLF and SFGS due to excess vegetation removal and trampling. Therefore, management of emergent vegetation must take into account issues of both too much and too little emergent vegetation. The management objective for emergent vegetation cover is 25% to 50% of the entire pond area.

Livestock will be allowed to enter restricted areas within the pond area and will be controlled with fencing to provide long term vegetation management. Controlled livestock will control establishment of emergent vegetation (i.e. willows, cattails, etc.) along specific portions of the pond margins to strive for less than 50% vegetation cover in the entire pond.

4. Protect Pond Water Quality

The proposed project addresses water quality concerns to manage and maintain a healthy pond ecosystem. These concerns include sediment loading, nutrient loading, and the introduction of pathogens. Sediment and nutrient loading accelerates loss of water depth and allows for encroachment of emergent vegetation into open water which in turn, can lead to "choking" of the pond and decreased availability of dissolved oxygen. These conditions lead to amphibian egg and tadpole mortality through asphyxiation and can also disrupt CRLF and SFGS adult foraging. These water quality concerns will be managed through construction of a series of earthen berms at the head of the pond complex to catch sediment prior to entering the pond. Soil erosion treatments,

including mulching areas of bare soil and gullies, will also be carried out in upland areas within the pond's drainage to reduce sediment reaching the pond.

5. Control and/or Eradicate Invasive Species

The issue of invasive species can be divided into two separate components: 1) control/eradication of invasive species that predate on our target species and 2) control/eradication of weeds that occur in high densities in upland area around the pond. Predator species, specifically the invasive American bullfrog presents a major obstacle to recovery of CRLF and SFGS. Adult bullfrogs directly impact SFGS populations via predation on small or juvenile SFGS (USFWS 1985). In addition, bullfrogs can have an indirect impact by decimating CRLF and tree frog populations, a key prey item for SFGS.

Draining of the pond in the late summer or early fall can be effective for bullfrog control if the pond is isolated and draining can occur in two consecutive years. Draining must be completed such that no small pools that can be used as tadpole refugia remain. If draining does not work, the RCD may employ direct kill methods. Alternatively, an effective (and cost-effective) method for long-term control of bullfrogs is to manage aquatic systems for co-existence between bullfrogs and native species. This can be done by shifting the competitive balance away from bullfrogs and toward native species through eradication of nonnative fish, creation of complex habitats where micro-habitat segregation can occur, and managing for a high level of predaceous native macro-invertebrate production.

Within the Project Area, invasive Jubata grass (*Cortaderia jubata*) is the only weedy plant that currently appears to be causing significant negative impacts in the vicinity of the pond. Jubata grass is considered an A-1 (highest priority) wildland weed. It is an aggressive colonizer that it known to displace native species occurring in coastal scrub, coastal dunes, and other coastal habitats. Jubata grass typically invades eroded or disturbed soils. This invasive weed will be eradicated through manual, mechanical, chemical and/or grazing techniques.

6. Reduce Upland Woody Encroachment into Grassland

San Francisco garter snake and California red-legged frog require a matrix of habitat types. While shrubs and larger vegetation are vital for refugia, high densities of shrub habitat prevent movement, dispersion, fossorial mammal activity, and thermoregulation. The ideal composition of shrubs within upland habitat for San Francisco garter snake is 10 – 30% or 1 shrub per 20-30 square meters (USFWS 2006b). Shrub control will take place in selected areas to maintain ideal shrub cover. Shrub control can take the form of any mix of mowing, manual removal, chemical control, and grazing.

While native to the area, Monterey pine (*Pinus radiata*) and Douglas fir (*Pseudotsuga menziesii*) would not historically inhabit the grasslands and ridges within the Project Area. These species do not provide ideal habitat for SFGS or their prey (CRLF). These two species of trees, with individuals up to 34-inch diameter at breast height, will be removed. The proposed project would result in removal of approximately 20-30 of these trees. The resulting wood chip byproduct from woody vegetation control/removal will be used for soil amendments and erosion control within the project.

A1.4. Project Design

Project activities consist of both upland habitat enhancement and aquatic habitat restoration activities. Specific activities associated with each of the project elements are detailed in Table 1 and depicted in Figures 4 and 5. Both habitat types will be managed and maintained in a manner that meets the biological and ecological goals of this project. Appendix A provides engineer drawings (65%) of the proposed project.

Table 1. Project Design Elements

Project Elements	Description of Proposed Activities	Acreage of Impact	Temporary Impact of Habitat Conversion	Habitat Type - Existing Conditions	Habitat Type - Post-Project Conditions
Pre-Project Activities & Site Preparation	Construct a temporary access road and staging area	Access road = 0.13 acre Staging area = 0.11 acre	Temporary	Annual Grassland	Upland (restored to pre-project conditions after construction complete)
	Install temporary fencing around sensitive resource areas to be avoided and install a turbidity curtain between the working area and the rest of the existing pond	These two temporary barriers would not result in ground disturbance beyond stakes placed in discrete locations	Temporary	Annual Grassland, Willow, and Open Water	Upland and Open Water
Sub-Total	0.24 acre				
Upland Habitat Enhancement Activities	Reduce woody encroachment of trees into grassland by cutting or girdling	2.6 acres	Habitat Conversion	Riparian Mixed Shrub, Annual Grasses and Forbs, Coyote Brush	Native grassland
	Reduce shrub cover to target 10-30% by manual, mechanical, chemical, and/or grazing techniques	7.7 acres	Habitat Conversion	Coyote Brush	Native grassland
	Reduce invasive weeds by manual, mechanical, chemical, and/or grazing techniques	1.8 acres	Habitat Conversion	Coyote Brush and Riparian Mixed Shrub	Native grassland
	Spread mulch from woody brush and tree control over areas of potential erosion, at 4-18” thick	2.4 acres	Temporary	Bare Ground, Gullies	Native grassland
Sub-Total	14.5 acres				
Aquatic Habitat	Excavate two shallow ponds	0.08 acre and 0.11 acre	Habitat Conversion	Tule-Cattail, Willow	Open Water

Project Elements	Description of Proposed Activities	Acreage of Impact	Temporary Impact of Habitat Conversion	Habitat Type - Existing Conditions	Habitat Type - Post-Project Conditions
Restoration Activities	Excavate a deep water pond	0.31 acre	Habitat Conversion	Open Water	Open Water
	Create a wetland bench on the north side of the deep water pond	0.18 acre	Habitat Conversion	Coyote Brush, Willow (Shrub)	Wetland (0.18 acre)
	Place fill to create a bench on the west side of the two new shallow ponds	0.52 acre	Habitat Conversion	Willow, Annual Grassland,	Native Grassland, Riparian
	Construct sediment retention berms to the north and between the two shallow ponds	0.13 acres	Habitat Conversion	Willow (Shrub)	Open Water
	Convert willow-dominated area to native grassland dominated area by use of manual, mechanical, and grazing methods	0.5 acre	Habitat Conversion	Willow	Native grassland
Sub-Total	1.83 acres				
Post Construction Activities	Plant and seed in areas of shrub and invasive control where desired species do not recruit naturally	To be determined based on post project conditions	Habitat Conversion	Coyote Brush, Annual Grasses and Forbs, Riparian Mixed Shrub	Native grassland
	Install livestock fencing to manage access and grazing	To be determined based on post project conditions	Habitat Conversion	Annual Grassland	Annual Grassland

Aquatic Habitat Restoration Activities

Under the proposed project, aquatic habitat would be expanded, enhanced and protected. Details about each component of aquatic habitat restoration activities are provided below.

- ***Aquatic Habitat Expansion (0.19 acres):*** Two new shallow ponds will be excavated along the northwest section of the existing pond. These new ponds would be seasonal and have depths of 10”-20” to provide shallow water habitat for CRLF and Sierra tree frogs, both food sources of SFGS.

- ***Aquatic Habitat Enhancement (0.49 acres):*** This component of the project would remove riparian tree species (mostly willows), and sediment to achieve a water depth of 10”-20” in the wetland bench (0.18 acres), and also excavate the deep water pond to a depth of 3-7’ (0.31 acres).

- ***Aquatic Habitat Protection (0.50 acres):*** The remaining 0.5 acre of existing pond habitat would remain unaltered and maintained for the 30-year period. The current conditions at this location contain a dense mix of tules and cattails, which help filter sediment from the drainage before entering Butano Creek.

Berms will be constructed from material removed from the pond and placed in the willowed area to the northeast of the pond. These constructed berms will function to slow the flow of water moving through the floodplain and allow sediment to fall out prior to the water reaching the pond. The berms will ultimately build up the elevation of the inlet channel, provide natural grade control to avoid headcutting and minimize future erosion in the gullies.

Upland Habitat Restoration Activities

The project will result in enhancement of approximately 61 acres of suitable upland habitat for SFGS. Of this 61 acres, 14.5 acres of have been selected for additional treatment that would include brush removal (approximately 12.1 acres), grassland restoration and soil rehabilitation (approximately 2.4 acres) to enhance SFGS basking habitat and minimize erosion (Figure 4).

Contractors will utilize wood chips from tree and brush removal activities for mulch, which will be spread across of upland to improve soil health, encourage revegetation of deep rooting native grasses and help minimize future erosion from these areas. This mulch will also be placed in existing gullies to provide soil cover and help decrease erosion and gully growth. Livestock Fencing will be installed to control livestock access to portions of the restored upland habitat.

Maintenance and Monitoring

Prior to construction, photo stations that target the pond and upland areas will be established and photos will be taken to document baseline conditions. Regular, frequent monitoring will occur during the initial phase of project implementation to determine whether the project aligns with specifications established in designs and permit conditions. For the first five years following implementation, bi-annual monitoring will be conducted in

the spring and fall using photo monitoring and rapid assessment sheets. For years six to 30 following implementation, monitoring will be conducted every other year. Results of monitoring results will inform the RCD as to whether sediment management, vegetation management or other actions are necessary to meet the project's established goals and objectives. All activities during the 30-year maintenance and monitoring period will comply with the measures in the Biological Opinion for the project. Maintenance activities may include invasive species control, management of woody encroachment into grassland areas, erosion control, seeding, augmentation of fencing, managing emergent vegetation for ideal cover, and other actions to maintain project goals for the benefit of SFGS and CRLF.

A1.5. Construction Work Sequence

Construction of the upland portion of the project may occur concurrently or separately from the aquatic and riparian portion of the project. Ideally, both upland and aquatic activities will be constructed simultaneously to reduce overall duration of construction activities. For the purpose of this assessment the construction estimate is 10 weeks.

The following provides a sequential list of the general steps that would occur during implementation of the proposed project. In addition to activities listed below, the RCD will implement all project-wide Best Management Practices (BMPs) provided in Table 2, all project specific avoidance and minimization measures described in this IS/MND, and all regulatory permit requirements.

- Material and equipment mobilized to the staging area.
- Project Areas surveyed and pond sampled by a qualified biologist to determine presence of special-status species in the work area. Individual California red-legged frog within the work area captured and relocated, as required by the U.S. Fish and Wildlife Service (USFWS). If San Francisco garter snake is encountered, USFWS will be contacted for next steps.
- Temporary, orange barrier, fencing installed around sensitive resources to limit extent of disturbance.
- Corridors for travel of vehicles and heavy machinery from the access road to work areas established with vegetation in the new access corridors reduced in height (not removed) with weed wacker or mower (no additional ground disturbance required).
- Material and equipment mobilized to pond and upland areas. A biological monitor will proceed directly before the vehicle or machinery each morning when driving on newly created access roads within the Project Area to ensure the pathway is clear of all snakes, frogs, and observable wildlife.
- Woody vegetation patches slated for transition to grassland adjacent to pond removed (as necessary).
- Pond partially drained (as necessary) using a siphon or mechanical pump with intake hoses or pipes screened to prevent the entrapment of aquatic wildlife and water spread outside of the work area in a manner that avoid introduction of turbid water into Butano Creek. This work will be overseen by a

qualified biologist with a relocation plan. If SFGS is observed, work will stop until the snake leaves the vicinity.

- Pond excavated, as necessary, and sediment relocated to form sediment retention berms and bench habitat.
- Portions of the pond perimeter graded to appropriate side slope and pond footprint modified.
- Invasive species removal areas in upland treated by manual, mechanical, chemical, and/or grazing techniques (primary invasive jubata grass to be treated with herbicide).
- Woody encroachment reduced including target trees cut or girdled and target areas of shrubs removed.
- Woody material chipped onsite with chipper and spread over areas of potential erosion (4-18" thick) in upland.
- Disturbed areas around pond re-contoured and re-vegetated with a mix of native forbs, grasses, and shrubs, as appropriate.
- Livestock fencing installed.
- Construction equipment and temporary fence removed.

A1.6. Construction Equipment

Heavy equipment, including scrapers, excavator, backhoes, and haul trucks would be used to construct the aquatic habitat portion of the proposed project. Upland habitat construction activities would require chainsaws, chippers, masticator and smaller mechanical and manual equipment. Low ground pressure equipment would be used to transport exported material across the Project Area and wetland mats would be used to minimize soil compaction in work areas. Equipment and vehicles would be staged along existing access roads or dedicated staging areas. All equipment would be cleaned prior to arrival on-site to reduce the chances of non-native seeds or species being introduced by construction equipment.

A1.7. Construction and Maintenance Schedule

Construction of the project would occur between June 15 and October 31 during 2020 or 2021. Pond restoration activities will last approximately 8-10-weeks and upland restoration activities will last approximately 5-8 weeks. Work within the pond would be restricted to the time after CRLF have breed and tadpoles are likely to have metamorphosized and before seasonal rains begin (i.e. August 15 – October 31). Continued maintenance of restored habitat will continue bi-annually for five years and then approximately every other year for 30 years.

A1.8. Construction Personnel and Access

Approximately 4-10 construction workers will be onsite during restoration activities. Construction personnel will access to the Project Area from Stage Road and Pescadero Creek Road in Pescadero. The construction personnel

will stage personal vehicles at the designated staging area as depicted in Figure 2. Access within the Project Area to the project site would be limited to pre-established access routes/roads used for livestock management.

A1.9. Construction-Related Best Management Practices

Table 2 provides a list of construction related measures that will be applied to this project. The Mitigation Monitoring and Reporting Program (Table 3) provides an accounting of all measures required for the project.

Table 2. Construction-Related Best Management Practices

BMP No.	Name	BMP
BMP -1	Erosion Control and Construction-Related Turbidity	1. Sandbags or other erosion control measures will be employed to prevent runoff and construction-related turbidity. 2. Upland soils exposed during construction will be stabilized using native or non-invasive seed and, if necessary to control erosion, straw mulch or wood chips. 3. Erosion control fabric will consist of natural fibers that biodegrade over time. No plastic or other non-porous material will be used as part of a permanent erosion control approach. 4. Other erosion control measures shall be implemented as necessary to ensure that sediment or other contaminants do not reach surface water bodies for stockpiled or reused/disposed sediments.
BMP -2	Staging and Stockpiling of Materials	1. All construction equipment will be staged in upland areas, away from sensitive natural communities or habitats. 2. All construction-related items, including equipment, stockpiled material, temporary erosion control treatments, and trash will be removed within 72 hours of project completion. All residual soils and/or materials will be cleared from the project site. 3. Building materials and other construction-related materials, including chemicals, will not be stockpiled or stored where they could spill into water bodies or storm drains, or where they could cover aquatic or riparian vegetation.
BMP - 3	Spill Prevention and Response Plan	A Spill Prevention and Response Plan will be developed prior to the start of construction describing spill cleanup equipment and materials required to be maintained onsite; measures to be taken to contain a spill; and notification requirements in the event of a spill.
BMP - 4	Equipment and Vehicle Maintenance and Cleaning	1. All vehicles and equipment will be kept clean. Excessive build-up of oil or grease will be prevented. Vehicles should be free of exotic vegetation. 2. Vehicle and equipment maintenance activities will be conducted in a designated area to prevent inadvertent fluid spills from adversely impacting water quality. This area will be clearly designated with berms, sandbags, or other barriers. 3. Secondary containment, such as a drain pan or drop cloth, to catch spills or leaks will be used when removing or changing fluids. Fluids will be stored in appropriate containers with covers, and properly recycled or disposed of off-site. 4. Cracked batteries will be stored in a non-leaking secondary container and removed from the site. 5. Spill cleanup materials will be stockpiled where they are readily accessible. 6. Incoming vehicles and equipment will be checked for leaking oil and fluids (including delivery trucks and employee and subcontractor vehicles). Leaking vehicles or equipment will not be allowed on-site. 7. Vehicles and equipment will not be washed on-site. Vehicle and equipment washing will occur at an appropriate wash station.
BMP - 5	Refueling	1. All fueling sites shall be equipped with secondary containment and avoid a direct connection to underlying soil, surface water, or the storm drainage system. 2. For stationary equipment that must be fueled on-site, secondary containment such as a drain pan or drop cloth shall be provided in such a manner to prevent accidental spill of fuels to underlying soil, surface water, or the storm drainage system.
BMP -6	On-Site Hazardous	1. The products used and/or expected to be used and the end products that are produced and/or expected to be produced after their use will be inventoried.

BMP No.	Name	BMP
	Materials Management	2. As appropriate, containers will be properly labeled "Hazardous Waste" and properly recycled or disposed of off-site. 3. Contact of chemicals with precipitation will be minimized by storing chemicals in watertight containers or in a storage shed (completely enclosed), with appropriate secondary containment to prevent any spillage or leakage. 4. Quantities of equipment fuels and lubricants greater than 55 gallons shall be provided with secondary containment that is capable of containing 110 percent of the volume of primary container(s). 5. Petroleum products, chemicals, cement, fuels, lubricants, and non-storm drainage water or water contaminated with the aforementioned materials shall not be allowed to enter receiving waters or the storm drainage system. 6. Sanitation facilities (e.g., portable toilets) will be surrounded by a containment system and a direct connection to receiving water will be avoided. 7. Sanitation facilities will be regularly cleaned and/or replaced, and inspected regularly for leaks and spills. 8. Waste disposal containers will be covered when they are not in use, and a direct connection to the storm drainage system or receiving water will be avoided. 9. All trash that is brought to a project site during construction (e.g., plastic water bottles, plastic lunch bags) will be removed from the site daily.
BMP - 7	Fire Prevention	1. All earthmoving and portable equipment with internal combustion engines will be equipped with spark arrestors. 2. During the high fire danger period (April 1–December 1), work crews will have appropriate fire suppression equipment available at the work site. 3. On days when the fire danger is high, flammable materials will be kept at least 10 feet away from any equipment that could produce a spark, fire, or flame. 4. On days when the fire danger is high, portable tools powered by gasoline-fueled internal combustion engines will not be used within 25 feet of any flammable materials unless at least one round-point shovel or fire extinguisher is within immediate reach of the work crew (no more 25 feet away from the work area).
BMP - 8	BAAQMD Dust Control	1. The construction contractor shall reduce construction-related air pollutant emissions by implementing BAAQMD basic fugitive dust control measures, including: 2. All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and portions of unpaved access roads) shall be watered two times per day, or as necessary to minimize dust. 3. All haul trucks transporting soil, sand, or other loose material off site shall be covered. 4. All visible mud or dirt track-out onto adjacent public roads shall be removed at least once per day, as necessary. The use of dry power sweeping is prohibited. 5. All vehicle speeds on unpaved surfaces shall be limited to 15 miles per hour. 6. A publically visible sign shall be conspicuously posted at the entrance to Butano Farms off Pescadero Creek Road with the telephone number and person to contact at the RCD regarding dust complaints. This person shall respond and take corrective action with 48 hours. The BAAQMD's phone number shall also be visible to ensure compliance with applicable regulations.
BMP - 9	Project Site Housekeeping	1. The work site will be maintained in a neat and orderly condition, and left in a neat, clean, and orderly condition when work is complete. 2. Materials or equipment left on the site overnight will be stored as inconspicuously as

BMP No.	Name	BMP
		possible, and will be neatly arranged.

A1.10. Potential Permits and Approvals from Public Agencies

A critical component of project planning is to understand the jurisdiction of multiple regulatory agencies and the types of approvals or permits that might be necessary to implement a project. The following is a list of potentially affected agencies and the corresponding type of approval that may be required.

- U.S. Army Corps of Engineers (USACE): A Section 404 Clean Water Act (CWA) permit would be required for placement of dredge or fill material into waters of the United States.
- Coast Regional Water Quality Control Board (RWQCB): Construction activities that disturb one acre or more of land, and construction on smaller sites that are part of a larger project, must comply with a Construction General Permit that regulates storm water leaving construction sites (Section 402 of the CWA) . Site owners must notify the state, prepare and implement a Stormwater Pollution Prevention Plan (SWPPP), and monitor the effectiveness of the plan. Other permits required from the RWQCB include a Water Quality Certification in accordance with Section 401 of the CWA; and Waste Discharge Requirements in accordance with the Porter-Cologne Water Quality Control Act.
- California Department of Fish and Wildlife (CDFW): A Lake or Streambed Alteration Agreement, in accordance with Section 1602 of the California Fish and Game Code, would be required for work within the bed, channel or bank of jurisdictional waters.
- Native bird species that occur in the project site are protected by the California Fish and Game Code. Fish and Game Code §§3503, 2513, and 3800 (and other sections and subsections) protect native birds, including their nests and eggs, from all forms of take. Disturbance that causes nest abandonment and/or loss of reproductive effort is considered “take” by CDFW.
- California State Historic Preservation Office (SHPO): National Historic Preservation Act (NHPA) implementing regulations, as set forth in Title 36 Code of Federal Regulations (CFR) Parts 800 et. seq., require federal agencies to take into account the effects of their undertakings on historic properties and consult with stakeholders, including the SHPO, on potential effects to resources that are listed or eligible for listing in the National Register of Historic Places.
- California Coastal Commission, Central Coast District: A Coastal Development Permit would be required from the CCC for work within its retained jurisdiction (e.g., tidelands, submerged lands, public trust lands).

Figure 1. Project Location and Vicinity

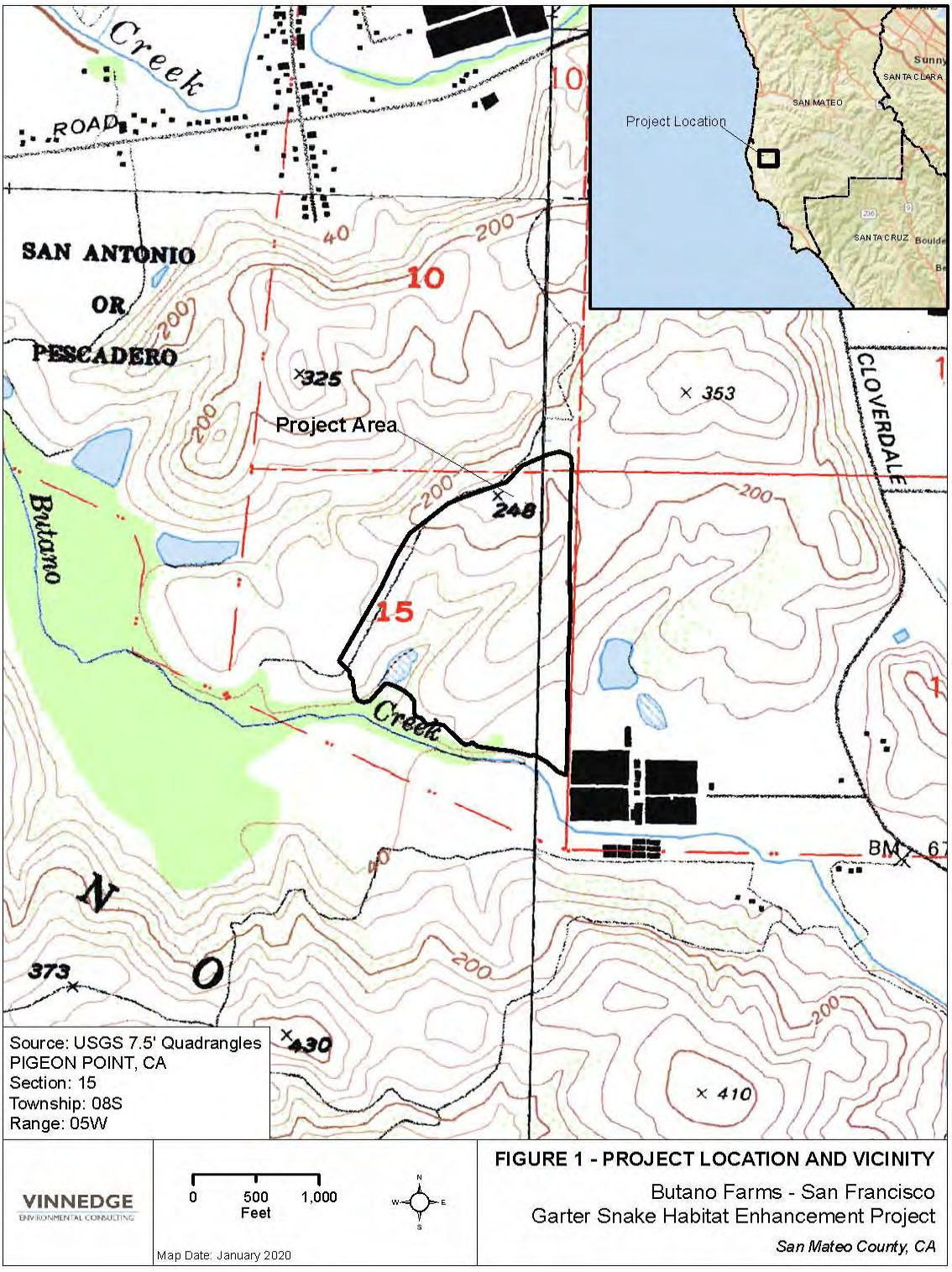


Figure 2. Project Area

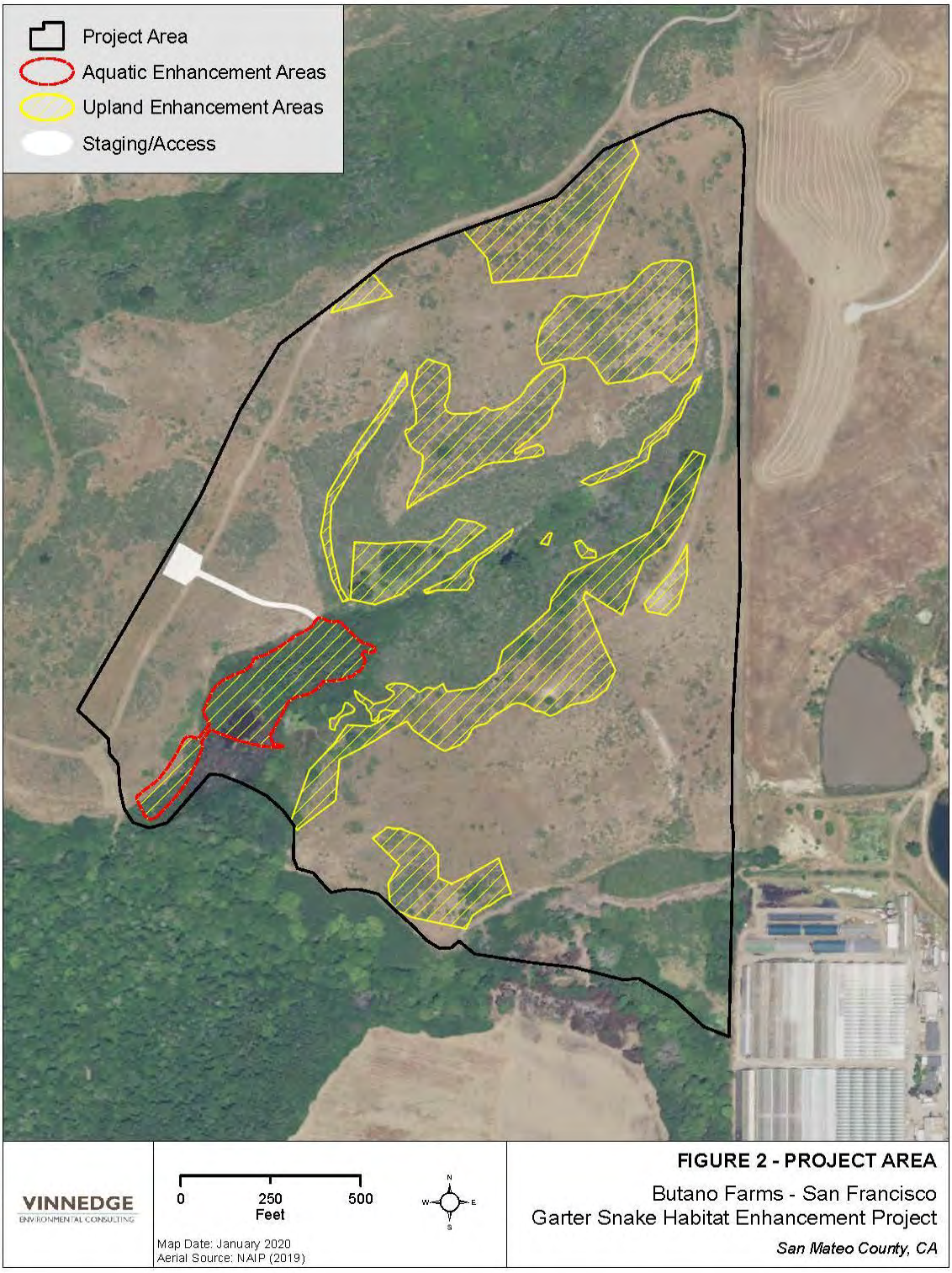


Figure 3. Existing Habitat

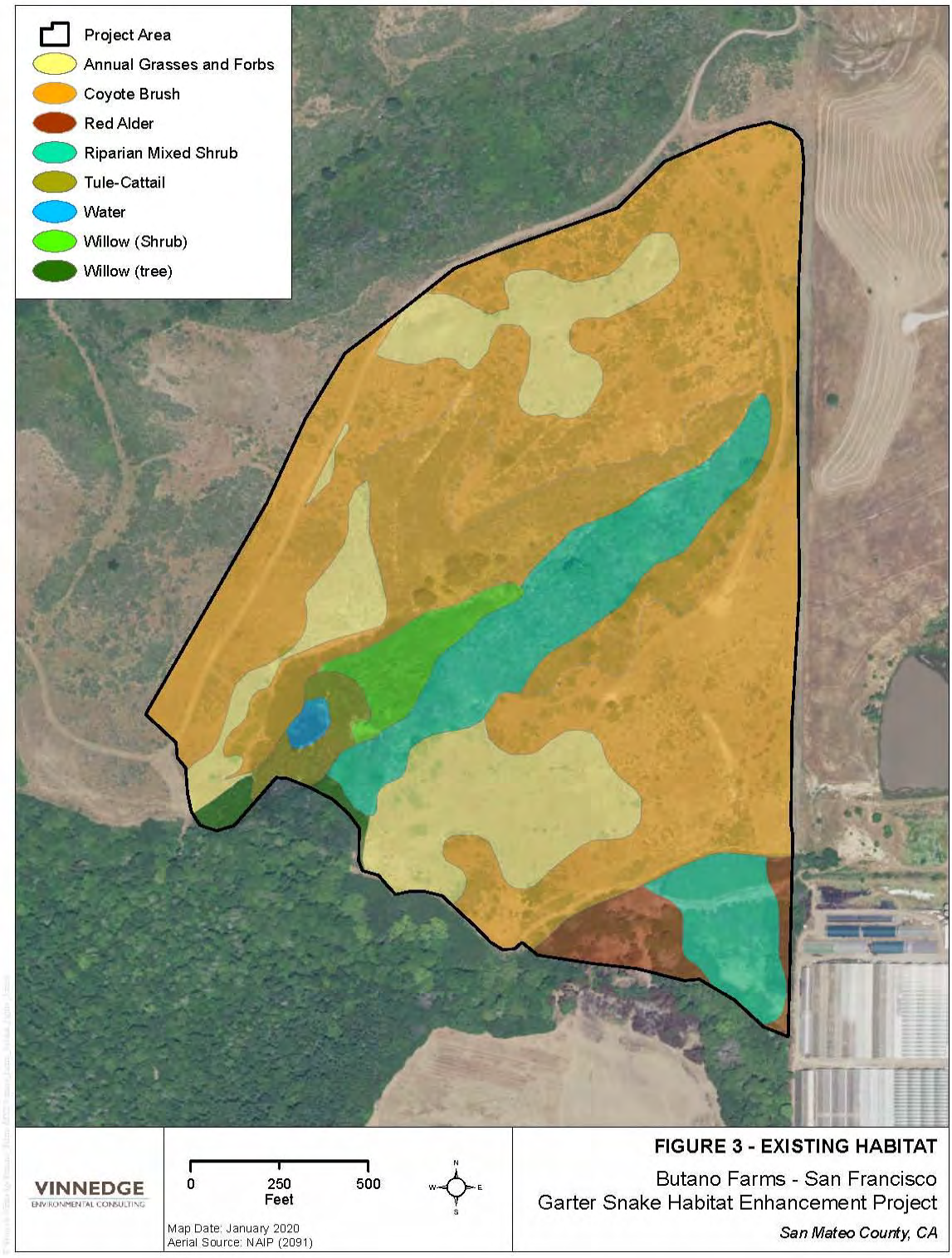


Figure 4. Upland Habitat Enhancement

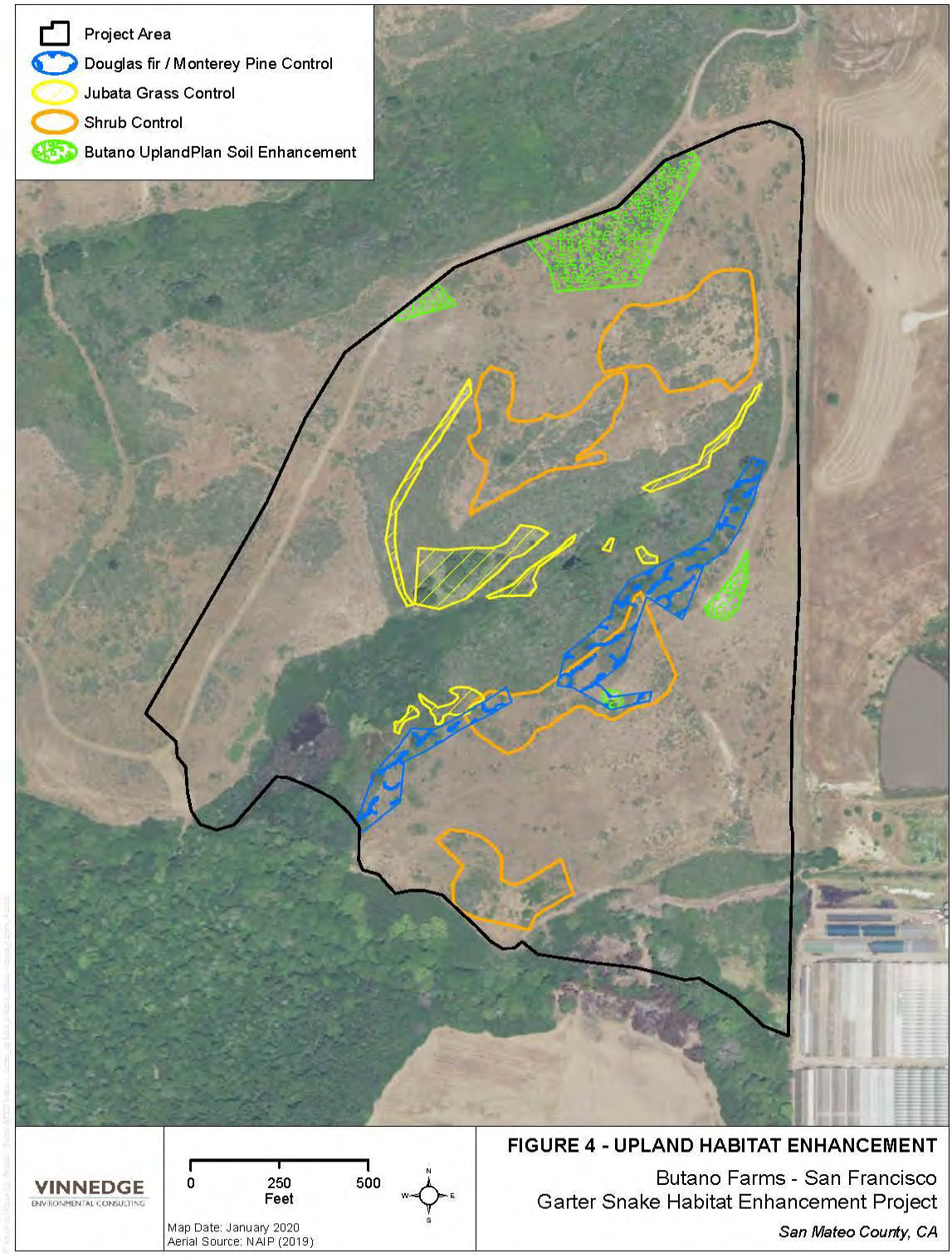
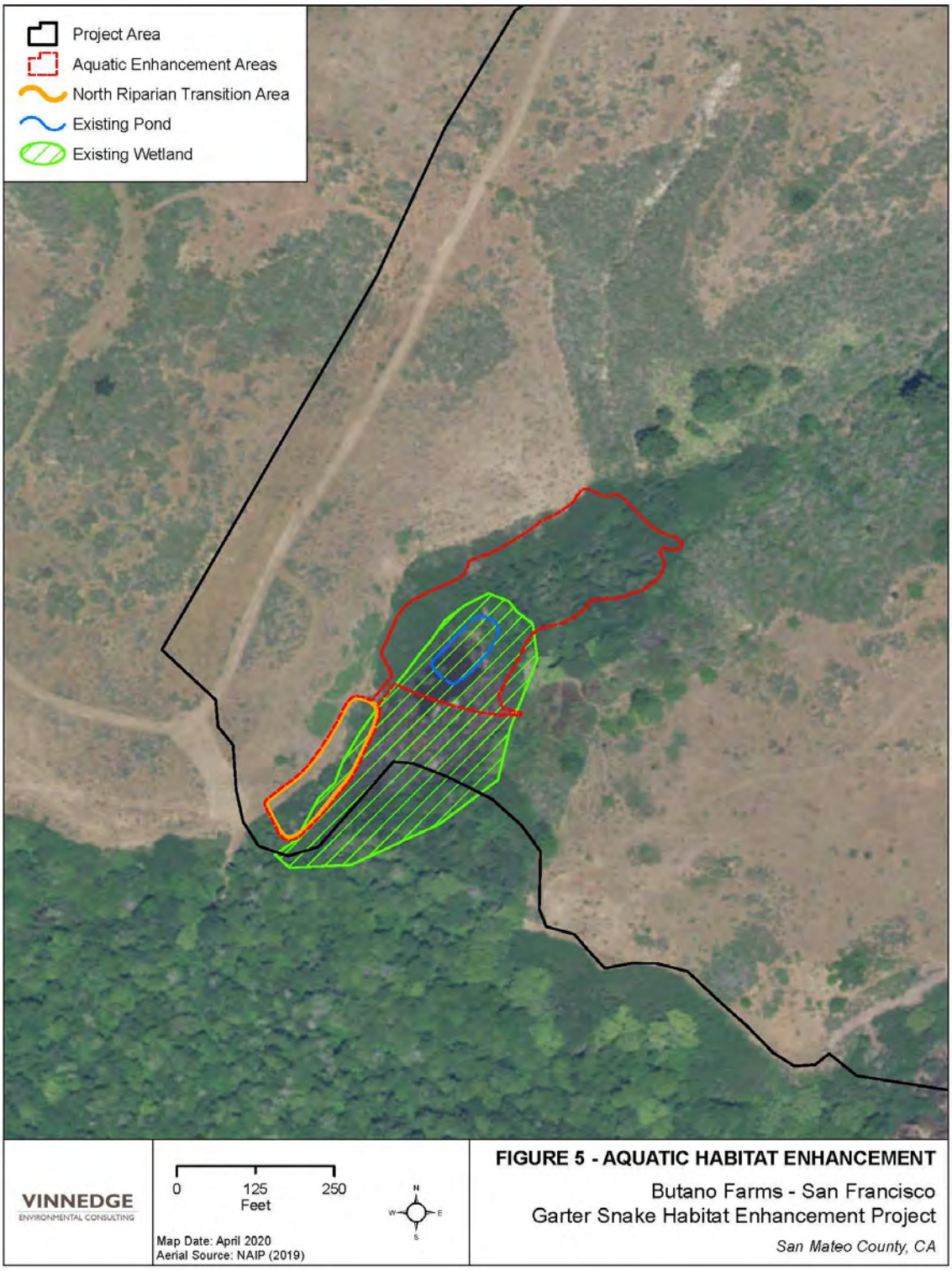


Figure 5. Aquatic Habitat Enhancement



B. ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

All of the following potential environmental impacts are evaluated in this Initial Study. The environmental factors checked below would be potentially affected by the proposed program.

☐ Aesthetics	☐ Agriculture and Forest Resources	☐ Air Quality
☐ Biological Resources	☐ Cultural Resources / Tribal Cultural Resources	☐ Energy
☐ Greenhouse Gas Emissions	☐ Geology / Soils	☐ Hazards / Hazardous Materials
☐ Hydrology / Water Quality	☐ Land Use / Planning	☐ Mineral Resources
☐ Noise	☐ Population / Housing	☐ Public Services
☐ Recreation	☐ Transportation	☐ Utilities / Service Systems
☐ Wildfire	☐ Mandatory Findings of Significance	☒ None with Mitigation Incorporated

For the environmental issue areas where there is no potential for significant environmental impact, there is no potential for significant environmental impact to occur from construction, operation, or maintenance of the proposed project. This finding can be made using the project description, environmental setting, or other information as supporting evidence, which is provided in the Environmental Checklist below. For those environmental issue areas where there is potential for significant environmental impact, mitigation measures have been identified in this document that would reduce impacts to a less than significant level.

C. LEAD AGENCY DETERMINATION

On the basis of this initial evaluation:

[ ] I find that the proposed project COULD NOT have a significant effect on the environment, and a **NEGATIVE DECLARATION** will be prepared.

[X] I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A **MITIGATED NEGATIVE DECLARATION** will be prepared.

[ ] I find that the proposed project MAY have a significant effect on the environment, and an **ENVIRONMENTAL IMPACT REPORT** is required.

[ ] I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An **ENVIRONMENTAL IMPACT REPORT** is required, but it must analyze only the effects that remain to be addressed.

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

Signature	Date
Printed Name	Title

D. MITIGATION MONITORING & REPORTING PROGRAM

The purpose of a Mitigation Monitoring and Reporting Program (MMRP) is to ensure that measures adopted to mitigate or avoid significant impacts of a project are implemented. The RCD views the MMRP as a working guide to facilitate not only the implementation of mitigation measures, but also the monitoring, compliance, and reporting activities of the RCD and any monitors it may designate. The table provides a single comprehensive list of impacts, mitigation measures, monitoring and reporting requirements, and timing of implementation. Therefore, the text are shown in final form in this chapter and not depicted in underline and strike-out format.

As defined in this MMRP, a minor project refinement should be strictly limited to minor changes that will not trigger other discretionary permit requirements, that does not increase the severity of an impact or create a new impact, and that clearly and strictly complies with the intent of the mitigation measure. A change to the project that has the potential for creating significant environmental effects will be evaluated to determine whether supplemental CEQA review is required. Any proposed deviation from the approved project and adopted mitigation measures, including correction of such deviation, shall be reported immediately to the RCD and for their review and approval.

Mitigation	Implementing Responsibility	Monitoring Responsibility	Mitigation Timing
BIOLOGICAL RESOURCES			
Mitigation Measure BIO-1: Rare Plant Surveys Rare plant surveys of the proposed disturbance areas will be conducted by a qualified botanist for the plant species that have the potential to occur within the project site. Surveys shall be done in accordance with CNPS's Botanical Survey Guidelines (CNPS 2001), CDFW's Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities (CDFW 2018), and USFWS's Guidelines for Conducting and Reporting Botanical Inventories for Federally Listed, Proposed and Candidate Plants (USFWS 1996). If present, special-status plant populations will be flagged and if possible avoided during construction. If the populations cannot be avoided during construction a mitigation plan will be developed for approval by the Department and CDFW which will include transplanting the plant population.	Project Applicant & Construction Contractor	Qualified Botanist	Before construction.
Mitigation Measure BIO-2: CRLF Avoidance and Minimization Measures • Within two days of the start of work on a pond, the pond will be sampled by a qualified biologist to ensure that all frogs from that pond are in post-metamorphic stage and will be minimally affected by draining the pond. If the construction plans allow for existing open water and emergent vegetation areas to remain wetted and be isolated from construction activities, a qualified biologist will be on-site during draining of the work area to ensure that any remaining tadpoles or metamorphs are safely relocated to areas with standing water. • Draining of ponds to perform authorized work shall only occur during the part of the year when the tadpole life stage of CRLF has been completed and before the subsequent breeding season (i.e. between August 15 and November 1). • All biological monitors for the project shall be approved by USFWS prior to commencement of project activities. The biological monitors and qualified biologists shall have the responsibility and authority of stopping the proposed project if any crews or personnel are not complying with the provisions outlined in this IS/MND. • Biological monitor(s) and/or qualified biologists shall be on the project site while initial ground-disturbing activities (excavation) or pond draining activities take place. A Service-approved biologist will be on-call during all project activities in the event a San Francisco	Project Applicant & Construction Contractor	Qualified Biologist	Before and During Construction

Mitigation	Implementing Responsibility	Monitoring Responsibility	Mitigation Timing
garter snake or California red-legged frog is discovered, or for any other assistance relating to the avoidance and minimization measures. • Prior to project activities, a biological monitor shall clearly mark/flag or erect temporary construction fencing to designate the work area and to delineate the areas that shall be avoided. Flagging and or temporary construction fencing shall be removed immediately after the completion of construction work. • Dredge spoils shall be placed in a containment area away from the creek. The area where dredge spoils will be placed shall be surveyed for CRLF and SFGS. If burrows are present in this area, Permittee shall hand excavate burrows until the burrow terminates or until a maximum depth of 30 centimeters. If CRLF or SFGS are found, all work shall cease and Permittee shall notify CDFW and USFWS immediately. • Any vehicle parked on site for more than 15 minutes shall be inspected by the biological monitor before it is moved to ensure that CRLF and/or SFGS have not moved under the vehicle. Any parking areas shall be checked in advance by the biological monitor or qualified biologist. • If CRLF enters the work area, all work shall stop until the qualified biologist relocates the animal or it leaves on its own. Only the qualified biologist can handle and relocate CRLF. Any sightings and/or injuries of this species shall be immediately reported to the CDFW per instructions below: ○ CRLF Relocation. Prior to the onset of any project-related activities, the qualified biologist must identify appropriate areas to receive CRLF adults from the Project Areas. These areas must be in proximity to the capture site, contain suitable habitat, not be affected by project activities, and be free of exotic predatory species to the best of the approved biologist's knowledge. Translocation shall only be performed by the qualified biologist.			
Mitigation Measure BIO-3: SFGS Avoidance and Minimization Measures • Prior to and within 48 hours of the planned start of project activities, a focused survey for SFGS using agency approved protocol shall be conducted by a USFWS-approved biological monitor to determine if they are in the area. If SFGS are found, the USFWS shall be notified immediately to determine the correct course of action and proposed project shall	Project Applicant & Construction Contractor	Qualified Biologist	Before and During Construction

Mitigation	Implementing Responsibility	Monitoring Responsibility	Mitigation Timing
not begin until approved by the USFWS. • Activities that result in ground disturbance will occur May 1–October 30 (active season). Vegetation will be cut using to 3 inches in height. Once the ground is visible, a visual survey for SFGS will be conducted by the biologist prior to additional ground disturbance. If SFGS is found, USFWS will be notified immediate to determine the correct course of action. If work needs to occur during the inactive period (November 1– April 30) and is located in an area of known occupancy, flag and avoid any burrows by at least 10 feet wherever possible. If any burrows cannot be avoided by this distance, a biologist will inspect following activities to determine whether or not the burrow has been collapsed. If a burrow is collapsed, the biologist shall make efforts to open the burrow. • Prior to conducting non-native plant removal or treatments (e.g. spraying with herbicide, cutting, pulling, digging out), the permittee shall make every reasonable attempt to ensure that SFGS are not hidden within the plant or residual plant matter to be treated. • The USFWS approved biological monitor shall walk roads cleared for vehicle access each morning prior to vehicle traffic to ensure San Francisco garter snakes are not in the road. Vehicles shall not drive at speeds greater than 5 miles per hour within the project area and drivers shall observe the road for San Francisco garter snakes. If a San Francisco garter snake is found on the road, the vehicle operator shall stop, and the San Francisco garter snake shall be allowed to leave on its own volition.			
Mitigation Measure BIO-4: Western Pond Turtle Avoidance and Minimization Measures • Prior to and within 48 hours of the planned start of construction, a focused survey for WPT shall be conducted by a CDFW approved biological monitor to determine if they are in the area. If these species are found, the CDFW shall be notified immediately to determine the correct course of action and construction activities shall not begin until approved by the CDFW. • In the event WPT are found in the project area, the RCD shall exercise measures to avoid direct injury to them as well as avoid areas where they are observed to occur. If a WPT is observed, it shall be left alone to move out of the area on its own. If it does not move on its own, it can be relocated by the biological monitor or the qualified biologist to at least	Project Applicant & Construction Contractor	Qualified Biologist	Before and During Construction

Mitigation	Implementing Responsibility	Monitoring Responsibility	Mitigation Timing
100-meters away from project location to a suitable habitat.			
Mitigation Measure BIO-5: Nesting Bird Avoidance and Minimization Measures • To the extent feasible, vegetation removal activities shall not occur during the bird breeding season of February 15 through August 31. • If vegetation removal must occur during the breeding season the project site shall be surveyed by a qualified biologist to verify the presence or absence of nesting birds. • Preconstruction surveys will be conducted no more than two weeks prior to the start of work from February 15 – August 31. • If the survey indicates the potential presence of nesting birds, a buffer will be placed around the nest in which no work will be allowed until the young have successfully fledged. The size of the nest buffer will be determined by the biologist in consultation with the CDFW, and will be based to a large extent on the nesting species and its sensitivity to disturbance. The buffers may be increased or decreased, as appropriate, depending on the bird species and the level of disturbance anticipated near the nest.	Project Applicant & Construction Contractor	Qualified Biologist	Before and During Construction
Mitigation Measure BIO-6: San Francisco Dusky Woodrat Avoidance and Minimization Measures • The removal of trees and large shrubs shall be minimized to the maximum extent practicable and shall be limited to those areas directly adjacent within the project footprint. • Tree removal or construction activities with potential to disturb suitable habitat for dusky-footed woodrat (riparian scrub) shall only occur after a biologist conducts a pre-construction survey for woodrat nests within the woody riparian habitats to be removed and adjacent riparian habitat. If any woodrat nest is identified outside the proposed disturbance footprint, exclusion zones around each den entrance or cluster of entrances will be demarcated. The configuration of exclusion zones should be circular, with a radius measured outward from the next. No construction activities will occur within the exclusion zones. Exclusion zone radii for active nests will be 50 feet, if possible. Exclusion zones will be demarcated with staking and flagging that encircles each den or cluster of dens but does not prevent access to the nest. If a nest is identified within the disturbance footprint, then nest relocation procedure will be determined by the biologist, in	Project Applicant & Construction Contractor	Qualified Biologist	Before and During Construction

Mitigation	Implementing Responsibility	Monitoring Responsibility	Mitigation Timing
consultation with CDFW.			
Mitigation Measure BIO-7: American Badger Avoidance and Minimization Measure • Pre-construction surveys shall be conducted in any grassland habitat within the project footprint for active badger dens. If a badger den is identified within the proposed disturbance footprint, exclusion zones around each den entrance will be demarcated. The configuration of exclusion zones should be circular, with a radius measured outward from the den entrance(s). No construction activities will occur within the exclusion zones. Exclusion zone radii for active dens will be at least 50 feet. Exclusion zones will be demarcated with staking and flagging that encircles each den or entrance but does not prevent access to the den by a badger.	Project Applicant & Construction Contractor	Qualified Biologist	Before and During Construction
Mitigation Measure BIO-8: Open Water Protective Measures • The project applicant would implement the BMPs outlined in Table 2 to minimize stormwater runoff, erosion, and potential water quality impacts associated with construction activities. In addition, all contractors working in a capacity that could increase the potential for adverse water quality impacts shall receive training regarding the environmental sensitivity of the site and need to minimize impacts. Contractors shall be trained in implementation of stormwater BMPs for protection of water quality. • No debris, rubbish, creosote-treated wood, soil, silt, sand, cement, concrete, or washings thereof, or other construction related materials or wastes, oil or petroleum products or other organic or earthen material shall be allowed to enter into, or be placed where it may be washed by rainfall or runoff into open water habitat and/or waters of the State. Any of these materials placed within or where they may enter waters shall be removed immediately. When operations are completed, any excess material shall be removed from the work area and any areas adjacent to the work area where such material may be washed into adjacent waters. • During construction the contractor shall not dump any litter or construction debris within the riparian/stream zone. All such debris and waste shall be picked up daily and properly disposed of at an appropriate site.	Project Applicant & Construction Contractor	Qualified Wetland Ecologist	Before and During Construction

Mitigation	Implementing Responsibility	Monitoring Responsibility	Mitigation Timing
• Any excavation necessary shall be completed from outside of wetlands, where feasible, by using an excavator or backhoe tractor, thereby limiting the driving of heavy equipment across wetlands. • Prohibit vehicular and equipment refueling 100 feet from the edge of other wetlands, streams, or waterways. If refueling must be conducted closer to wetlands, construct a secondary containment area subject to review by the RCD and/or consulting biologist. Maintain spill prevention and cleanup equipment in refueling areas.			
Mitigation Measure BIO-9: Wetland Protective Measures • Prior to the start of construction within areas containing sensitive biological resources, the biological monitor should delineate and conspicuously flag all sensitive aquatic resources to prevent impacts to these resources. If required, setback or non-disturbance buffer zones around these resources should be established and monitored by a biologist. • Construction activities nearby or within aquatic habitats should be limited to the maximum extent feasible. • Any aquatic habitat that does not fall within the construction footprint should be flagged and avoided. • Work within waters should be conducted during the dry season, when water is not flowing, to the extent possible. • Worker environmental awareness training should be conducted for all construction crews and contractors. The education training should be conducted prior to starting work on the project and upon the arrival of any new worker. The training should include: locations of sensitive areas; possible fines for violations; environmental permits and regulatory compliance requirements including all relevant avoidance and mitigation measures, and required actions should sensitive species be encountered. Additional training should be conducted as needed, including morning "tailgate" sessions to update crews as they advance into sensitive areas for projects with multiple work areas. In addition, a record of all personnel trained during the project should be maintained for compliance verification.	Project Applicant & Construction Contractor	Qualified Wetland Ecologist	Before and During Construction

Mitigation	Implementing Responsibility	Monitoring Responsibility	Mitigation Timing
CULTURAL RESOURCES			
Mitigation Measure CUL-1: Conduct Identification Training and Stop Work if Archaeological Resources are Encountered During Construction or if Unique Paleontological or Geological Resources are Encountered During Construction • The construction contractor shall participate in a cultural and paleontological resource identification training session by a qualified archaeologist in order to be aware of the potential resources that might be uncovered. If archaeological or paleontological resources are encountered during project construction, work shall be temporarily halted in the vicinity of the discovered materials and construction contractor shall avoid altering these materials and their context until a qualified archaeologist or paleontologist has evaluated the resource. Recommendations on how to treat the resource may include evaluation, preservation in place, archaeological test excavation and/or archaeological data recovery, and a draft and final report documenting such activities.	Project Applicant & Construction Contractor	Qualified Cultural Resource Specialist	Before and During Construction
Mitigation Measure CUL-2: Discovery of Human Remains • If at any time during site preparation, excavation, or other ground disturbance associated with the proposed project, human remains are discovered, the construction contractor shall immediately cease and desist from all further site excavation and notify the RCD. The RCD shall notify the sheriff-coroner. If the coroner determines the remains are Native American, the coroner will contact the Native American Heritage Commission. The Native American Heritage Commission will identify the person or persons believed to be most likely descended from the deceased Native American. The most likely descendent makes recommendations regarding the treatment of the remains with appropriate dignity. Disturbance shall not resume until the significance of the human remains is determined and appropriate mitigations to preserve the resource on the site are established.	Project Applicant & Construction Contractor	Qualified Cultural Resource Specialist	During Construction

Mitigation Monitoring Reporting Program 1

E. EVALUATION OF ENVIRONMENTAL IMPACTS

AESTHETICS

Environmental Factors and Focused Questions for Determination of Environmental Impact Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
a) Have a substantial adverse effect on a scenic vista.				X
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway.				X
c) In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage points.) If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?			X	
d) Create a new source of substantial light or glare, which would adversely affect day or nighttime views in the area.				X

Comments:

Dominant land uses within, and adjacent to, the Project Area include cattle pasturelands, agriculture, and open space. The 65-acre Project Area is not accessed by the general public and is currently grazed by approximately 20 head of cattle. Adjacent to and directly east of the Project Area is a cut flower operation with greenhouses and agricultural pond. Access to the Project Area is from Pescadero Creek Road in Pescadero. According to San Mateo County General Plan, Pescadero Creek Road is not designated as a State and County scenic road (San Mateo County 2013a).

Would the Project:

a) Have a substantial adverse effect on a scenic vista.

Project construction activities will not impact a scenic vista for users traveling on Pescadero Creek Road. **No Impact.**

b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway.

The proposed project would not substantially damage scenic resources because post-project conditions would be the same as or similar to pre-project conditions. Project implementation would result in restored upland and aquatic habitat features across a landscape that currently consists of a mixture of open water, annual grassland,

coastal scrub and riparian habitats. The upland habitat that will be enhanced is currently used for livestock grazing and grazing will continue to be grazed post construction. Post-project maintenance and monitoring activities would be the same as the existing maintenance and monitoring program. No impacts to scenic resources located within state scenic highways would occur as a result of the project. **No impact.**

c) In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage points.) If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?

Implementation of the proposed project would not result in degradation to the visual character or quality of public views from publicly accessible vantage points. The existing Project Area consists of open water, riparian, coastal scrub and annual grassland habitat. Project activities will degrade views during construction, which will last between 3 and 10 weeks. All areas temporarily disturbed during construction will either be returned to pre-project conditions or converted to native grassland habitat. **Less than significant.**

d) Create a new source of substantial light or glare, which would adversely affect day or nighttime views in the area.

Implementation of the proposed project would not result in a new source of nighttime lighting either during construction or post construction. No permanent lighting would be installed as a result of the proposed project. The proposed project would have no impact on visual resources from light and glare. **No impact.**

AGRICULTURE AND FOREST RESOURCES

Environmental Factors and Focused Questions for Determination of Environmental Impact Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use.				X
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract.				X
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code § 12220(g)) or timberland (as defined by Public Resources Code § 4526), or timberland zoned Timberland Production (as defined by Public Resources Code § 51104(g)?				X
d) Result in the loss of forest land or conversion of forest land to non-forest use?				X
e) Involve other changes in the existing environment, which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use.				X

Comments:

This section describes the environmental setting and any potential impacts on agricultural resources that would result from the project. Before Butano Farms was owned by POST, the property was used for farming flax, artichokes, peas, and a cow-calf grazing. Currently, the property is used for farming and cattle grazing. In addition to pasture and cropland, a portion of the larger Butano property is floodplain. This floodplain is intersected by Butano Creek, which was part of a flood plain reconnection project in 2017 near the project site.

Additional information about the Project Area and vicinity was obtained from review of the California Department of Conservation's Farmland Mapping & Monitoring Program (FMMP), which identifies Butano Farms as two separate types as described below (DOC 2019).

1. **Grazing Land (G) - northern section of the property.** Land on which the existing vegetation is suited to the grazing of livestock. This category was developed in cooperation with the California Cattlemen's Association, University of California Cooperative Extension, and other groups interested in the extent of grazing activities.

2. **Other Land (X) - southern Section of the property.** Land not included in any other mapping category. Common examples include low density rural developments; brush, timber, wetland, and riparian areas

not suitable for livestock grazing; confined livestock, poultry or aquaculture facilities; strip mines, borrow pits; and water bodies smaller than forty acres. Vacant and nonagricultural land surrounded on all sides by urban development and greater than 40 acres is mapped as Other Land.

Would the Project:

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

The Project Area does not contain any lands designated as Prime Farmland, Unique Farmland or Farmland of Statewide Importance as shown on the maps prepared pursuant to the FMMP of the California Resources Agency (DOC 2019). In addition, the project does not contain Farmland of Local Importance. Therefore, no Prime Farmland, Unique Farmland, Farmland of Statewide or Farmland of Local Importance would be converted to a non-agricultural use as a result of project activities. **No impact.**

b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?

The Project Area is owned by POST and not under a Williamson Act Contract. The Project Area is zoned Planned Agriculture District/Coastal Development District. Implementation of the project does not conflict with existing zoning for agricultural use, or a Williamson Act Contract. **No impact.**

c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code § 12220(g)) or timberland (as defined by Public Resources Code § 4526), or timberland zoned Timberland Production (as defined by Public Resources Code § 51104(g))?

The project is not located near land designated as Timber Resource and does not conflict with zoning for timberland. **No impact.**

d) Result in the loss of forest land or conversion of forest land to non-forest use?

No forest land would be no lost or converted to non-forest use as a result of the proposed project. **No impact.**

e) Involve other changes in the existing environment, which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use?

The Project Area and surrounding area within a radius of 5 miles does not contain any lands designated as Prime Farmland, Unique Farmland, Farmland of Statewide Importance or Farmland of Local Importance (DOC 2019). Dominant land uses within and adjacent to the Project Area include cattle pasturelands, agriculture, and open space. The Project Area is currently grazed and will continue to be used for grazing in perpetuity. Project activities would not result in the conversion of farmland to non-agricultural use. **No impact.**

AIR QUALITY

Environmental Factors and Focused Questions for Determination of Environmental Impact	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
a) Conflict with or obstruct implementation of the applicable air quality plan.			X	
b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard.			X	
c) Expose sensitive receptors to substantial pollutant concentrations.			X	
d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of			X	

Comments:

The U.S. Environmental Protection Agency (EPA) and the California Air Resources Board (CARB) currently focus much of their air pollutant control efforts on five major air pollutants: ozone, nitrogen dioxide (NO2), carbon monoxide (CO), sulfur dioxide (SO2), and particulate matter (PM). These are the most prevalent air pollutants emitted nationwide and statewide, and they are known to be harmful to human health when their ambient levels exceed certain concentrations. Consequently, federal and state ambient air quality standards have been set for each of these pollutants (known as "criteria" air pollutants") at levels protective of human health, with an added margin of safety to afford additional protection to the young, the old and the infirm (i.e., sensitive receptors), who are more susceptible to their adverse health effects.

Ozone and suspended particulate matter (i.e., two types of the latter - particulate matter less than ten microns in diameter [PM10] and particulate matter less than 2.5 microns in diameter [PM2.5]) are of particular concern in the Bay Area, which is currently designated "nonattainment" for state and national ozone ambient air quality standards, for the state PM10 standards, and for state and national PM2.5 standards; it is "attainment" or "unclassified" with respect to all the other major air pollutants.

Many other chemical compounds, termed toxic air contaminants (TACs), emitted into the air are also regulated to limit their adverse impacts to human health and welfare. In California and in the Bay Area, the majority of the estimated carcinogenic/chronic health risks from TAC exposures have been attributed to relatively few TACs, the most important being particulate matter from diesel-fueled engines (DPM), which, according to the CARB, is responsible for about 70% of the cumulative cancer risk in California from all airborne TAC exposures.

The air quality analysis addressed in this Initial Study was performed using the methodologies and significance thresholds of the Bay Area Air Quality Management District (BAAQMD), as recommended in the 2017 CEQA Air Quality Guidelines (Guidelines). The air pollutant impacts evaluated in the Items "a" and "b" discussions below

are from precursors to ozone formation (i.e., reactive organic compounds [ROG] and nitrogen oxides [NOx]) and small-diameter particulate matter (i.e., PM10 and PM2.5).

According to the Guidelines, any project would have a significant potential for obstructing air quality plan implementation or making a cumulatively considerable contribution to a regional air quality problem if its pollutant emissions would exceed any of the thresholds presented in Table AQ-1 during construction or operation.

Table AQ-1: CEQA Air Quality Significance Thresholds for Criteria Air Pollutant Emissions

		Operational	
Pollutant	**Construction Average Daily (lbs./day)**	**Average Daily (lbs./day)**	**Maximum Annual (tons/year)**
Reactive Organic Gases (ROG)	54	54	10
Oxides of Nitrogen (NO_x)	54	54	10
Inhalable Particulate Matter (PM_{10})	82 (exhaust)	82	15
Fine Inhalable Particulate Matter ($PM_{2.5}$)	54 (exhaust)	54	10
PM_{10}/$PM_{2.5}$ (Fugitive Dust)	BMPs[a]	N/A	N/A

Notes: BMPs = Best Management Practices
N/A = Not Applicable

[a] If BMPs for fugitive dust control are implemented during construction, the impacts of such residual emissions are considered to be less than significant.
Source: Bay Area Air Quality Management District, *California Environmental Quality Act Air Quality Guidelines* (May 2017).

The Guidelines also establish a relevant zone of influence for an assessment of project-level and cumulative health risk from TAC exposure to an area within 1,000 feet of a project site. Project construction-related or project operational TAC impacts to sensitive receptors within the zone that exceed any of the following thresholds are considered significant:

- An excess cancer risk level of more than 10 in one million.
- A non-cancer hazard index greater than 1.0.
- An incremental increase of greater than 0.3 micrograms per cubic meter (µg/m3) for annual average PM2.5 concentrations.

Cumulative impacts from TACs emitted from freeways, state highways or high volume roadways (i.e., the latter defined as having traffic volumes of 10,000 vehicles or more per day or 1,000 trucks per day), and from all documented stationary sources within the zone to sensitive receptors within the zone that exceed any of the following thresholds are considered cumulatively significant:

- A combined excess cancer risk levels of more than 100 in one million.
- A combined non-cancer hazard index greater than 10.0.
- A combined incremental increase in annual average PM2.5 concentrations greater than 0.8 µg/m3.

Would the Project:

a) Conflict with or obstruct implementation of the applicable air quality plan?

In the Bay Area, the current applicable regional air quality plan is the BAAQMD's 2017 Clean Air Plan: Spare the Air, Cool the Climate (2017 Plan), focuses on two closely-related goals: protecting public health and protecting the climate (the latter addressed in the Greenhouse Gas section below). The BAAQMD Plan defines an integrated, multipollutant control strategy to reduce emissions of particulate matter, TACs, ozone precursors and greenhouse gases (GHG) based on four key priorities:

- Reduce emissions of criteria air pollutants and TACs from all key sources.
- Reduce emissions of "super-GHGs" such as methane, black carbon and fluorinated gases.
- Decrease demand for fossil fuels (i.e., gasoline, diesel and natural gas).
- Decarbonize the energy system.

The purpose of the proposed project is to restore habitat. Once the specified landscape and hydrographic changes are installed, the project would have no new operational air pollutant emissions. Thus, it would not affect the Bay Area's regional emission inventories.

Compliance with BAAQMD-approved CEQA thresholds of significance is another condition for determining project consistency with 2017 Plan control policies. The project would meet all BAAQMD CEQA emission thresholds (as addressed in the Item "b" discussion below; Appendix B). **Less than significant.**

b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?

Construction activities would take place over about a 2-month period (August-September of 2020). It would generate temporary emissions of criteria pollutants in construction equipment exhaust and fugitive dust from equipment and material movement. The CEQA Air Quality Guidelines recommend quantification of construction-related exhaust emissions and comparison of those emissions to the CEQA significance thresholds. Thus, the CalEEMod model (California Emissions Estimator Model, Version 2016.3.2) was used for this purpose (see Appendix B for model results).

Table AQ-2 provides the estimated pollutant emissions from construction equipment, material delivery trucks and worker commute vehicles associated with each project phase. The average daily construction period emissions can be compared to the CEQA significance thresholds, either separately by phase or combined (since there would be substantial phase overlap during construction) as shown below. Daily emissions of each regulated air pollutant from project construction activities would be below the CEQA significance thresholds. **Less than significant.**

Table AQ-2: Project Construction Criteria Pollutant Emissions (Average Pounds per Work Day)

Project Phase	ROG	NOx	PM_{10} (Exhaust)	$PM_{2.5}$ (Exhaust)
Upland Vegetation and Erosion Control (2 weeks/10 work days)	0.1	0.8	< 0.1	< 0.1
Aquatic Habitat Restoration Activities (6 weeks/30 work days)	1.3	13.0	0.5	0.5
Pre-Project Activities and Site Preparation (6 weeks/30 work days)	0.7	6.6	0.3	0.3
Significance Thresholds	**54**	**54**	**82**	**54**
Significant Impact?	**No**	**No**	**No**	**No**

However, fugitive dust resulting from earth movement and travel over unpaved ground could lead to local violations of ambient particulate standards unless adequate dust suppression measures are implemented. During construction, the RCD and their contractors will implement Best Management Practices #8 listed in Table 2; which provide BAAQMD approved measures for controlling fugitive dust. **Less than Significant.**

c) Expose sensitive receptors to substantial pollutant concentrations?

Cancer risk is the lifetime probability of developing cancer from exposure to carcinogenic substances. Adverse health impacts unrelated to cancer are measured using a hazard index (HI), which is defined as the ratio of a project's incremental TAC exposure concentration to a published reference exposure level (REL) as determined by the Office of Environmental Health Hazard Assessment. If the HI is greater than 1.0, then the impact is considered to be significant.

Ambient DPM produced by construction equipment could substantially affect sensitive receptors within 1,000 feet of the locus of construction activity if such emissions were strong enough and lasted long enough. However, the CEQA significance thresholds for TACs are based on assumptions of exposure duration of a year or longer (i.e., a year for chronic non-cancer health impacts, 70 years for cancer risk). Given that all project phases would be completed in at most 2 months, and that the closest residential receptors are in the town of Pescadero, which is more than 1000 feet from the active project work areas, the TAC exposure period for any residential receptors would be short in comparison to the exposure times needed to pose adverse health impacts. Also, no single sensitive local receptor would be within 1000 feet of any project work locus. Thus, project-related TAC health risks would be substantially below the CEQA health- risk significance thresholds and project-level TAC impacts for most project construction emissions would be less than significant. **Less than significant.**

d) Create objectionable odors affecting a substantial number of people?

CEQA odor criteria considers any project with the potential to frequently expose substantial populations to objectionable odors as causing a significant odor impact. Implementation of project activities would occur more

than 1000 feet from the nearest odor-sensitive receptors and project construction activities would last only 2 months. **Less than significant.**

BIOLOGICAL RESOURCES

Environmental Factors and Focused Questions for Determination of Environmental Impact	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
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 the California Department of Fish and Game or U.S. Fish and Wildlife Service.		X		
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or US Fish and Wildlife Service.		X		
c) Have a substantial adverse effect on state or federally protected wetlands (including but not limited to marsh, vernal pool, and coastal) through direct removal, filling, hydrological interruption, or other means.		X		
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.			X	
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.			X	

Comments:

The proposed project provides mitigation for biological impacts associated with PG&E Line 101 Inline Inspection and Upgrade, and Lomita Park Station Rebuild Project in the City of Millbrae, San Mateo County. PG&E provided financial contribution to the RCD for management of land with emphasis on management for SFGS. The proposed restoration and enhancement activities have been permitted by USFWS in their Biological Opinion (No. 2013-0042S) dated October 2, 2018 (USFWS 2018). All conservation measures specific to this project and identified in the USFWS BO will be implemented during project construction. Restoration activities evaluated in this IS/MND will contribute to the overall enhancement of habitat for SFGS and CRLF within San Mateo County and objectives of this project align with recovery actions outlined in the San Francisco Garter Snake Recovery Plan that concludes restoration of upland, riparian, and aquatic habitat is needed to aid in the recovery of SFGS and CRLF (USFWS 1985).

Methods

For the purpose of this impact evaluation, biologists also reviewed the CDFW's California Natural Diversity Data Base (CNDDB) (CDFW 2019); USFWS' Information for Planning and Consultation (IPaC) Trust Resources Report for San Mateo County (USFWS 2019), the California Native Plant Society (CNPS) Inventory of Rare and Endangered Plants (CNPS 2019), and the USFWS National Wetlands Inventory. Results of these searches are provided in Appendix C.

Mitigation measures for potential impacts during construction activities are derived, in part, from the avoidance and minimization measures to reduce impacts on covered species provided in the PG&E's Bay Area Operations and Maintenance Habitat Conservation Plan (HCP) (ICF International 2016).

Information for vegetation communities and habitat types within the Project Area was gathered from a Vegetation Shapefile prepared by Midpeninsula Open Space District and Google Earth satellite maps. Existing condition descriptions are also derived from the Wetland Delineation Survey and Report and the 2018 Effects Analysis for Butano Farms SFGS Habitat Enhancement Project San Mateo County, California (San Mateo RCD 2018) and the Upland Enhancement and Monitoring Plan (San Mateo RCD 2019).

Existing Conditions

Vegetation Communities

Mixed Annual and Perennial Grassland

Stands of grassland are dominated by annual European grasses and, in select places, by low-lying California oatgrass (*Danthonia californica*). Though present, overall cover is poor due to compacted soils. Given proper management as suggested in the Conservation and Carbon Plan (San Mateo RCD 2018), these grasslands can be enhanced and expanded for the benefit of SFGS. Main concerns for these grasslands are overgrazing, compaction from roads, and tilling. In consideration of the main conservation concerns, and the fact that establishment of native perennial grasses can be difficult, preserving and enhancing existing stands is preferable.

Coastal Scrub

The Project Area is composed mostly of coyote brush-dominated coastal scrub. The woody vegetation is established on steeper slopes, but has encroached upon shallower, grass dominated areas. Coastal scrub takes up 10-75% of the grassland habitat, and upwards of 90% in the coastal scrub habitat (visual estimation based on aerial images).

Riparian Habitat

The riparian habitat in the Project Area is dominated by willows (*Salix sp.*) and red alders (*Alnus rubra*). These swaths of riparian habitat surround the pond, the two drainages, and Butano Creek.

Freshwater Wetland

The existing pond is approximately an acre in size with over half of the pond dominated by emergent wetland vegetation consisting of tule (*Schoenoplectus acutus*) and cattail (*Typha sp*.). As part of the project, 0.50 acres of the pond will be enhanced and expanded. Of this total, 0.25 acres of the pond will be enhanced for open water habitat through sediment removal and an additional 0.25 acres will be enhanced through a combination of riparian vegetation removal (e.g. willows) and grading/reshaping of the pond to include more shallow water habitat for SFGS and CRLF. Within the drainage area north-east of the pond, sediment control structures (berms or check dams) will be installed to reduce sediment accumulation within the pond. Eventually, the sediment buildup from the check dams is expected to aggrade into the existing gully feature and into the adjacent uplands, helping to reduce future gully formation and gully migration. Overall, ecological functionality of the pond and associated margin wetlands will be improved through implementation of this project and the associated actions to address existing erosion.

Invasive Species

Jubata grass

Jubata grass (*Cortaderia jubata*) is the highest priority weed species in the Project Area. It grows in large, dense patches within the Project Area. Jubata grass is considered an Invasive Plant of California's Wildlands A-1 (highest priority) species (Cal-IPC). It is an aggressive colonizer that is known to displace native species occurring in coastal scrub, coastal dunes, and other habitats utilized by California red-legged frog and San Francisco garter snake.

Jubata grass prefers disturbed and bare soils, growing within the gully systems in the Project Area. There is also nearly 1-acre patch of jubata in the middle of the Project Area. There is observational evidence that SFGS utilizes jubata grass. Care will be taken to maintain the basal jubata grass structure while preventing its spread through the rest of the property. Jubata grass will be controlled and eradicated where feasible, primarily targeting densely infested areas.

Douglas fir and Monterey pine

While native to the area, Monterey pine and Douglas fir would not historically occupy the grasslands habitat within the Project Area. Woody encroachment prevention is a high priority for the recovery of SFGS (USFWS 2006b). Thus, Douglas fir will be treated as a native invasive weed. There is a small stand (approximately 20-30) of Douglas fir along the south east ridge within the Project Area which does not provide ideal habitat for either San Francisco garter snake or prey species. These trees are estimated to be not more than 15-20 years old. While providing habitat for raptors and other tree nesting species, Douglas firs represent a threat to grassland-scrub matrix. Douglas fir up to 34-inch diameter at breast height will be removed. The resulting product from woody vegetation control can be used for soil amendments within the project.

American Bullfrog

American Bullfrogs (*Lithobates catesbeianus*) are an aggressive predator and competition for CRLF, as well as a competitor for SFGS. Their presence has been observed in the pond. Control of bullfrogs is dependent on pond management. Proposed project actions include seasonal pond draining and direct kill if necessary.

Other non-native invasive plants

There are other non-native invasive weeds within the property. While present, they are not a priority. Priorities of invasive species may change over time as described in the *Upland Enhancement and Monitoring Plan* (San Mateo RCD 2019). This Plan outlines the methods of removal, maintenance and monitoring for all non-native invasive plants present within the Project Area.

Sensitive Natural Communities

Waters and wetlands are considered sensitive habitat types and while they are defined differently according to the specific regulations and regulating agencies, the wetland features at the proposed project site would be considered a wetland under the following existing applicable state and federal laws:

- Environmental Protection Agency and Army Corps of Engineers jurisdiction through Section 404 of the federal Clean Water Act. Site analysis indicates that the pond is both hydrologically and ecologically connected to the adjacent Water of the US, Butano Creek. As such, the pond is not considered to be an isolated water or wetland.

- California Coastal Commission jurisdiction through the California Coastal Act of 1976 and the federal Coastal Zone Management Act for state wetlands within the coastal zone. The existing pond and wetland/riparian habitats meet all three wetland criteria (plants, hydrology, and soils) and, as such, will be subject to regulation under the Coastal Act.

- State Water Resources Control Board and San Francisco Regional Water Quality Control Board (RWQCB) through the 1969 Porter-Cologne Water Quality Control Act and Section 401 of the federal Clean Water Act. The existing pond meets all three wetland criteria (plants, hydrology, and soils) and is ecologically and hydrologically connected to Butano Creek. As such, the pond and associated wetland/riparian margins will be regulated through the RWQCB.

Special-Status Species

Special-status plant and wildlife species are defined as those species listed as endangered, threatened, or proposed for listing under Federal Endangered Species Act (FESA), as amended (Code of Federal Regulations [CFR], Title 50, Section 17), and/or species protected under the Migratory Bird Treaty Act (MBTA) (16 U.S. Code [USC] 703-712); the Bald and Golden Eagle Protection Act (16 U.S.C. 668-668d; June 8, 1940) as amended; Marine Mammal Protection Act of 1972, as amended (2001); California Endangered Species Act (CESA) (California Code of Regulations Title 14, Section 670.5); California Fish and Game Code (Sections 1901, 2062, 2067, 3511, 4700, 5050 and 5515); and/or Native Plant Protection Act of 1977. Special-status species also include locally rare species defined by CEQA guidelines 15125(c) and 15380, which may include species that are designated as sensitive, declining, rare, locally endemic or as having limited or restricted distribution by various federal, state and local agencies, organizations and watchlists. Their status is based on their rarity and endangerment throughout all or portions of their range.

Special-Status Plant Species

There are nine special-status plant species with potential to occur within the Project Area (Table BIO-1). All nine species vary in rarity (CNPS Rare Plan Rank 1B.1 to 4.3) and none have specific legal protections. Of these, two have been documented from within 1 mile of the Project Area: Coastal marsh milk vetch (*Astragalus pycnostachyus* var. *pycnostoachyus*) and Choris' popcornflower (*Plagiobothrys chorisianus var. chorisianus*) (CDFW 2019, Appendix C). Coastal marsh milk vetch occurs in coastal dunes, coastal scrub, and coastal salt and streamsides of marshes and swamps. It occurs between 0-30 meters in elevation. Choris' popcornflower occurs on mesic sites in chaparral, coastal prairie, and coastal scrub and in grassy moist places, ephemeral drainages, coastal scrub, and chaparral. It occurs between 15-160 meters in elevation.

Table BIO-1. Sensitive and Locally Rare Plant Species with Potential to Occur in Project Area

Species Name	Common Name	Listing Status*
Astragalus pycnostachyus var. pycnostachyus	Marsh milk vetch	1B.2
Castilleja latifolia	Seaside paintbrush	4.3
Hosackia gracilis	Harlequin lotus	4.2
Microseris paludosa	Marsh scorzonella	1B.2
Pedicularis dudleyi	Dudley's lousewort	1B.2
Perideridia gairdneri ssp. gairdneri	Gairdner's yampah	4.2
Plagiobothrys chorisianus var. chorisianus	Choris's popcorn flower	1B.2
Plagiobothrys chorisianus var. hickmanii	Hickman's popcorn flower	4.2
Sidalcea malviflora ssp. purpurea	Purple checkerbloom	1B.2

*California Native Plant Society codes:

1A	Presumed extinct in California
1B	Rare or Endangered in California and elsewhere
2	Rare or Endangered in California, more common elsewhere
3	Plants for which we need more information - Review list
4	Plants of limited distribution - Watch list
.1	Seriously Endangered in California
.2	Fairly Endangered in California (20-80% occurrences Threatened)
.3	Not very Endangered in California (<20% of occurrences Threatened or no current threats known)

Special-Status Wildlife Species

There are 15 special-status wildlife species with potential to occur in or, in the case of fish, immediately adjacent to the Project Area (Table BIO-2). Of these, five have Federal and/or State legal protection and two have been documented within or adjacent to the Project Area.

Table BIO-2. Special-Status Wildlife Species with Potential to Occur in Project Area

Common Name	Species Name	Listing Status*
Federal/State Listed, Proposed, Candidate and/or Fully Protected Species		
Central California Coast steelhead	*Oncorhynchus mykiss irideus*	FT
California red-legged frog	*Rana draytonii*	FT, CSC
San Francisco garter snake	*Thamnophis sirtalis tetrataenia*	FE, SE
White-tailed kite	*Elanus leucurus*	FP
Golden eagle	*Aquila chrysaetos*	FP
Tricolored blackbird	*Agelaius tricolor*	ST
Sensitive and Locally Rare Species		
Western pond turtle	*Actinemys marmorata*	CSC
Long-billed curlew	*Numenius americanus*	WL
Northern harrier	*Circus cyaneus*	CSC
Short-eared owl	*Asio flammeus*	CSC
Western burrowing owl	*Athene cunicularia hypugaea*	CSC
Salt-marsh common yellowthroat	*Geothlypis trichas sinuosa*	CSC
Yellow warbler	*Dendroica petechia*	CSC
Dusky-footed woodrat	*Neotoma fuscipes annectens*	CSC
American badger	*Taxidea taxus*	CSC

* Federal and State listing codes:
FE Federally listed as Endangered
FT Federally listed as Threatened
SE State listed as Endangered
ST State listed as Threatened
CSC California Species of Special Concern
FP Fully Protected
CH Critical Habitat (Proposed or Final) is designated
WL Watch List

Federal/State Listed, Proposed, Candidate and/or Fully Protected Wildlife Species

Central California Coast Steelhead

The Central California Coast steelhead Distinct Population Segment (DPS) is federally listed as threatened. This DPS covers "all naturally spawning anadromous populations of *O. mykiss* (steelhead) below natural and manmade impassable barriers in California streams from the Russian River (inclusive) to Aptos Creek (inclusive), and the drainages of San Francisco, San Pablo, and Suisun Bays eastward to Chipps Island at the confluence of the Sacramento and San Joaquin Rivers" (NMFS 2005). The San Mateo Hydrologic Unit includes the coastal streams in San Mateo County from San Pedro Creek near Pacifica to Butano Creek near Año Nuevo; the Santa Clara Hydrologic Unit includes South Bay creeks from San Francisquito Creek in Palo Alto eastward to Coyote Creek (NMFS 2005, NMFS 2012). Critical habitat for the Central California Coast steelhead DPS was designated in 2005 and includes all river reaches and estuarine areas accessible to listed steelhead in coastal river basins from the Russian River in Sonoma County to Aptos Creek in Santa Cruz County (NMFS 2005).

Multiple sources have documented the presence of steelhead within the Pesacdero Creek watershed over the past decades (NMFS 2013, Nelson 2012). Steelhead are present in nearby Butano Creek but are not present in the existing pond within the project area.

California Red-legged Frog

CRLF is federally listed as threatened and is a California State Species of Special Concern. The 2002 recovery plan recommends protecting existing populations by restoring and creating habitat through improving quality and connectivity of aquatic and upland habitats as a recovery action (USFWS 2002). The USFWS-designated critical habitat for CRLF includes the Project Area (USFWS 2010; USFWS 2006a) (Appendix C).

California red-legged frog is a pond-dwelling amphibian that generally lives in the vicinity of permanent aquatic habitats including livestock ponds and pools in perennial streams (Jennings and Hayes 1994). Optimal habitat is characterized by dense, shrubby riparian vegetation associated with deep (>2.3 feet), still, or slow-moving water. CRLF historical range reached from California to Baja California and Mexico but has since reduced from 70 of its original range to 28 counties in California. Most of this reduction is from loss of habitat from urban encroachment, hydrological changes from water diversions, agriculture, and intensive livestock grazing.

The existing pond within the Project Area provides breeding habitat for CRLF and the species has been documented in the Project Area (CDFW 2019). CRLF egg masses were observed by RCD staff during a 2018 site visit.

San Francisco Garter Snake

SFGS is endemic to the San Francisco Peninsula and its range is highly restricted from Mori Point in Pacifica to just south of the Santa Cruz County line. Although the snake mostly occupies the grasslands of the Santa Cruz Mountains, including the Upper Crystal Springs Reservoir, the population also extends east to the San Francisco Airport. This snake is mostly found near aquatic features such as lakes, ponds, marshes, ephemeral ponds, and sloughs (USFWS 1985). Many of these aquatic features have been lost due to intense urbanization, habitat loss,

and degradation. Due to intensive habitat loss, the snake has been Federally endangered since 1967 and State endangered since 1971.

The Project Area lies within the 'Pescadero' population of SFGS which encompasses Pescadero Marsh Natural Preserve and a series of natural and artificial ponds along Butano Creek. SFGS individuals have been found both upstream and downstream of the project site, but none have been found within the project site. Extensive surveys for SFGS were completed during the adjacent Butano Floodplain Restoration Project in 2017 and no individuals were observed. The Project Area provides suitable habitat for SFGS. The pond, although heavily vegetated, does provide habitat for prey and some basking space. There is plenty of vegetative cover and rodent burrows in the surrounding area for SFGS shelter. It is possible that SFGS could be encountered during project construction given suitable habitat and nearby occurrences.

Listed Birds

The Project Area contains suitable habitat for three listed and/or fully protected bird species. Both the golden eagle (*Aquila chrysaetos*) and white-tailed kite (*Elanus leucurus*) are designated as fully protected under Section 3511 of the California Fish and Game Code. The golden eagle (nesting & wintering) is also designated as a California Species of Special Concern and is protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668-668d, 54 Stat. 250) as amended. The tricolored blackbird (*Agelaius tricolor*) is listed as threatened under the State Endangered Species Act.

There is no suitable nesting habitat for golden eagle or white-tailed kite within the Project Area; however, the upland grassland habitat provides suitable foraging habitat for both species. During the non-breeding season, the golden eagle inhabits open habitats such as grasslands, savannahs, scrub and oak woodlands. White-tailed kites typically nest in trees near a water source and may occur in suburban areas with adjacent open areas with abundant prey. Suitable foraging and nesting habitat for tricolored blackbird is present in emergent vegetation within aquatic and riparian habitats. None of these three listed species have been documented from the Project Area or within 1 mile of the Project Area (CDFW 2019).

Sensitive and Locally Rare Wildlife Species

Western Pond Turtle

Western pond turtle (*Actinemys marmorata*), a California Species of Special Concern, inhabits a broad range of aquatic habitats including ponds, slow-moving streams, and man-made canals and reservoirs. The highest densities are found in suitable aquatic sites that also have available aquatic and shoreline basking areas such as downed logs. Hatchlings (i.e. individuals through their first year of activity) require shallow water habitat with relatively dense submergent or short emergent vegetation in which to forage. Turtles use upland grasslands in the vicinity of aquatic habitats for egg-laying, hibernation, and aestivation. Though pond turtles have not been observed in the Project Area, the pond and associated upland habitat provide suitable habitat for this species.

Special-Status and Migratory Birds

Migratory birds (including eggs and chicks) are protected under the Migratory Bird Treaty Act (16 U.S.C. 703-712) administered by the USFWS (Division of Migratory Bird Management), which makes it unlawful, unless expressly authorized by permit pursuant to federal regulations, to "pursue, hunt, take, capture, kill, attempt to take, capture or kill, offer for sale, sell, offer to purchase, purchase, deliver for shipment, ship, cause to be

shipped, deliver for transportation, transport, cause to be transported, carry, or cause to be carried by any means whatever, receive for shipment, transportation or carriage, or export at any time, or in any manner, any migratory bird, or any part, nest, or egg of any such bird." Most bird species occurring within California fall under the protection of the MBTA except those species that belong to the families not listed in any of the four treaties, such as European starling (*Sturnus vulgaris*). Nesting birds are also protected under California Fish and Game Code §3503, which prohibits the take, possession, or needless destruction of the nest or eggs of any bird.

The structural complexity of riparian and freshwater wetland habitats in the Project Area provide optimal nesting habitat and foraging conditions for many special-status and migratory bird species. Some of the bird species with the potential to occur in the study area include long-billed curlew (*Numenius americanus*), northern harrier (*Circus cyaneus*), short-eared owl (*Asio flammeus*), western burrowing owl (*Athene cunicularia hypugaea*), saltmarsh common yellowthroat (*Geothlypis trichas sinuosa*), grasshopper sparrow (*Ammodramus savannarum*) and yellow warbler (*Dendroica petechial*). The Migratory Bird Treaty Act (MBTA) (16 U.S.C. 703-712; MBTA) and the California Fish and Game Code Section 3503 prohibits the take, possession, or needless destruction of the nest or eggs of any bird; Section 3503.5 prohibits the take, possession, or needless destruction of any nests, eggs or birds in the orders Falconiformes (new world vultures, hawks, eagles, ospreys and falcons, among others) or Strigiformes (owls); Section 3511 prohibits the take or possession of fully protected birds; and Section 3513 prohibits the take or possession of any migratory nongame bird or part thereof as designated in the MBTA.

San Francisco Dusky-Footed Woodrat

Dusky-footed woodrat (*Neotoma fuscipes*) is a California Species of Special Concern. Dusky-footed woodrats are generally found in dense chaparral, oak and riparian woodland, and mixed conifer forest habitats that have a well-developed understory. They favor brushy habitat or woodland with a live oak component. They are highly arboreal, and thick-leaved trees and shrubs are important habitat components for the species (Williams et al. 1992). No woodrat nests have been observed within the Project Area, however, multiple woodrat nests have been documented from the adjacent Butano Creek riparian corridor (CDFW 2019). The Project Area does not provide ideal habitat for woodrat nests.

American Badger

American badger (*Taxidea taxus*) inhabits open areas with friable soils within woodland, grassland, savannah and desert habitats. Badgers have not been documented from the study area, though suitable habitat for this species is present within the upland habitat.

Would the Project:

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 and USFWS?

Special-Status Plants

Impact BIO-1: Construction of the proposed project could impact special-status plants if they occur within the project site. Mitigation Measure BIO-1 would be implemented to identify and potentially reduce impacts to special-status species plants, should they occur within the project site. Post construction, the project site would be returned to pre-construction conditions or better, which would improve conditions for special-status plant species, should they occur in the study area. **Less than significant with mitigation.**

Mitigation Measure BIO-1: Rare Plant Surveys

- Rare plant surveys of the proposed disturbance areas will be conducted by a qualified botanist for the plant species that have the potential to occur within the project site. Surveys shall be done in accordance with CNPS's Botanical Survey Guidelines (CNPS 2001), CDFW's Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities (CDFW 2018), and USFWS's Guidelines for Conducting and Reporting Botanical Inventories for Federally Listed, Proposed and Candidate Plants (USFWS 1996). If present, special-status plant populations will be flagged and if possible avoided during construction. If the populations cannot be avoided during construction a mitigation plan will be developed for approval by the Department and CDFW which will include transplanting the plant population.

Special-Status Wildlife

Impact BIO-2: Construction of the proposed project would temporarily disturb CRLF within the Project Area and temporarily impact suitable aquatic and upland habitat. There may be further indirect effects due to construction activities, noise and vibration causing individuals to leave the area, leaving them more susceptible to predation. **Less than significant with mitigation.**

Mitigation Measure BIO-2: CRLF Avoidance and Minimization Measures

- Within two days of the start of work on a pond, the pond will be sampled by a qualified biologist to ensure that all frogs from that pond are in post-metamorphic stage and will be minimally affected by draining the pond. If the construction plans allow for existing open water and emergent vegetation areas to remain wetted and be isolated from construction activities, a qualified biologist will be on-site during draining of the work area to ensure that any remaining tadpoles or metamorphs are safely relocated to areas with standing water.

- Draining of ponds to perform authorized work shall only occur during the part of the year when the tadpole life stage of CRLF has been completed and before the subsequent breeding season (i.e. between August 15 and November 1).

- All biological monitors for the project shall be approved by USFWS prior to commencement of project activities. The biological monitors and qualified biologists shall have the responsibility and authority of stopping the proposed project if any crews or personnel are not complying with the provisions outlined in this IS/MND.

- Biological monitor(s) and/or qualified biologists shall be on the project site while initial ground-disturbing activities (excavation) or pond draining activities take place. A Service-approved biologist will be on-call during all project activities in the event a San Francisco garter snake or California red-legged frog is discovered, or for any other assistance relating to the avoidance and minimization measures.

- Prior to project activities, a biological monitor shall clearly mark/flag or erect temporary construction fencing to designate the work area and to delineate the areas that shall be avoided. Flagging and or temporary construction fencing shall be removed immediately after the completion of construction work.

- Dredge spoils shall be placed in a containment area away from the creek. The area where dredge spoils will be placed shall be surveyed for CRLF and SFGS. If burrows are present in this area, Permittee shall hand excavate burrows until the burrow terminates or until a maximum depth of 30 centimeters. If CRLF or SFGS are found, all work shall cease and Permittee shall notify CDFW and USFWS immediately.

- Any vehicle parked on site for more than 15 minutes shall be inspected by the biological monitor before it is moved to ensure that CRLF and/or SFGS have not moved under the vehicle. Any parking areas shall be checked in advance by the biological monitor or qualified biologist.

- If CRLF enters the work area, all work shall stop until the qualified biologist relocates the animal or it leaves on its own. Only the qualified biologist can handle and relocate CRLF. Any sightings and/or injuries of this species shall be immediately reported to the CDFW per instructions below:

    - CRLF Relocation. Prior to the onset of any project-related activities, the qualified biologist must identify appropriate areas to receive CRLF adults from the Project Areas. These areas must be in proximity to the capture site, contain suitable habitat, not be affected by project activities, and be free of exotic predatory species to the best of the approved biologist's knowledge. Translocation shall only be performed by the qualified biologist.

Impact BIO-3: Construction of the proposed project would temporarily disturb SFGS within the Project Area and temporarily impact suitable aquatic and upland habitat. There may be further indirect effects due to construction activities, noise and vibration causing individuals to leave the area, leaving them more susceptible to predation. **Less than significant with mitigation.**

Mitigation Measure BIO-3: SFGS Avoidance and Minimization Measures

- Prior to and within 48 hours of the planned start of project activities, a focused survey for SFGS using agency approved protocol shall be conducted by a USFWS-approved biological monitor to determine if they are in the area. If SFGS are found, the USFWS shall be notified immediately to determine the correct course of action and proposed project shall not begin until approved by the USFWS.

- Activities that result in ground disturbance will occur May 1–October 30 (active season). Vegetation will be cut using to 3 inches in height. Once the ground is visible, a visual survey for SFGS will be conducted by the biologist prior to additional ground disturbance. If SFGS is found, USFWS will be notified immediate to determine the correct course of action. If work needs to occur during the inactive period (November 1– April 30) and is located in an area of known occupancy, flag and avoid any burrows by at least 10 feet wherever possible. If any burrows cannot be avoided by this distance, a biologist will inspect following activities to determine whether or not the burrow has been collapsed. If a burrow is collapsed, the biologist shall make efforts to open the burrow.

- Prior to conducting non-native plant removal or treatments (e.g. spraying with herbicide, cutting, pulling, digging out), the permittee shall make every reasonable attempt to ensure that SFGS are not hidden within the plant or residual plant matter to be treated.

- The USFWS approved biological monitor shall walk roads cleared for vehicle access each morning prior to vehicle traffic to ensure San Francisco garter snakes are not in the road. Vehicles shall not drive at speeds greater than 5 miles per hour within the project area and drivers shall observe the road for San Francisco garter snakes. If a San Francisco garter snake is found on the road, the vehicle operator shall stop, and the San Francisco garter snake shall be allowed to leave on its own volition.

Impact BIO-4: Construction of the proposed project would temporarily disturb Western pond turtle (WPT), if found within the Project Area. **Less than significant with mitigation.**

Mitigation Measure BIO-4: Western Pond Turtle Avoidance and Minimization Measures

- Prior to and within 48 hours of the planned start of construction, a focused survey for WPT shall be conducted by a CDFW approved biological monitor to determine if they are in the area. If these species are found, the CDFW shall be notified immediately to determine the correct course of action and construction activities shall not begin until approved by the CDFW.

- In the event WPT are found in the project area, the RCD shall exercise measures to avoid direct injury to them as well as avoid areas where they are observed to occur. If a WPT is observed, it shall be left alone to move out of the area on its own. If it does not move on its own, it can be relocated by the biological monitor or the qualified biologist to at least 100-meters away from project location to a suitable habitat.

Impact BIO-5: Several species of birds use the Project Area for foraging, roosting and nesting and wintering. Implementation of the project could result in temporary impacts on special-status birds including burrowing owl, as well as nesting birds protected by CFGC §3503 and birds protected by the MBTA. Potential construction-related impacts may include temporary changes in foraging patterns or territories, noise disturbance, nest abandonment, etc. Implementation of Mitigation Measure BIO-5 would reduce this impact. **Less than significant with mitigation.**

Mitigation Measure BIO-5: Nesting Bird Avoidance and Minimization Measures

- To the extent feasible, vegetation removal activities shall not occur during the bird breeding season of February 15 through August 31.

- If vegetation removal must occur during the breeding season the project site shall be surveyed by a qualified biologist to verify the presence or absence of nesting birds.

- Preconstruction surveys will be conducted no more than two weeks prior to the start of work from February 15 – August 31.

- If the survey indicates the potential presence of nesting birds, a buffer will be placed around the nest in which no work will be allowed until the young have successfully fledged. The size of the nest buffer will be determined by the biologist in consultation with the CDFW, and will be based to a large extent on the nesting species and its sensitivity to disturbance. The buffers may be increased or decreased, as appropriate, depending on the bird species and the level of disturbance anticipated near the nest.

Impact BIO-6: Construction of the proposed project could impact special-status San Francisco dusky-footed woodrat, if present. **Less than significant with mitigation.**

Mitigation Measure BIO-6: San Francisco Dusky-footed Woodrat Avoidance and Minimization Measures

The following standard avoidance and minimization measures would be implemented to minimize potential impacts on dusky- footed woodrat nests, if present within the Project Area:

- The removal of trees and large shrubs shall be minimized to the maximum extent practicable and shall be limited to those areas directly adjacent within the project footprint.

- Tree removal or construction activities with potential to disturb suitable habitat for dusky-footed woodrat (riparian scrub) shall only occur after a biologist conducts a pre-construction survey for woodrat nests within the woody riparian habitats to be removed and adjacent riparian habitat. If any woodrat nest is identified outside the proposed disturbance footprint, exclusion zones around each den entrance or cluster of entrances will be demarcated. The configuration of exclusion zones should be circular, with a radius measured outward from the next. No construction activities will occur within the exclusion zones. Exclusion zone radii for active nests will be 50 feet, if possible. Exclusion zones will be demarcated with staking and flagging that encircles each den or cluster of dens but does not prevent access to the nest. If a nest is identified within the disturbance footprint, then nest relocation procedure will be determined by the biologist, in consultation with CDFW.

Impact BIO-7: Construction of the proposed project could impact special-status American badger, if present. **Less than significant with mitigation.**

Mitigation Measure BIO-7: American Badger Avoidance and Minimization Measure

- Pre-construction surveys shall be conducted in any grassland habitat within the project footprint for active badger dens. If a badger den is identified within the proposed disturbance footprint, exclusion zones around each den entrance will be demarcated. The configuration of exclusion zones should be circular, with a radius measured outward from the den entrance(s). No construction activities will occur within the exclusion zones. Exclusion zone radii for active dens will be at least 50 feet. Exclusion zones

will be demarcated with staking and flagging that encircles each den or entrance but does not prevent access to the den by a badger.

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

Riparian and wetland habitats are subject to the San Mateo County grading ordinance and State and Federal regulations under Section 1601-1603 of the CFGC and Section 404 of the Federal CWA. The mixed riparian corridor found along Butano Creek is considered a sensitive habitat by the San Mateo County Local Coastal Program (LCP) (San Mateo County 1998) and the County of San Mateo General Plan. Riparian habitat is recognized as a significant and limited resource due to the reduction of this habitat type of the last hundred years from urban and agricultural development.

Implementation of the proposed restoration activities would result in direct impacts and temporary disturbance to sensitive natural communities within the Project Area. Project activities would result in temporary disturbance to open water habitat, and permanent conversion of 12.6 acres of existing riparian, scrub and invasive grassland habitat to native grassland habitat. Approximately 7.7 acres of upland habitat will be temporarily disturbed during upland enhancement activities. Riparian (willow) and grassland habitat will also be temporarily disturbed during habitat enhancement activities.

The long-term effect of the project on natural communities would be beneficial as post construction conditions would more closely reflect historic habitat conditions that may have been present within the watershed. Disturbance to stream and riparian habitat is regulated by CDFW under CFGC 1600 Lake and Streambed Alteration Agreement (LSAA). The RCD would prepare a permit application and comply with all protective measures outlined in the LSAA for the project.

Short-term construction related impacts on natural communities would be avoided and minimized through implementation of measures outlined in the project permits, combined with implementation of BMPs provided in Table 2. In addition, Mitigation Measures BIO-8 and BIO-9 as described below would reduce the impact to less than significant. **Less than significant with mitigation**.

c) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, and coastal) through direct removal, filling, hydrological interruption, or other means?

Implementation of the project would result in direct impacts to 0.31 acres of open water habitat, which is federally protected and regulated by USACE and RWQCB. Temporary disturbance to open water habitat will be minimized through implementation of BMPs identified in Table 2 and with implementation of Mitigation Measure BIO-8 as described below. In addition to the measures listed in this IS/MND the RCD will obtain the appropriate regulatory permits through consultation with USACE, RWQCB and CDFW. All regulatory permits will contain appropriate minimization measures to reduce and/or avoid impacts to sensitive natural communities and federally protected aquatic habitat. The applicant will provide relevant information about the project site(s) to the appropriate regulatory agencies. The applicant will abide by all requirements contained in the Section 404/401 permit to ensure that there will not be a net loss of wetland function or values.

Impact BIO-8: Construction activities in open water may result in direct effects on open water habitat as a result of increased sedimentation rates and/or turbidity concentrations if fine sediment is mobilized within, or discharged to this resource. Increased sedimentation and turbidity may also adversely affect water quality and substrate composition. Temporary increases in turbidity levels would be minimized through installation of a turbidity curtain and implementation of Mitigation Measures BIO-8. **Less than significant with mitigation.**

Mitigation Measure BIO-8: Open Water Protective Measures

- The project applicant would implement the BMPs outlined in Table 2 to minimize stormwater runoff, erosion, and potential water quality impacts associated with construction activities. In addition, all contractors working in a capacity that could increase the potential for adverse water quality impacts shall receive training regarding the environmental sensitivity of the site and need to minimize impacts. Contractors shall be trained in implementation of stormwater BMPs for protection of water quality.

- No debris, rubbish, creosote-treated wood, soil, silt, sand, cement, concrete, or washings thereof, or other construction related materials or wastes, oil or petroleum products or other organic or earthen material shall be allowed to enter into, or be placed where it may be washed by rainfall or runoff into open water habitat and/or waters of the State. Any of these materials placed within or where they may enter waters shall be removed immediately. When operations are completed, any excess material shall be removed from the work area and any areas adjacent to the work area where such material may be washed into adjacent waters.

- During construction the contractor shall not dump any litter or construction debris within the riparian/stream zone. All such debris and waste shall be picked up daily and properly disposed of at an appropriate site.

- Any excavation necessary shall be completed from outside of wetlands, where feasible, by using an excavator or backhoe tractor, thereby limiting the driving of heavy equipment across wetlands.

- Prohibit vehicular and equipment refueling 100 feet from the edge of other wetlands, streams, or waterways. If refueling must be conducted closer to wetlands, construct a secondary containment area subject to review by the RCD and/or consulting biologist. Maintain spill prevention and cleanup equipment in refueling areas.

Impact BIO-9: Disturbance to seasonal wetland and freshwater marsh habitat during proposed project activities would improve ecological functionality of the pond and associated margin wetlands. Temporal loss of wetland habitat during construction will be avoided and minimized through implementation of BMPs described in Table 2, implementation of Mitigation Measure BIO-8 as described above, and implementation of Mitigation Measure BIO-9 as described below. **Less than significant with mitigation.**

Mitigation Measure BIO-9: Wetland Protective Measures

- Prior to the start of construction within areas containing sensitive biological resources, the biological monitor should delineate and conspicuously flag all sensitive aquatic resources to prevent impacts to

these resources. If required, setback or non-disturbance buffer zones around these resources should be established and monitored by a biologist.

- Construction activities nearby or within aquatic habitats should be limited to the maximum extent feasible.
- Any aquatic habitat that does not fall within the construction footprint should be flagged and avoided.
- Work within waters should be conducted during the dry season, when water is not flowing, to the extent possible.
- Worker environmental awareness training should be conducted for all construction crews and contractors. The education training should be conducted prior to starting work on the project and upon the arrival of any new worker. The training should include: locations of sensitive areas; possible fines for violations; environmental permits and regulatory compliance requirements including all relevant avoidance and mitigation measures, and required actions should sensitive species be encountered. Additional training should be conducted as needed, including morning "tailgate" sessions to update crews as they advance into sensitive areas for projects with multiple work areas. In addition, a record of all personnel trained during the project should be maintained for compliance verification.

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?

The project would result in improved conditions for the movement of native fish and wildlife species over the long term. The enhancement and restoration of wetland and upland habitat would have no effect on fish passage through the adjacent Butano Creek, nor would project activities interfere with movement of wildlife through the creek system. The proposed project would expand wetland habitat, which would have a beneficial effect on movement of SFGS and CRLF and improved conditions for other native wildlife species. Temporary disturbance to movement of native or resident species during implementation of restoration and enhancement activities would have minimal impact given the proportion of available suitable habitat in the immediate vicinity of project site. **Less than significant**.

The Project Area is actively grazed and maintained for agricultural uses. On-going maintenance activities proposed under this project would not change compared to the existing operations and use of the Project Area. Operation of the project would not interfere with the movements or migrations of fish or wildlife or impede use of a known wildlife nursery site because there would be no change to baseline operating conditions. **Less than significant.**

e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.

The proposed project is consistent with all local policies and/or ordinances. Mitigation Measures BIO-1 through BIO-9 are derived, in part, from PG&E's Bay Area Operations and Maintenance Habitat Conservation Plan (ICF 2017). The RCD will comply with the appropriate HCP measures provided in the PG&E HCP. These measures

have been fully vetted by appropriate conservation and regulatory agencies for project impacts on covered species. **Less than significant.**

CULTURAL RESOURCES / TRIBAL CULTURAL RESOURCES

Environmental Factors and Focused Questions for Determination of Environmental Impact	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
a) Cause a substantial adverse change in the significance of a historical resource as defined in § 15064.5.				X
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to § 15064.5.		X		
c) Disturb any human remains, including those interred outside of dedicated cemeteries.		X		
d) Cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code § 21074 as either: 1) 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, that is listed or eligible for listing on the California Register of Historical Resources, or on a local register of historical resources as defined in Public Resources Code § 5020.1(k), or 2) a resource determined by a lead agency, in its discretion and supported by substantial evidence, to be significant according to the historical register criteria in Public Resources Code § 5024.1 (c), and considering the significance of the resource to a California Native American tribe.				X

Comments:

CEQA requires lead agencies to determine if a project would have an adverse impact on a significant cultural resource (Public Resources Code § 21084, 21084.1, 21083.2). A resource can be a precontact or historic structure, object, site, or district, and is considered significant if:

- It is listed in or has been determined eligible for listing in the California Register of Historic Resources (CRHR);
- It is included in a local register of historical resources, as defined in Public Resources Code 5020.1(k);

- It has been identified as a significant in an historical resources survey, as defined in Public Resources Code 5024.1(g); or

- It is determined to be historically significant by the CEQA lead agency [CCR Title 14, §15064.5(a)].

The CRHR eligibility criteria are used to determine significance. A significant resource must meet one of the four criteria, as follows:

- The resource is associated with events that have made a significant contribution to the broad patterns or California's history and cultural heritage;

- The resource is associated with the lives of persons important in our past;

- The resource 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

- The resource has yielded, or may be likely to yield, information important in prehistory or history.

If a significant resource would be impacted, the project applicant must determine whether there is substantial evidence in the administrative record to support a finding of significant effect (§ 21080(e)). CEQA requires examination of mitigation measures or feasible project alternatives that would avoid or minimize any impacts or potential impacts.

Effective July 1, 2015, Assembly Bill 52 amended CEQA to mandate consultation with California Native American tribes during the CEQA process to determine whether or not the proposed project may have a significant impact on a Tribal Cultural Resource, and that this consideration be made separately from cultural and paleontological resources. Section 21073 of the Public Resources Code defines California Native American tribes as "a Native American tribe located in California that is on the contact list maintained by the Native American Heritage Commission (NAHC) for the purposes of Chapter 905 of the Statutes of 2004." This includes both federally and non–federally recognized tribes. Section 21074(a) of the Public Resource Code defines Tribal Cultural Resources for the purpose of CEQA as:

- Sites, features, places, cultural landscapes (geographically defined in terms of the size and scope), sacred places, and objects with cultural value to a California Native American tribe that are any of the following:

- Included or determined to be eligible for inclusion in the CRHR; and/or

- Included in a local register of historical resources as defined in subdivision (k) of § 5020.1; and/or

- 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 § 5024.1. In applying the criteria set forth in subdivision (c) of § 5024.1 for the purposes of this paragraph, the lead agency shall consider the significance of the resource to a California Native American tribe.

Because criteria listed above also meet the definition of a Historical Resource under CEQA, a Tribal Cultural Resource may also require additional consideration as a Historical Resource. Tribal Cultural Resources may or may not exhibit archaeological, cultural, or physical indicators.

AB 52 requires that CEQA lead agencies carry out consultation with tribes at the commencement of the CEQA process to identify Tribal Cultural Resources. Furthermore, because a significant effect on a Tribal Cultural Resource is considered a significant impact on the environment under CEQA, consultation is required to develop appropriate avoidance, impact minimization, and mitigation measures. Consultation is concluded when either the lead agency and tribes agree to appropriate mitigation measures to mitigate or avoid a significant effect, if a significant effect exists, or when a party, acting in good faith and after reasonable effort, concludes that mutual agreement cannot be reached (21080.3.2[b], whereby the lead agency uses its best judgement in requiring mitigation measures that avoid or minimize impact to the greatest extent feasible.

Methodology

On January 7, 2016 a record search of the database at the Northwest Information Center of the California Historical Resources Information System at Sonoma State University (NWIC File # 15-0821) was completed to determine if archaeological or historic resources are present within and adjacent to the Project area. An archaeological survey was conducted within and adjacent to Project Area by Mark Hylkema, RPA in July 2016 and again in February 2020 (Hylkema 2016; Hylkema 2020). The Area of Potential Effect included the entire project site, staging and access areas. Hylkema determined that two archaeological resources are present outside the Project area, approximately 100 meters south of Butano Creek. Hylkema prepared a Historic Properties Survey Report in support of the proposed project (Hylkema 2020). He concluded that although two significant ancestral Native American archaeological sites were found to exist with about 100 meters southwest of the project Area of Potential Effect (sites SMA-184 and SMA-185), neither are currently threatened or in any way involved with the proposed project. Furthermore, both sites are protected by an existing Environmentally Sensitive Area established on behalf of POST during a prior stream restoration project (Hylkema 2016).

In compliance with Section 106 of the NHPA, Hylkema prepared an Archaeological Survey Report (ASR) that included the analytical findings derived from minor subsurface archaeological testing, delineated site boundaries, and established the significance of these cultural resources (Hylkema 2015). As mentioned above, these two existing resources will not be impacted by the proposed project activities.

Additional archival research included examination of the library and project files. Sources of information included but were not limited to the current listings of properties on the National Register of Historic Places, California Historical Landmarks, California Register of Historical Resources, and California Points of Historical Interest.

Would the Project:

a) Cause a substantial adverse change in the significance of a historical resource as defined in § 15064.5.

Neither the literature review nor the archaeological survey found evidence of ancestral Native American cultural resources or historic archaeological resources within the project Area of Potential Effect (Hylkema 2020). Therefore, it is concluded that the project as proposed will not impact or otherwise affect any historical resources. **No Impact.**

b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to § 15064.5.

Impact CUL-1: There are no known archeological resources that would be impacted by project activities (Hylkema 2020). Because the project involves excavation and dirt moving activities there is a chance that archaeological resources may be discovered during project activities. For this reason, the RCD will provide training to all construction personnel on cultural resources identification. **Less than significant with mitigation.**

Mitigation Measure CUL-1: Conduct Identification Training and Stop Work if Archaeological Resources are Encountered During Construction

- The construction contractor shall participate in a cultural and paleontological resource identification training session by a qualified archaeologist in order to be aware of the potential resources that might be uncovered. If archaeological or paleontological resources are encountered during project construction, work shall be temporarily halted in the vicinity of the discovered materials and construction contractor shall avoid altering these materials and their context until a qualified archaeologist or paleontologist has evaluated the resource. Recommendations on how to treat the resource may include evaluation, preservation in place, archaeological test excavation and/or archaeological data recovery, and a draft and final report documenting such activities.

c) Disturb any human remains, including those interred outside of formal cemeteries?

Impact CUL-2: Excavation during project construction may disturb unrecorded Native American remains. Implementation of Mitigation Measure CUL-2 would reduce this potential impact. **Less than significant with mitigation.**

Mitigation Measure CUL-2: Stop Work if Human Remains are Discovered During Construction

If at any time during site preparation, excavation, or other ground disturbance associated with the proposed project, human remains are discovered, the construction contractor shall immediately cease and desist from all further site excavation and notify the RCD. The RCD shall notify the sheriff-coroner. If the coroner determines the remains are Native American, the coroner will contact the Native American Heritage Commission. The Native American Heritage Commission will identify the person or persons believed to be most likely descended from the deceased Native American. The most likely descendent makes recommendations regarding the treatment of the remains with appropriate dignity. Disturbance shall not resume until the significance of the human remains is determined and appropriate mitigations to preserve the resource on the site are established.

e) Cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code § 21074 as either:

1) 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, that is listed or eligible for listing on the California Register of Historical Resources, or on a local register of historical resources as defined in Public Resources Code § 5020.1(k), or

2) a resource determined by a lead agency, in its discretion and supported by substantial evidence, to be significant according to the historical register criteria in Public Resources Code § 5024.1 (c), and considering the significance of the resource to a California Native American tribe.

CEQA analyses must consider "tribal cultural values, as well as scientific and archaeological values when determining impacts and mitigation." Tribal Cultural Resources are defined as "sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American Tribe" that are either included or determined to be eligible for inclusion in the California Register of Historical Resources or local registers of historical resources.

The RCD is prepared to consult with California Native American tribes that are traditionally and culturally affiliated with the geographic area that the proposed project is within. To date, no tribe has contacted San Mateo RCD or POST. No other comments have been received as of the date of this report. **No Impact**.

ENERGY

Environmental Factors and Focused Questions for Determination of Environmental Impact	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?				X
b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?				X

Comments:

In 2018 former Governor Jerry Brown signed Senate Bill 100 committing California to obtaining 60% of its electric energy from carbon-free sources and 100% of electric energy coming from renewable sources by the year 2045. The former governor also signed an executive order establishing a target for the State to be carbon-neutral by 2045.

Would the Program:

a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?

During project construction, energy would be consumed to produce and transport construction materials. Energy used for the restoration activities would be a one-time, non-recoverable energy cost. Although measurable, the energy used for project construction would not require significant additional capacity nor significantly increase peak- or base-period demands for electricity and other forms of energy.

Operation and maintenance activities include management and removal of invasive species, which may require use of electric or gas powered small machinery. The upland habitat that will be enhanced during Project activities are also currently used for livestock grazing and grazing will continue in a manner that is consistent with and an important component of meeting the biological and ecological goals of this Project. Management and maintenance of the Project Area after enhancement activities would not significantly increase energy use compared to baseline conditions. **Less than significant**.

b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?

The proposed project consists of enhancing habitat for wildlife and is consistent with State goals for decreasing dependence on non-renewable sources of energy. Enhancing the Project Area under both options would not conflict with existing state or local plans for renewable energy. **No impact.**

GEOLOGY AND SOILS

Environmental Factors and Focused Questions for Determination of Environmental Impact	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving: i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42. ii) Strong seismic ground shaking. iii) Seismic-related ground failure, including liquefaction. iv) Landslides.				X
b) Result in substantial soil erosion or the loss of topsoil?			X	
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?			X	
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property.			X	
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water.				X
f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?		X		

Comments:

The 65-acre Project Area is located within the Central Coast subregion near the boundary of the San Francisco Bay Area subregion of the California Floristic Province in the Butano Creek watershed, which is part of the

Pescadero Creek watershed. The elevation ranges from 21 ft. to 425 ft. and like other central California coastal locations, the area experiences a maritime, Mediterranean climate characterized by cool, wet winters and mild, dry summers.

Before Butano Farms was owned by POST, the property was used for farming flax, artichokes, peas, and a cow-calf grazing. Currently, the property is used for farming and cattle grazing. In addition to pasture and cropland, a large portion of the Butano property is floodplain.

Soils within the Project Area consist of Tierra, Botella, Gazos, and Lobitos soils over Purisima Formation geology. The property has undergone chemical reactions from the ocean, sun exposure from south facing slopes, and various farm management practices in the past. The Conservation & Carbon Plan prepared for this analysis explains that the properties of the underlying geology in the area is prone to gullying.

Baseline monitoring of soil carbon conducted in 2015, supplemented with data from the NRCS Web Soil Survey, indicated that soil carbon levels range from 1.2 to 3.2% (in the 0-10 cm depth) and 1.2 to 2.2% in the 10-40 cm depth. The highest levels of soil carbon are in the eastern portions of Lemonade and northern section of Western Restoration pastures. The lowest soil carbon occurs at the easternmost portion of Eastern Restoration pasture, and the Fields.

Would the project:

a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death due to rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault?

The nearest active fault to the project site is the San Gregorio fault zone. The California Alquist-Priolo Earthquake Zoning Act mandates that the California Geological Survey identify rupture hazard zones near active fault lines. These rupture hazard zones, published on CGS maps, represent areas of substantial risk of surface rupture. According to these maps, the project site is not within or immediately adjacent to the CGS rupture hazard zones. In addition, proposed project would not expose people or habitable structures to potential substantial adverse effects due to rupture of a known earthquake fault, seismic groundshaking, liquefaction, or landslides because the project implementation features have been designed to Federal and State building standards. This reduces all potential hazards from seismic groundshaking, liquefaction or landslides. N**o impact.**

b) Result in substantial soil erosion or the loss of topsoil.

Proposed project activities include the following restoration actions aimed at enhancing both aquatic and upland habitat, as well as improving the quality of the soil:

- Excavate existing pond to increase the depth and area of open water;
- Remove selected patches of woody vegetation adjacent to the pond and grade a shallow open bench in transition areas between the open water and the adjacent uplands;
- Reduce erosion and sediment transport through creation of a sediment collection forebay upstream of the existing pond; and

- Restore grassland habitat within the pond's watershed through modifications to grazing regime, reduction of woody encroachment, treatment of invasive plants, application of soil amendments, and seeding with native grasses.

To further minimize on-going bank erosion along the pond edges caused by cattle, the proposed project will create areas for cattle to access the pond (drinking water source), or alternative water systems, which will distribute cattle across the landscape and reduce direct impacts to the pond. In addition, mulching will be utilized as a standard practice for improving land surfaces.

Construction activities involving soil disturbance during the excavation of the existing pond and the removal of selected patches of woody vegetation may as excavation, stockpiling, and grading could result in increased erosion. However, the overall purpose of the project is to reduce erosion through soil enhancement, therefore the minimal erosion that might occur will be off-set by the proposed enhanced soil measures and grassland maintenance.

Prior to construction, photo monitoring of the pond and upland areas will be completed to establish a baseline condition. Regular, frequent monitoring will occur regularly during the initial phase of project implementation to determine whether the project aligns with specifications established in designs and permit conditions. For the first five years following implementation, bi-annual monitoring will be conducted in the spring and fall and the attached photo monitoring and rapid assessment sheets. From six to 30 years following implementation monitoring will be conducted every other year. Monitoring results will allow the RCD to determine whether sediment management, vegetation management or other actions are necessary to meet the project's established goals. Due to the nature of the restoration-based project and implementation of these enhancement measures, impact to soil erosion or loss of topsoil is expected. **Less than significant**.

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

As the project focuses on enhancement measures and improvements as opposed to a development project, the proposed project would not affect the stability of the geologic unit or soil or result in on or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse. **Less than significant.**

d) Be located on expansive soil, as defined in Table 181-B of the Uniform Building Code (1994), creating substantial risks to life or property.

The project is not located on expansive soils. The restoration of upland habitat and the establishment of wetland habitat would not result in any significant adverse short- or long-term impacts related to geology, soils or seismicity and there would be no substantial risk to life or property. **Less than significant.**

e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water.

No septic tanks are proposed for the proposed project. **No impact.**

f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

As described in the cultural resources section, no cultural resources were found within the Project Area. However, given that the Project Area is currently an undeveloped and undisturbed parcel of land, there is the possibility that unique paleontological and/or geologic features could be accidentally discovered and/or directly or indirectly destroyed during ground-disturbing activities associated with restoration activities. However, implementation of Mitigation Measures CUL-1, CUL-2 as described under Cultural Resources will reduce potential impacts to paleontological resources that may be discovered. In addition, compliance with federal and State laws provide protection of paleontological resources at the site by requiring construction activities to cease in the event of discovery of paleontological resources. **Less than significant with mitigation.**

GREENHOUSE GAS

Environmental Factors and Focused Questions for Determination of Environmental Impact	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?			X	
b) Conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases?				X

Comments:

Gases that trap heat in the atmosphere are referred to as greenhouse gases (GHGs) because they capture heat radiated from the sun as it is reflected back into the atmosphere, much like a greenhouse does. The accumulation of GHGs has been implicated as the driving force for global climate change. The primary GHGs are carbon dioxide (CO2), methane (CH4), and nitrous oxide (N2O), ozone, and water vapor. While the presence of the primary GHGs in the atmosphere are naturally occurring, they are also emitted from human activities, accelerating the rate at which these compounds occur within earth's atmosphere.

There is international scientific consensus that human-caused increases in GHGs have and would continue to contribute to global warming. Potential global warming impacts in California may include, but are not limited to, loss in snow pack, sea level rise, more extreme heat days per year, more high ozone days, more large forest fires, and more drought years. Secondary effects are likely to include a global rise in sea level, impacts to agriculture, changes in disease vectors, and changes in habitat and biodiversity. California passed the California Global Warming Solutions Act of 2006 (Assembly Bill No. 32; California Health and Safety Code Division 25.5, Sections 38500, et seq., or AB 32), which requires CARB to design and implement emission limits, regulations, and other measures, such that statewide GHG emissions will be reduced to 1990 levels by 2020.

The BAAQMD is the primary agency responsible for air quality regulation in the nine-county San Francisco Bay Area Air Basin. As part of that role, the BAAQMD has prepared *CEQA Air Quality Guidelines* (May 2017) that provide CEQA thresholds of significance for operational GHG emissions from land use projects (i.e., 1,100 metric tons of CO2e per year, which is also considered the definition of a cumulatively considerable contribution to the global GHG burden and, therefore, of a significant cumulative impact), but has not defined thresholds for project construction GHG emissions. The Guidelines methodology and thresholds of significance have been used in this Initial Study's analysis of potential GHG impacts associated with the Project.

Would the Project:

a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

The CalEEMod model (Version 2016.3.2) was used to quantify GHG emissions associated with proposed project construction activities (Appendix B). The estimated construction GHG emissions would be 49.9 metric tons of

CO2e (for which there is no BAAQMD CEQA significance threshold). There would be no new operational GHG emissions after Project construction is complete. **Less than significant.**

b) Conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases?

Since there would be no permanent net new GHG contributed by the proposed project, it would be consistent with the GHG reduction targets adopted by the State of California. The project does not conflict with any plan, policy or regulation adopted for the purpose of reducing GHG emissions nor conflict with any BAAQMD or State policies to reduce GHG emissions. **No impact.**

HAZARDS AND HAZARDOUS MATERIALS

Environmental Factors and Focused Questions for Determination of Environmental Impact	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.			X	
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment.			X	
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within a quarter mile of an existing or proposed school.				X
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code § 65962.5 ("Cortese List," prepared by the California Integrated Waste Management Board) and, as a result, would it create a significant hazard to the public or the environment.				X
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the Project Area.				X
f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.			X	
g) Expose people or structures either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires.				X

Would the Project:

a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?

The proposed project would not create a significant hazard to the public or the environment. No routine transportation or disposals of hazardous materials are proposed. However, during construction, fuel would be used at the project site and re-fueling may occur within the limits of the staging areas. Implementation of the project-wide BMPs (Table 2) by the construction contractor would ensure impacts from hazardous materials are **less than significant**.

b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?

Construction activities would involve the use of certain potentially hazardous materials such as fuels as described above. These materials would be used according to manufacturer's specifications and would be contained within vessels engineered for safe storage. Storage of large quantities of these materials at the construction site is not anticipated. The RCD would require their construction contractor to prepare a Health and Safety Plan that includes a project-specific contingency plan for hazardous materials and waste operations before construction activities can begin. Preparation and implementation of the Health and Safety Plan would ensure impacts from hazardous materials releases are controlled. **Less than significant**.

c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within a quarter mile of an existing or proposed school?

The proposed project is not located within one-quarter mile of an existing or proposed school. The nearest school, Pescadero High School, is approximately .56 mile northeast of the project site. At this distance, any accidental emissions of hazardous materials would not be expected to pose a threat. **No impact**.

d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code § 65962.5 ("Cortese List," prepared by the California Integrated Waste Management Board) and, as a result, would it create a significant hazard to the public or the environment?

The proposed project is not included on a list of hazardous materials sites compiled pursuant to Government Code § 65962.5, which is DTSC's Hazardous Waste and Substances Site List (Cortese List) (California Department of Toxic Substances Control 2019) and would not create a significant hazard to the public or the environment. The closest State Response Site is at Los Altos Cleaners in Lost Altos off of Highway 280, approximately 25 miles east of the project site (EnviroStor website 2019).

As described under b) above, the RCD will require their construction contractor prepare and submit a Health and Safety Plan, with specific provisions to protect both workers and the public during construction. **No impact.**

e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the Project Area?

The proposed project is not located within two miles of a public airport or public use airport. The Half Moon Bay Airport is located 20 miles north of the project location. The closest private airstrip is the Bonny Doon Village Airport, which is located approximately 13 miles south of the project site. The project site is not shown in the San Mateo County's Safety Compatibility Zones due to the distance between the project site and existing airports. There would be no airport-related safety hazard. **No impact.**

f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

The proposed project would not conflict with implementation of the County of San Mateo Emergency Operations Plan (San Mateo County 2015). The San Mateo County Fire Department headquarters is located 1.2 miles NW of the project site, on Pescadero Creek Road. The proposed project would not be expected to interfere with an emergency response plan or emergency evacuation plan. **Less than significant.**

g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?

According to San Mateo County's Fire Hazard Severity Zones Map located on the County website, the project site is located in an area designated as "Other Moderate". This area is less susceptible to fire because of the surrounding vegetation and often, the increased response times of firefighting agencies. The project would not alter the existing level of wildfire risk and therefore would not expose people or structures to increased fire hazards. **No impact.**

HYDROLOGY AND WATER QUALITY

Environmental Factors and Focused Questions for Determination of Environmental Impact	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality.			X	
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin.				X
c) Substantially alter the existing drainage pattern of the area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would				
i) Result in substantial erosion or siltation on- or off-site.			X	
ii) Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site.				X
iii) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff.			X	
iv) Impede or redirect flood flows.			X	
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation.				X

Comments:

A long-term goal of the proposed project is to minimize on-going erosion and siltation of the aquatic habitat within the Project Area. The Project Area is adjacent to the Butano Creek Floodplain Restoration Project site, a recently competed San Mateo RCD, USDA Natural Resources Conservation Service and POST habitat enhancement project that reconnected 100 acres of historic floodplain to the Butano Creek channel. Butano Creek is south of the Project area and generally flows east to west from the Santa Cruz Mountains to Pescadero Marsh – which is approximately 1.1 mile west-northwest of the Project – and then to the Pacific Ocean, which is approximately 2 miles west of the Project area. San Mateo County is currently drafting a county-wide flood emergency preparedness and response program, in collaboration with the Sheriff's Office of Emergency Services. When complete, the plan will include public outreach and training, upgrade and expansion of the flood warning system, and the creation of updated and new planning documents that address site-specific and county-wide flood hazards (San Mateo County 2019).

Would the Project:

a) Violate any water quality standards or waste discharge requirements?

The proposed project would not contribute a substantial source of waste discharge into any waters within the Project Area. Pond excavation and in-water construction activities would be conducted using equipment staged in upland areas (i.e., no heavy equipment would enter channels), construction equipment could release contaminants such as oil, grease, and fuel into adjacent water bodies, which could degrade water quality and potentially violate water quality standards for specific chemicals, dissolved oxygen, oil and grease, suspended sediment or toxicity. This impact would be reduced to less than significant with implementation of the BMPs provided in Table 2. **Less than significant.**

Pescadero Creek is listed on the impaired waters list for sedimentation and the proposed project will ultimately result in improved water quality conditions by reducing erosion and sedimentation. No water quality standards or waste discharge requirements would be violated. Therefore, this project would have a beneficial effect on water quality. **Less than significant.**

b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?

The proposed project would not deplete groundwater supplies or interfere substantially with groundwater recharge. **No impact.**

c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or through the addition of impervious surfaces, in a manner which would:

i) Result in substantial erosion or siltation on- or off-site?

The proposed project would reduce transport of eroded upland sediment into the existing 1 acre pond and adjacent Butano Creek through creation of a forebay and sediment catchment basins. This system will capture large sediment size particles (i.e. sand) before they reach the pond and adjacent aquatic habitat. In upland

areas within the drainage area, the project includes soil management practices like prescribed grazing, mulching and seeding or planting; all of which will improve soil health and further reduce erosion rates.

During construction, siltation and erosion will be avoided through implementation of BMPs listed in Table 2. Thus, implementation of the project will reduce erosion throughout the Project Area and will ultimately result in a beneficial effect on water quality within the watershed. **Less than significant.**

ii) Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?

Implementation of the proposed project would improve the drainage pattern throughout the site with a series of benches and berms that will minimize sediment flowing downstream into the existing pond and adjacent Pescadero Creek. The proposed project would improve existing drainage patterns of the site and it would not increase the rate or amount of surface water runoff. The project would have a beneficial effect on drainage and function of the site. Therefore, the proposed project would not substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite. **Less than significant.**

iii) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?

The proposed project would not create or contribute runoff water that could exceed the capacity of existing or planned drainage systems. Implement the BMPs provided in Table 2 would guide the management and operation of construction activities to control and minimize the potential contribution of pollutants to stormwater runoff. The use of standard erosion control techniques during project construction activities would reduce the potential for any water quality impacts. **Less than significant**.

iv) Impede or redirect flood flows?

The project would not place any structures that would impede or redirect flood flows. As described in *ii* above, flows into Pescadero Creek would be minimized through creation of a series of benches and berms that will reduce sediment flowing from upland areas downstream into the existing pond. **Less than significant.**

d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?

Although the proposed project is located within the 100-year floodplain as defined by the Federal Emergency Management Agency (FEMA), the project does not risk release of pollutant due to project inundation because the Project Area consists of native habitats (FEMA 1997). The enhancement activities considered in this analysis would not expose users to pollutants in the event of a flood. Tsunamis are triggered in a body of water by a sudden movement, such as a large-scale slump or slide, which is often caused by earthquakes, movement of the oceans crust, or large explosions. Tsunamis have extremely long wave periods and wavelengths and can travel at great speeds. The potential of a tsunami to cause great damage to coastal communities depends on coastline orientation, coastline shape, and local bathymetry (Ingmanson and Wallace 1995). The proposed project would

not expose people to inundation by Tsunami waves, nor would a tsunami pose a significant threat to the proposed infrastructure. **No impact**.

LAND USE AND PLANNING

Environmental Factors and Focused Questions for Determination of Environmental Impact	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
a) Physically divide an established community.				X
b) Cause a significant environmental impact due to conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect.			X	

Comments:

The proposed project is consistent with San Mateo County's General Plan Policies for Vegetative, Water Fish and Wildlife Resources (San Mateo County 2013a). These policies describe the goals and policies regarding the development, management, and preservation of San Mateo County's natural resources, including areas required for plant and animal habitat or for ecological and scientific study. Butano Farms is part of the larger Cloverdale Coastal Ranch and is managed in accordance with several other management plans and programs. Implementation of the proposed project would be consistent with the conservation goals set forth under County policies and Cloverdale Coastal Ranch management plans.

Would the Project:

a) Physically divide an established community.

The project site currently consists of grazed agricultural lands and wildlife habitat. There are no neighborhoods adjacent to the Project Area. **No impact**.

b) Cause a significant environmental impact due to conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?

The guidelines of the Coastal Act and San Mateo County Local Coastal Plan commonly promote public beach access, the protection of the coastal aesthetic, coastal-dependent land uses centered on recreation and the visitor experience, and restoration and ongoing maintenance of sensitive species habitats (e.g., coastal wetlands and marine waters) (San Mateo County 2013b). The project does not interfere with beach access or involve recreational access. Therefore, the project would not be expected to conflict with any Coastal Act or San Mateo County LCP policy pertaining to access or recreation.

The proposed project would follow the existing aesthetic and would not degrade the quality of this State scenic resource. The project would not be expected to conflict with any Coastal Act or San Mateo County LCP policy pertaining to scenic or visual resources. Additional information on the proposed project's impact on scenic and visual resources is available in the Aesthetics subsection of this document.

The project site contains valuable habitat for a protected species (SFGS and CRLF) and therefore has limited land uses according to the Coastal Act. Land uses and actions typically permitted within sensitive habitat and wetland areas include coastal and resource-dependent uses, scientific research, and restoration and maintenance of natural physical resources (e.g. fish and wildlife). The purpose of the project is to maintain and improve the existing wildlife habitat. For these reasons, the project would not conflict with Coastal Act or policies pertaining to land uses within or adjacent to sensitive habitats and wetlands. Further discussion on the project's short-term impact on sensitive species and their habitats is available in the Biological Resources and Hydrology and Water Quality subsections of this document.

Implementation of the proposed project would not require land use plan or general plan amendments (San Mateo County 2013). For these reasons, the project would not conflict with any other local land use policies or ordinances. **Less than significant**.

MINERAL RESOURCES

Environmental Factors and Focused Questions for Determination of Environmental Impact	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state.				X
b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan.				X

Comments:

The California Geological Survey provides objective economic-geologic expertise to assist in the protection and development of mineral resources through the land-use planning process. This effort is mandated by the Surface Mining and Reclamation Act of 1975. The proposed project is not located in an area known to contain minerals that would be of value to the region or residents of the state (California Department of Conservation Division of Mines and Geology 2020).

Would the Project:

a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state.

There are no mines, mineral plants, oil, gas, or geothermal wells located at the project site. According to the *Generalized Mineral Land Classification Map of the Monterey Bay*, the proposed project site is not within a mineral resource zone. There are no significant mineral deposits present and it is not judged that a high likelihood exists for their presence. Therefore, the Project would not result in the loss of a known mineral resource. **No impact.**

b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan.

Locally important mineral resources are not delineated in any local land use plans for the project area, including the San Mateo General Plan. Implementation of the proposed project would not result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan. **No impact.**

NOISE

Environmental Factors and Focused Questions for Determination of Environmental Impact	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies.			X	
b) Generation of excessive groundborne vibration or groundborne noise levels.			X	
c) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the Project Area to excessive noise levels.				X

Comments:

Sound is created when vibrating objects produce pressure variations that move rapidly outward into the surrounding air. The more powerful the pressure variations, the louder the sound perceived by a listener. The decibel (dB) is the standard measure of loudness relative to the human threshold of perception. Noise is a sound or series of sounds that are intrusive, objectionable or disruptive to daily life. Many factors influence how a sound is perceived and whether it is considered disturbing to a listener; these include the physical characteristics of sound (e.g., loudness, pitch, duration, etc.) and other factors relating to the situation of the listener (e.g., the time of day when it occurs, the acuity of a listener's hearing, the activity of the listener during exposure, etc.). Environmental noise has many documented undesirable effects on human health and welfare, either psychological (e.g., annoyance and speech interference) or physiological (e.g., hearing impairment and sleep disturbance).

Just as vibrating objects radiate sound through the air, if they are in contact with the ground, they also radiate acoustical energy through the ground. If such an object is massive enough and/or close enough to an observer, the ground vibrations can be perceptible and, if the vibrations are strong enough, they can cause annoyance to the observer and, if still stronger, damage to buildings. Annoyance and structural damage correlate strongly with the velocity produced by the vibration source at receptor locations. The vibration metric most commonly used to correlate vibration levels with human annoyance and structural damage is the vibration decibel (VdB).

Environmental Setting

The project site is located in a rural, unincorporated area of San Mateo County about 0.75 miles southeast of the town of Pescadero. The predominant land uses around the project site, agricultural and open space, are not

noise-sensitive. The closest noise-sensitive uses (residential) are in the town of Pescadero, and there is a school (Pescadero High School) about 0.75 miles to the northwest.

Regulatory Setting

The San Mateo County General Plan contains the following noise control goals, objectives and definitions

GOALS AND OBJECTIVES

16.1 Strive Toward a Livable Noise Environment

- Strive toward an environment for all residents of San Mateo County which is free from unnecessary, annoying, and injurious noise.

16.2 Reduce Noise Impacts Through Noise/Land Use Compatibility and Noise Mitigation

- Reduce noise impacts within San Mateo County through measures which promote noise/land use compatibility and noise mitigation.

16.3 Promote Protection of Noise Sensitive Land Uses and Noise Reduction in Quiet Areas and Noise Impact Areas

- Promote measures which: (1) protect noise sensitive land uses, (2) preserve and protect existing quiet areas, especially those which contain noise sensitive land uses, and (3) promote noise compatibility in Noise Impact Areas (i.e., defined as areas experiencing noise levels of 60 dB CNEL[1] or greater).

Noise emissions within the County of San Mateo are also regulated by the County Code, Chapter 4.88 – Noise Control:

330 - Exterior noise standards.

- It is unlawful for any person at any location within the unincorporated area of the County to create any noise, or to allow the creation of any noise on property owned, leased, occupied or otherwise controlled by such person which causes the exterior noise level when measured at any single or multiple family residence, school, hospital, church, public library situated in either the incorporated or unincorporated area to exceed the noise level standards as set forth in NOISE Table-I following:

[1] CNEL, the Community Noise Equivalent Level, is a 24–hour average sound level with a 5 dB "penalty" added to sound levels occurring in the evening between 7:00 p.m. and 10:00 p.m., and a 10 dB penalty added to sound levels occurring between 10:00 p.m. and 7:00 a.m.

Table NOISE-I. Receiving Land Use: Single or Multiple Family Residence, School, Hospital, Church, or Public Library Properties

NOISE LEVEL STANDARDS, dB			
Category	Cumulative Number of Minutes in any one-hour time period	Daytime 7 A.M.—10 P.M.	Nighttime 10 P.M.—7 A.M.
1	30	55	50
2	15	60	55
3	5	65	60
4	1	70	65
5	0	75	70

The County Code contains the following exemption for construction noise (Section 4.88.360):

The following activities shall be exempted from the provisions of this chapter:

- Noise sources associated with demolition, construction, repair, remodeling, or grading of any real property, provided said activities do not take place between the hours of 6:00 P.M. and 7:00 A.M. weekdays, 5:00 P.M. and 9:00 A.M. on Saturdays or at any time on Sundays, Thanksgiving and Christmas.

Would the Project:

a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies.

The Federal Highway Administration (FHWA) Roadway Construction Noise Model (RCNM) was used to estimate the noise levels at various distances from the locus of construction work produced by the project working group consisting of a dump truck, a dozer, an excavator, and a front-end loader, with results as displayed **NOISE Table-2**.

Table NOISE-2. RCNM Modeled Project Construction Noise Levels

Distance from Area of Construction Activity (feet)	Average Construction Daytime Noise Level L_{eq} (dBA)	Maximum Construction Daytime Noise Level Lmax (dBA)
50	82	82
100	76	76
200	70	70
400	64	64
800	58	58
1600	52	52

At distances of 1200 feet and greater, the noise levels produced by the project working group would fall below the levels deemed significant under the County standards established in the County Code (see NOISE Table-1 above). Further, project working hours will be with the limits established by the County Code for construction activity. **Less than Significant.**

b) Generation of excessive groundborne vibration or groundborne noise levels.

There are no standards in the San Mateo General Plan or County Code for avoiding/reducing annoyance or structural damage from vibration impacts. It is most common for government agencies to rely on assessment methodologies, impact standards and vibration-reduction strategies developed by the Federal Transit Administration (FTA) in *Transit Noise and Vibration Impact Assessment* (FTA 2006). According to the FTA, limiting vibration levels to 94 VdB or less would avoid structural damage to wood and masonry buildings (which are typical of most residential uses), while limiting vibration levels to 80 VdB or less at residential buildings would avoid significant annoyance to the occupants.

The most vibration-intensive piece of construction equipment is a pile driver, which can introduce a substantial potential for annoyance at sensitive receptors within 1000 feet; other types of construction equipment are far less vibration-intensive. Yet all construction equipment has the potential for causing annoyance and/or structural damage if the construction activity is too close to vibration-sensitive receptors. But the project site is about 4000 feet from the nearest local vibration-sensitive receptor. According to FTA vibration screening methodology, this would be far outside the range where there would be a substantial potential for on-going annoyance or structural damage from project construction vibration**. Less than significant**.

c) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the Project Area to excessive noise levels?

The proposed project is not located within two miles of a public airport or public use airport. The closest major airport to the project site is San Jose International Airport, about 25 miles to the east. **Less than significant.**

POPULATION AND HOUSING

Environmental Factors and Focused Questions for Determination of Environmental Impact	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure).				X
b) Displace substantial numbers of existing housing, units, necessitating the construction of replacement housing elsewhere.				X

Would the Project:

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

The proposed project would not induce any population growth in the area because the project does not propose any physical or regulatory change that would remove a restriction to or encourage population growth in an area. **No impact**.

b) Displace substantial numbers of existing housing, units, necessitating the construction of replacement housing elsewhere?

The proposed project would not displace any existing housing or necessitate the construction of replacement housing elsewhere. **No impact**.

PUBLIC SERVICES

Environmental Factors and Focused Questions for Determination of Environmental Impact	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
a) Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the following public services:				
i) Fire protection.				X
ii) Police protection.				X
iii) Schools.				X
iv) Parks.				X
v) Other public facilities.				X

Would the Project:

a) Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the following public services: i) fire protection; ii) police protection; iii) schools; iv) parks; or v) other public facilities?

The proposed project would enhance habitat for protected wildlife species. No physical or environmental impacts associated with the provision of new or altered governmental facilities would result. **No impact**.

RECREATION

Environmental Factors and Focused Questions for Determination of Environmental Impact	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
a) Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated.				X
b) Include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment.				X

Comments:

The Project Area currently does not have any recreational facilities or public access facilities and will not in the future. The Butano Farms Project Area is grazed and will continue to be grazed for the long term. Public access is not conducive to the ecological goals of the project.

Would the Project:

a) Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?

The Project Area does not provide recreational access or facilities to the public. **No impact.**

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

The Project Area does not currently provide recreational access or facilities not does the project include construction of such facilities. **No impact.**

TRANSPORTATION AND TRAFFIC

Environmental Factors and Focused Questions for Determination of Environmental Impact	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
a) Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities?			X	
b) Conflict or be inconsistent with CEQA Guidelines § 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	

Would the Project:

a) Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities?

Traffic generating construction activities related to project construction would consist of daily arrival and departure of construction workers at the site and trucks hauling equipment and materials to and from the project site for approximately 10 weeks during the summer and fall. Once on the site, construction equipment and vehicles would have no adverse impact on traffic circulation systems. This temporary increase in traffic would not result in any exceedance of the capacity of existing circulation systems as designated in any general plan or ordinance. **Less than significant.**

b) Conflict or be inconsistent with CEQA Guidelines § 15064.3(b), which pertains to vehicle miles travelled?

In July 2020 CEQA Guidelines require project proponents to evaluate impacts based on vehicle miles traveled (VMT) and § 15064.3 sets for the criteria and methodology for evaluating these impacts. The proposed project would generate inherently low vehicles miles traveled (VMT) for potential increase in visitors accessing the improved Project Area post-construction and short term increases of VMT during construction activities. Impacts associated with construction-related emissions have been evaluated and mitigated in the Air Quality and Greenhouse Gas subsections of this document and therefore does not require additional transportation evaluation or analyses. Proposed construction hours would be between 8:00 a.m. and 5:00 p.m. Monday through Friday to be consistent with local municipal codes. The RCD would obtain all necessary local road encroachment permits prior to construction and would comply with all the applicable conditions of approval. The project is consistent with SB 743. **Less than significant.**

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

The proposed project would not change the design or alignment of nearby roadways and would not introduce vehicles that are not already travelling on area roads. Construction-generated traffic to and from the site would be temporary. The number of construction trucks on the project site would be very limited and existing access roads and roadways can sufficiently handle the minor increase in traffic associated with project construction. **Less than significant.**

d) Result in inadequate emergency access?

Similar to c) above, the construction contractor would establish methods for maintaining traffic flow and minimizing disruption to emergency vehicle access to land uses within the vicinity of the Project Area. . **Less than significant**.

UTILITIES AND SERVICE SYSTEMS

Environmental Factors and Focused Questions for Determination of Environmental Impact	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
a) Require or result in the relocation or construction of new or expanded water or wastewater treatment, or storm water drainage, electric power, natural gas, or telecommunication facilities, the construction of which could cause significant environmental effects.				X
b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years?				X
c) Result in a determination by the wastewater treatment provider, which serves or may serve the project that it has inadequate capacity to serve the project's projected demand in addition to the provider's existing commitments.				X
d) Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals.				X
e) Comply with federal, state, and local statutes and regulations related to solid waste.				X

Would the Project:

a) Require or result in the relocation or construction of new or expanded water or wastewater treatment, or storm water drainage, electric power, natural gas, or telecommunication facilities, the construction of which could cause significant environmental effects?

The proposed project would not result in the relocation or construction of new or expanded water or wastewater treatment, or storm water drainage, electric power, natural gas, or telecommunication facilities. It would be the responsibility of the construction contractor to obtain water that would be used for dust control during construction activities. The contractor would obtain water from an off-site source and truck it to the Project Area. **No impact.**

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

The proposed Program does not require water entitlements. **No impact.**

c) Result in a determination by the wastewater treatment provider, which serves or may serve the project that it has inadequate capacity to serve the project's projected demand in addition to the provider's existing commitments?

The proposed project would not require wastewater treatment and therefore would have no impact on wastewater demands or providers. **No impact.**

d) Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals.

The proposed project would not generate solid waste. While construction workers may generate solid waste, it would not be in excess or of State or local standards, or in excess of the capacity of local infrastructure. **No impact.**

e) Comply with federal, state, and local statutes and regulations related to solid waste?

The proposed project and project contractor would be required to comply with all pertinent regulations regarding the disposal of solid waste generated by construction activities. **No impact**.

WILDFIRE

Environmental Factors and Focused Questions for Determination of Environmental Impact	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
Is the project located in or near state responsibility areas or lands classified as high fire hazard severity zones? If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:				
a) Substantially impair an adopted emergency response plan or emergency evacuation plan?				X
b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?			X	
c) Require the installation 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
d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?			X	

Would the Project:

a) Substantially impair an adopted emergency response plan or emergency evacuation plan?

The proposed project would not conflict with implementation of San Mateo County Emergency Operations Plan (San Mateo County 2015). No impact to an adopted emergency response plan or evacuation Plan would occur from project implementation. **No impact.**

b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?

Modifications to the landscape as proposed will not increase risk of wildfire and the proposed project is not located in an area designated by the County of San Mateo as a high severity Fire Hazard Area. The project design

incorporates all applicable fire safety code requirements and includes fire protection devices as required by the local fire agency (San Mateo County 2015). **Less than significant.**

c) Require the installation 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?

Implementation of the proposed project will not result in new roads, trails, or utilities being installed and therefore, will not result in new infrastructure that could exacerbate fire risk or result in on-going impacts to the environment. **No impact.**

d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?

Implementation of the project will not result in post-fire slope instability or increase risk of downstream flooding or risk of landslides. Project activities would improve long-term conditions for Butano Creek and downstream Pescadero Marsh by creating a system of berms and wetlands aimed at decreasing large flows and minimizing sediment entering Butano Creek. **Less than significant.**

MANDATORY FINDINGS OF SIGNIFICANCE

Environmental Factors and Focused Questions for Determination of Environmental Impact	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major Periods of California history or prehistory?			X	
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?			X	
c) Does the project have environmental effects, which will cause substantial adverse effects on human beings, either directly or indirectly?			X	

Would the Project:

a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major Periods of California history or prehistory?

Implementation of the proposed project would benefit the quality of the environment; improve habitat for SFGS and CRLF as well as other upland and aquatic species within the vicinity of Butano Farms. None of the activities proposed under the project would eliminate important examples of California history or prehistory. Temporary impacts associated with construction during proposed activities would be short term and localized. Furthermore, all potentially significant impacts would be reduced to a less-than-significant level with the mitigation measures described in the resource sections of this IS/MND and through implementation of measures required by regulatory agencies during the permitting phase of the project. No long-term adverse impacts were identified and construction and operation of the proposed project would not permanently degrade the quality of the environment. **Less than significant.**

b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?

CEQA Guidelines (§ 15355[b]) define cumulative impacts as those resulting from closely related past, present, and reasonably foreseeable projects. CEQA Guidelines (§ 15125[a]) also define the analytical baseline as the conditions on the ground at the time that the Initial Study is prepared. Impacts of past projects are generally considered as part of these baseline conditions.

Restoration and enhancement activities associated with the proposed project could potentially contribute to cumulative impacts in conjunction with other projects in the vicinity of Butano Farms Project Area if the projects were to occur in the same location and at the same time. It is unlikely the propose project would result in significant cumulative impacts due to the short duration of proposed project (10 weeks) and the fact that post construction there would be no change to operation of the Project Area. Further, any public projects scheduled for the region at the same time would be held to the same environmental impact evaluation and compliance regulations as the proposed project. Finally, all temporary (construction-generated) impacts to biological resources, cultural resources, and paleontological resources, would be fully mitigated through measures identified in this IS/MND. **Less than significant.**

c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?

In general, construction sites present many hazards that have the potential to adversely affect human beings either through impaired air quality, construction noise and vibration or traffic impacts. These hazards are temporary, lasting only for the duration of project construction activities (approximately 50 work days). To mitigate for the potential short-term impacts which may cause some substantial adverse effects on human

beings, the RCD has committed to BMPs listed in Table 2 and implementation of all resource-specific mitigation measures. As a result of this evaluation, there were determined to be no potentially significant effects to human beings. The proposed project would improve habitat conditions for SFGS. As a result of this evaluation, there is no substantial evidence that the proposed project would have adverse effects to human beings. Therefore, this project has been determined not to meet this Mandatory Finding of Significance. **Less than significant.**

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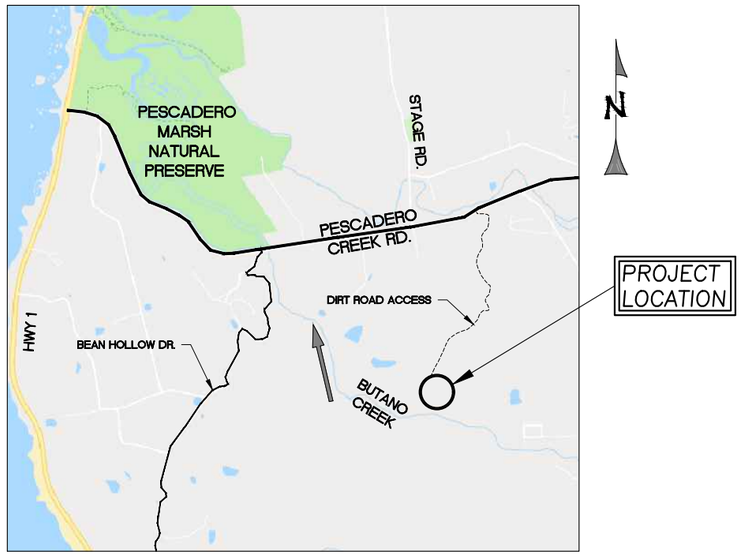
Geoffrey Hornek	Independent Environmental Scientist and Engineer	Air Quality, Greenhouse Gas, Transportation and Traffic Impact Assessments
Laura Garwood	Independent Editor	Word Processing and Editing

Appendix A

BUTANO POND MITIGATION PROJECT

DRAFT 65% DESIGN SUBMITTAL



VICINITY MAP

N.T.S. (GOOGLE)

REGIONAL MAP

N.T.S. (GOOGLE)

GENERAL NOTES

1. TOPOGRAPHIC MAPPING WAS PERFORMED BY:
   WATERWAYS CONSULTING, INC.
   509A SWIFT STREET
   SANTA CRUZ, CA 95060
   SURVEY DATE; OCTOBER 30, 2018
   OCTOBER 31, 2018
   NOVEMBER 1, 2018
   NOVEMBER 27, 2018
2. ELEVATION DATUM: GPS TIES TO NAVD88 USING THE LEICA GEOSYSTEMS SMARTNET GLOBAL NAVIGATION SATELLITE SYSTEM (GNSS) NETWORK.
3. BASIS OF BEARINGS: GPS TIES TO NAD83 CALIFORNIA STATE PLANE, ZONE 3 USING THE LEICA GEOSYSTEMS SMARTNET GLOBAL NAVIGATION SATELLITE SYSTEM (GNSS) NETWORK.
4. CONTOUR INTERVAL IS ONE FOOT. ELEVATIONS AND DISTANCES SHOWN ARE IN DECIMAL FEET.
5. THIS IS NOT A BOUNDARY SURVEY. PROPERTY LINES ARE NOT SHOWN HEREON.
6. ALL CONSTRUCTION AND MATERIALS SHALL CONFORM TO THE 2018 EDITION OF THE STATE OF CALIFORNIA STANDARD SPECIFICATIONS, ISSUED BY THE DEPARTMENT OF TRANSPORTATION (HEREAFTER REFERRED TO AS "STANDARD SPECIFICATIONS").
7. THESE DESIGNS ARE INCOMPLETE WITHOUT THE FINAL STAMPED TECHNICAL SPECIFICATIONS PREPARED BY WATERWAYS CONSULTING, INC. REFER TO TECHNICAL SPECIFICATIONS FOR DETAILS NOT SHOWN HEREON.

ABBREVIATIONS

AVG.	AVERAGE
CC	CONCRETE
CY	CUBIC YARDS
DIA.	DIAMETER
E	EXISTING
EG	EXISTING GROUND
ELEV.	ELEVATION
DI	DRAINAGE INLET
FG	FINISHED GRADE
FT	FEET
INV	INVERT
MIN	MINIMUM
N	NEW
NIC	NOT IN CONTRACT
N.T.S.	NOT TO SCALE
O.C.	ON CENTER
RC	RELATIVE COMPACTION
RSP	ROCK SLOPE PROTECTION
SFGS	SAN FRANCISCO GARTER SNAKE
SPK	SPIKE
SQ.FT.	SQUARE FOOT
T	TREE
T.B.D.	TO BE DETERMINED
TYP	TYPICAL
UNK	UNKNOWN
WSE	WATER SURFACE ELEVATION
YR	YEAR

TREE SPECIES

A	ALDER
BM	BIGLEAF MAPLE
C	COTTONWOOD
CYP	CYPRESS
DF	DOUGLAS FIR
EUC	EUCALYPTUS
M	MAPLE
MAD	MADRONE
O	OAK
R	REDWOOD
RC	RED CEDAR
T	TREE (SPECIES UNKNOWN)
W	WILLOW
WF	WHITE FIR

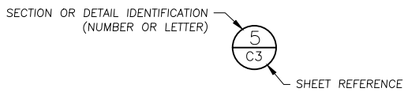
PROJECT DESCRIPTION

THESE DRAWINGS PROVIDE 65% DESIGN LEVEL DETAILS FOR CREATION OF TWO FRESHWATER PONDS AND THE ENHANCEMENT OF AN EXISTING FRESHWATER POND IN PESCADERO, CALIFORNIA.

WORK SHALL CONSIST OF DEVELOPING TEMPORARY ACCESS, CLEARING OF VEGETATION WITHIN THE GRADING FOOTPRINT, EXCAVATION OF NEW PONDS, PLACEMENT OF EXCESS SOILS, AND THINNING OF RIPARIAN VEGETATION ALONG PERIMETER OF THE EXISTING WETLAND AREA TO CREATE IMPROVED HABITAT FOR SFGS.

SHEET INDEX

SECTION AND DETAIL CONVENTION



** CALL BEFORE YOU DIG **

CONTACT UNDERGROUND SERVICE ALERT (USA)
PRIOR TO ANY CONSTRUCTION WORK 1-800-227-2600

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WWW.WATWAYS.COM

PRELIMINARY
NOT FOR CONSTRUCTION

PREPARED AT THE REQUEST OF:
SAN MATEO RESOURCE CONCERVATION DISTRICT

COVER

BUTANO POND MITIGATION PROJECT
DRAFT 65% DESIGN

DESIGNED BY:	M.W.
DRAWN BY:	C.H./D.R.
CHECKED BY:	M.W.W.
DATE:	9/24/19
JOB NO.:	18-058

BAR IS ONE INCH ON ORIGINAL DRAWING, ADJUST SCALES FOR REDUCED PLOTS
0 1"

PLACE FILL TO CREATE BENCH
AREA AT 10H:1V SLOPE
AREA = 24,950 SF (0.52 ACRES)

(N) DEEP WATER POND
AREA = 13,400 S.F. (0.31 ACRES)

TRIM AND THIN WILLOW TREE CANOPY
TO PROVIDE GRASSLAND DOMINATED
AREA AND CATTLE ACCESS
AREA = 14,950 S.F. (0.34 ACRES)

LIMITS OF WATERWAYS
TOPOGRAPHIC SURVEY

(N) SHALLOW POND
AREA = 3,300 S.F. (0.08 ACRES)

(E) TRIBUTARY
FLOWLINE TO
NORTH EAST.

30" TREE

EDGE OF (E)
TULE (TYP.)

(E) TREE
TO REMAIN
(TYP.)

(N) SWALE

(N) WETLAND BENCH
AREA = 8,100 S.F. (018 ACRES)

(N) SHALLOW POND
AREA = 4,600 S.F. (0.11 ACRES)

(N) SEDIMENT
RETENTION BERM (TYP.)

WETLAND BOUNDARY
PER ARMY CORPS

WETLAND BOUNDARY PER
COASTAL COMMISSION

BUTANO CREEK

LEGEND

- EXISTING CONTOURS
- EXISTING LIDAR BASED CONTOURS
- EXISTING FLOW LINE
- SURVEY CONTROL POINT
- EXISTING FENCE
- APPROXIMATE EDGE OF WILLOWS
- APPROXIMATE EDGE OF TULE
- 12"A — EXISTING TREE TO REMAIN
- SP — LOCATION OF STAFF PLATE AND WATER LEVEL RECORDER

SITE OVERVIEW
SCALE: 1" = 40'

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PREPARED AT THE REQUEST OF:
SAN MATEO RESOURCE
CONSERVATION DISTRICT

SITE OVERVIEW

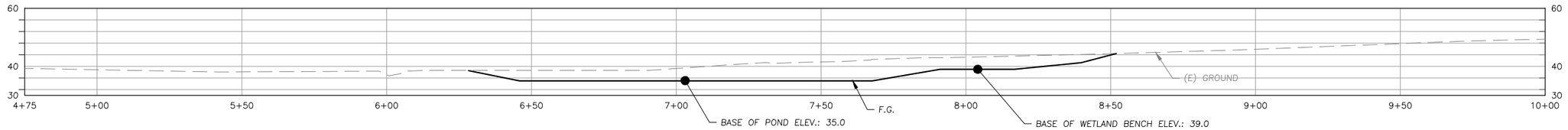
BUTANO POND
MITIGATION PROJECT

DRAFT 65% DESIGN

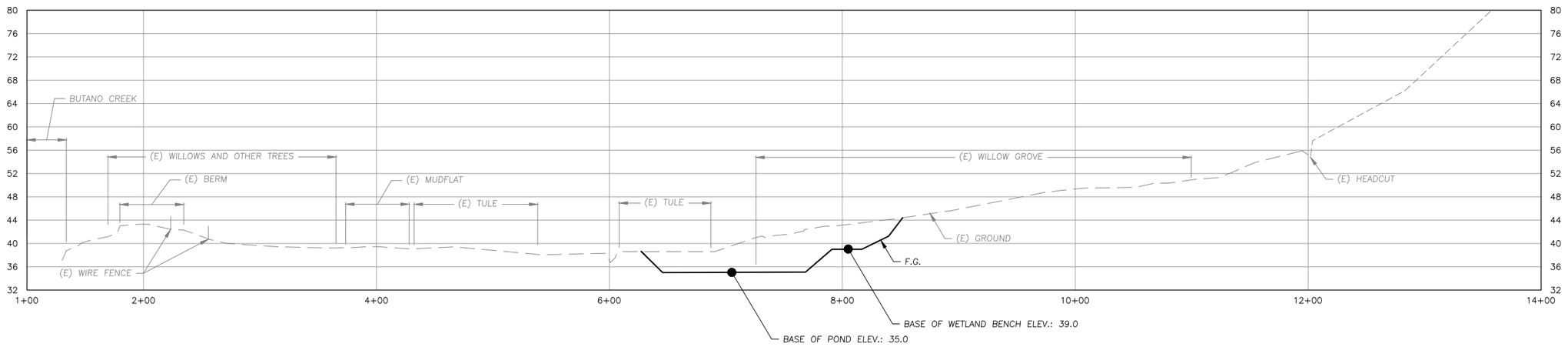
DESIGNED BY:	M.W.
DRAWN BY:	C.H./D.R.
CHECKED BY:	M.W.W.
DATE:	9/24/19
JOB NO.:	18-058

BAR IS ONE INCH ON ORIGINAL DRAWING, ADJUST SCALES FOR REDUCED PLOTS

0 — 1"



PROFILE
SCALE: 1"=20



PROFILE
SCALE: H:1" = 50'; V:1" = 10'

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PREPARED AT THE REQUEST OF:
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CONCERVATION DISTRICT

PROFILE

BUTANO POND
MITIGATION PROJECT

DRAFT 65% DESIGN

DESIGNED BY:	M.W.
DRAWN BY:	C.H./D.R.
CHECKED BY:	M.W.W.
DATE:	9/24/19
JOB NO.:	18-058

BAR IS ONE INCH ON ORIGINAL DRAWING, ADJUST SCALES FOR REDUCED PLOTS
0 1"

(E) HEADCUT

PLACE EXCAVATED MATERIAL TO CONSTRUCT BENCH AND UPLAND RESTORATION AREA.

(N) DEEP WATER POND
BASE OF POND: 35.0'

EDGE OF (E) TULE (TYP.)

(N) SHALLOW POND
DEPTH 18" (TYP.)

(N) WETLAND BENCH
BASE ELEV.: 39.0'

MINIMIZE SITE DISTURBANCE OUTSIDE OF GRADED AREAS. RETAIN WILLOWS AS FEASIBLE AND TRANSPLANT WILLOWS THAT ARE REMOVED FOR GRADING.

(N) SWALE

(N) SHALLOW POND
DEPTH 18" (TYP.)

LEAVE GAPS IN BERMS TO ALLOW FOR WATER PASSAGE

SEDIMENT RETENTION BERM (1/C6)

(N) SEDIMENT RETENTION BERM. KEY END INTO VALLEY WALLS (TYP.). PLACE EXCAVATED MATERIAL TO CONSTRUCT BERMS.

LEGEND

- EXISTING CONTOURS
- FINISHED GRADE CONTOURS
- EXISTING LIDAR BASED CONTOURS
- EXISTING FLOW LINE
- SURVEY CONTROL POINT
- EXISTING FENCE
- APPROXIMATE EDGE OF WILLOWS
- APPROXIMATE EDGE OF TULE
- EXISTING TREE TO REMAIN
- LOCATION OF STAFF PLATE AND WATER LEVEL RECORDER

SITE GRADING PLAN

SCALE: 1" = 20'

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PRELIMINARY

NOT FOR CONSTRUCTION

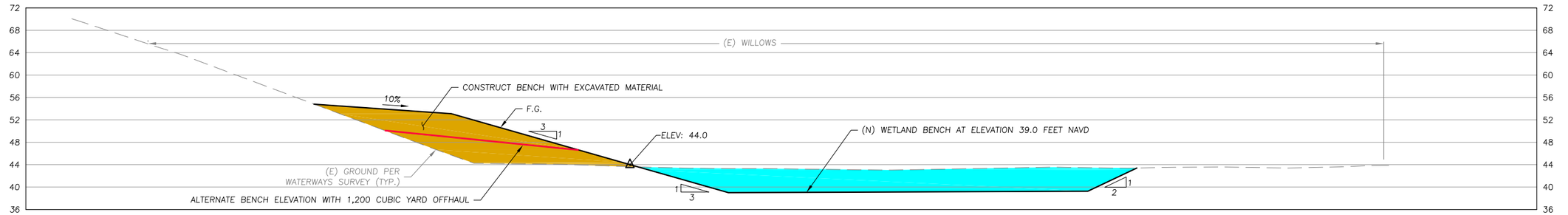
PREPARED AT THE REQUEST OF:
SAN MATEO RESOURCE
CONSERVATION DISTRICT

SITE GRADING PLAN

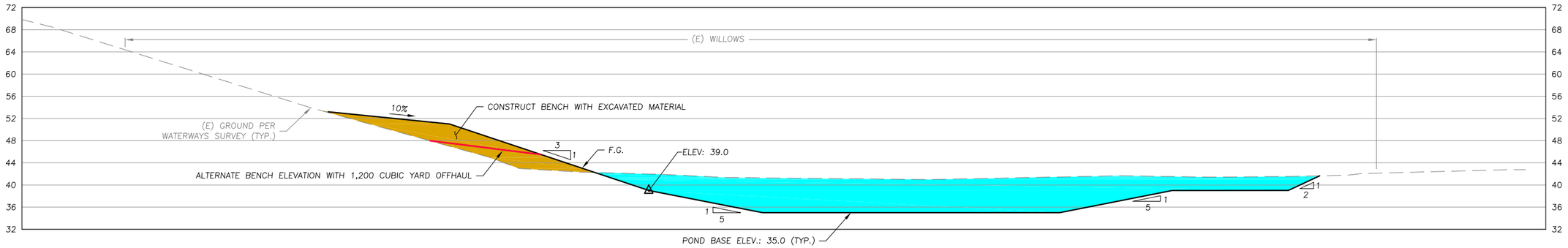
BUTANO POND
MITIGATION PROJECT
DRAFT 65% DESIGN

DESIGNED BY:	M.W.
DRAWN BY:	C.H./D.R.
CHECKED BY:	M.W.W.
DATE:	9/24/19
JOB NO.:	18-058

BAR IS ONE INCH ON ORIGINAL DRAWING, ADJUST SCALES FOR REDUCED PLOTS
0 1"



SECTION
SCALE: 1" = 10'
C
C4



SECTION
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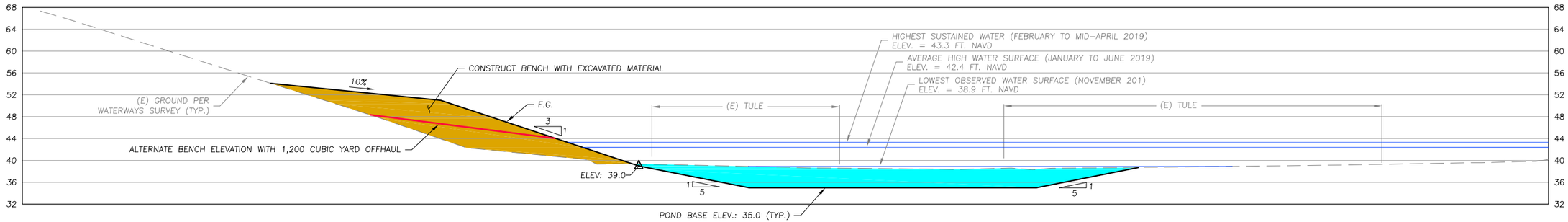
B
C4



SECTION
SCALE: 1" = 10'
A
C4

WATERWAYS CONSULTING INC.
509A SWIFT ST.
SANTA CRUZ, CA 95060
PH:(831)421-9291 // FAX:(888)819-6847
WWW.WATWAYS.COM

PRELIMINARY
NOT FOR CONSTRUCTION

PREPARED AT THE REQUEST OF:
SAN MATEO RESOURCE
CONCERVATION DISTRICT

SECTIONS

BUTANO POND
MITIGATION PROJECT
DRAFT 65% DESIGN

DESIGNED BY:	M.W.
DRAWN BY:	C.H./D.R.
CHECKED BY:	M.W.W.
DATE:	9/24/19
JOB NO.:	18-058

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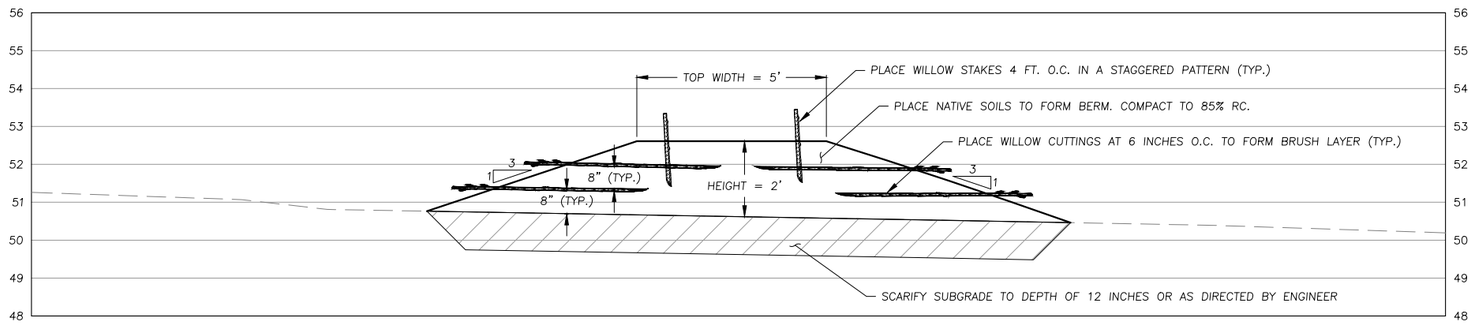
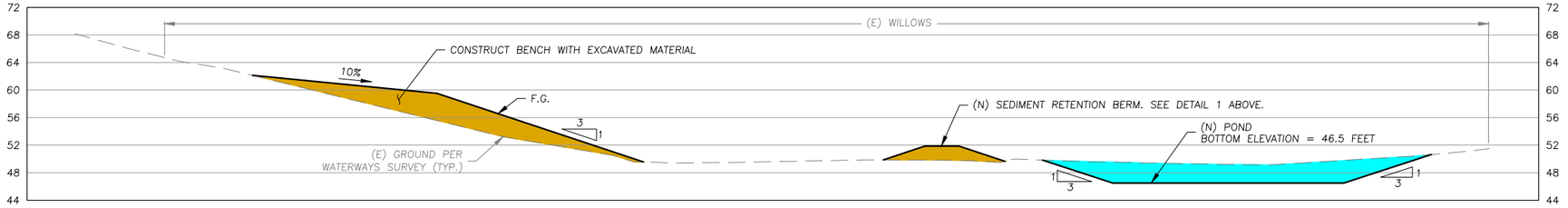
0 1"

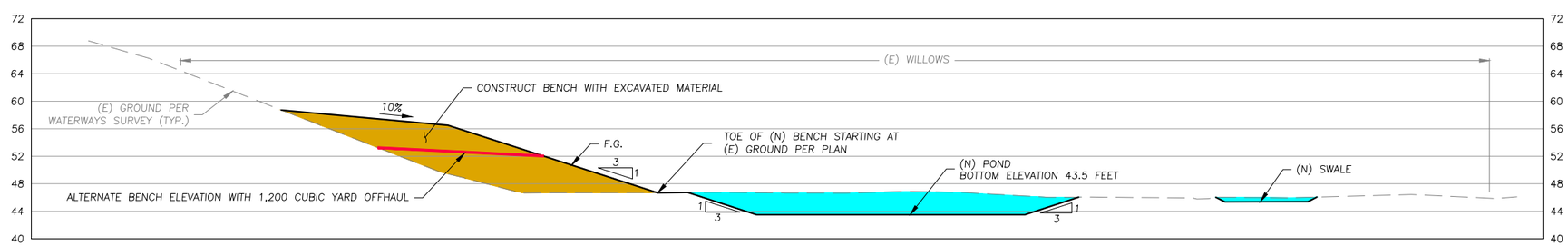
C5



SEDIMENT RETENTION BERM (1 / C4)
SCALE: 1" = 2'



SECTION (E / C4)
SCALE: 1" = 10'



SECTION (D / C4)
SCALE: 1" = 10'

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SECTIONS AND DETAILS

BUTANO POND
MITIGATION PROJECT
DRAFT 65% DESIGN

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DRAWN BY:	C.H./D.R.
CHECKED BY:	M.W.W.
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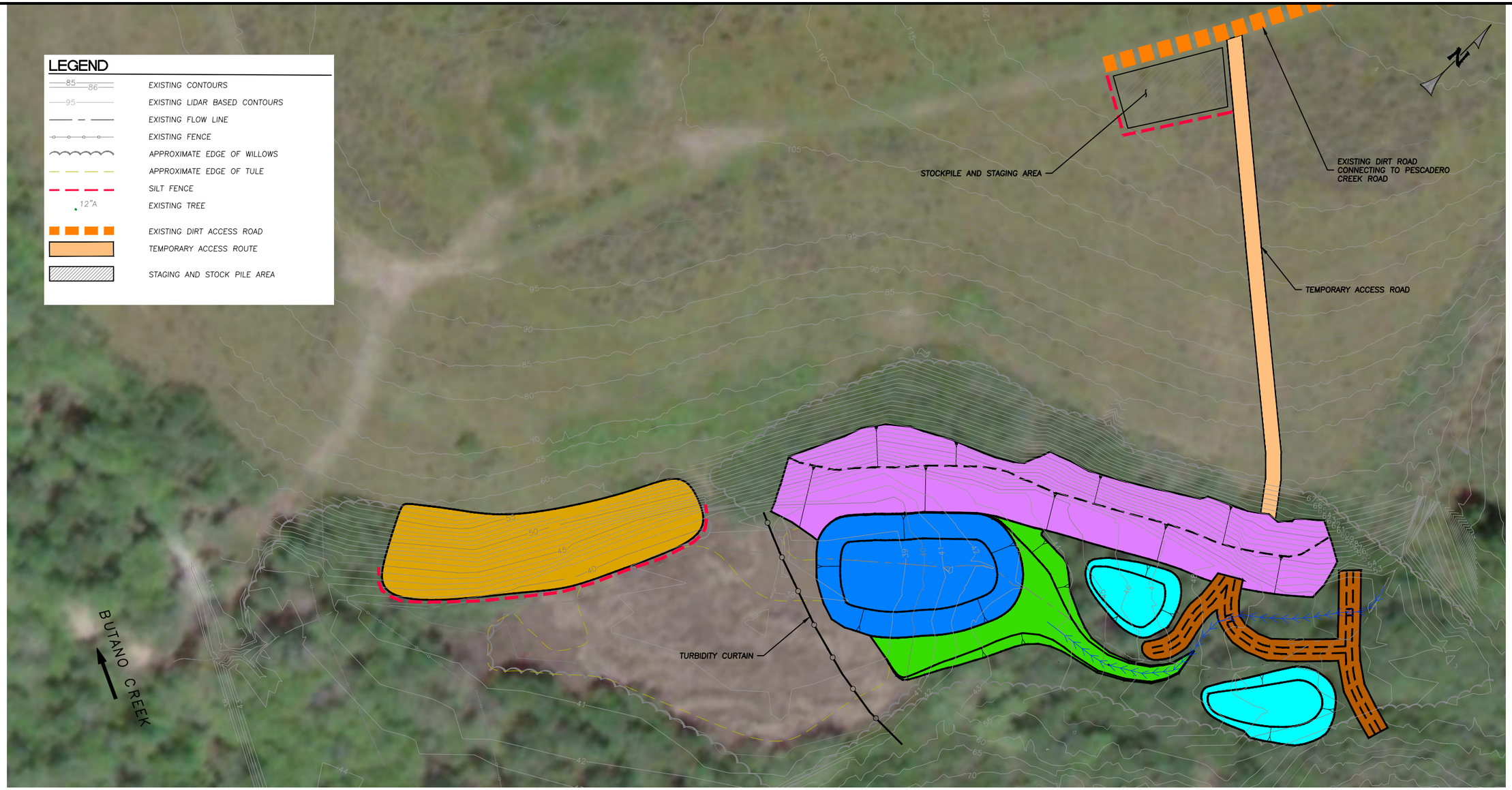
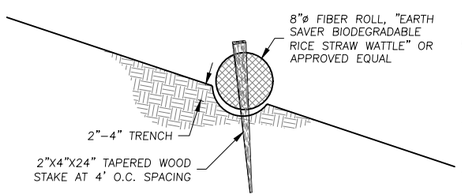


ACCESS AND STAGING PLAN
SCALE: 1" = 40'



FIBER ROLL
SCALE: 1"=1'

FIBER ROLL NOTES

1. CONSTRUCT TRENCHES TO THE DEPTH SHOWN, AND TO A SUFFICIENT WIDTH TO HOLD THE FIBER ROLL. INSTALL STAKES AT THE ON-CENTER SPACING SHOWN ALONG THE LENGTH OF THE FIBER ROLL AND STOPPED AT 12 INCHES FROM EACH END OF THE ROLLS. DRIVE STAKES TO BETWEEN TWO AND THREE INCHES ABOVE THE TOP OF THE ROLL.
2. PLACE FIBER ROLLS 10 FEET APART ALONG THE SLOPE FOR SLOPE INCLINATION OF 2H:1V AND STEEPER, AND 15 FEET APART ALONG THE SLOPE FOR SLOPE INCLINATION BETWEEN 2H:1V AND 4H:1V.
3. CLEAR THE BEDDING AREA FOR THE FIBER ROLL OF OBSTRUCTIONS INCLUDING ROCKS, CLODS, AND DEBRIS GREATER THAN ONE INCH IN DIAMETER BEFORE INSTALLATION.
4. INSTALL FIBER ROLLS APPROXIMATELY PARALLEL TO THE SLOPE CONTOUR. ANGLE THE TERMINUS OF ROWS UP-SLOPE AT 45 DEGREES FOR A DISTANCE OF THREE FEET. WHERE FIBER ROLLS MEET, PROVIDE AN OVERLAP OF 18 INCHES, WITH ADJACENT ROLLS TIGHTLY ABUTTING EACH OTHER.
5. INSTALL FIBER ROLLS PRIOR TO SEEDING WHERE USED WITHOUT SLOPE PROTECTION FABRIC.
6. INSTALL FIBER ROLLS OVER FABRIC (AFTER SEEDING) WHERE SLOPE PROTECTION FABRIC IS TO BE INSTALLED.

ACCESS AND STAGING AREA NOTES

1. USE ONLY THE APPROVED ACCESS POINTS, AS SHOWN ON THE DRAWINGS. STOCKPILE MATERIALS WITHIN AN EXISTING FLAT AND PREVIOUSLY DISTURBED AREA.
2. THE ACCESS PLAN SHOWN ON THE DRAWINGS IS SCHEMATIC. SUBMIT A SITE ACCESS PLAN FOR APPROVAL BY THE ENGINEER, PRIOR TO MOBILIZATION.
3. CONTAIN THE DOWNSLOPE PERIMETER OF STAGING OR STOCKPILE AREAS WITH SILT FENCE.
4. STORE, MAINTAIN AND REFUEL ALL EQUIPMENT AND MATERIALS IN A DESIGNATED PORTION OF THE STAGING AREA.

DEWATERING NOTES

1. WE ANTICIPATE A WATER SURFACE OF APPROXIMATELY ELEVATION 40.0 FEET NAVD DURING THE CONSTRUCTION WINDOW. WORK WOULD BE PERFORMED BY ISOLATING THE WORK LIMITS USING A TURBIDITY CURTAIN PLACED ALONG THE WESTERN LIMIT OF WORK, AND ALLOWING WATER LEVELS TO EQUILIBRATE WITHIN WORK AREAS AS EXCAVATIONS PROGRESS.
2. WATER LEVELS WOULD INUNDATE WORK AREAS ASSOCIATED WITH THE DEEP WATER POND AND THE WETLAND BENCH. WORK WITHIN THESE AREAS WOULD BEGIN AT THEIR UPSTREAM LIMITS, LEAVING A PLUG IN PLACE AS LONG AS POSSIBLE.
3. FINAL EXCAVATION OF THE PLUG WOULD OCCUR AS TURBID WATER IS PUMPED CONTINOUSLY TO A SETTLING POND, LIKELY THE ONE OF THE TWO SHALLOW PONDS COSTRUCTED TO THE EAST.

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ACCESS, STAGING, AND EROSION CONTROL PLAN

BUTANO POND MITIGATION PROJECT
DRAFT 65% DESIGN

DESIGNED BY:	M.W.
DRAWN BY:	C.H./D.R.
CHECKED BY:	M.W.W.
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0 1"

C7

GENERAL NOTES

1. THIS IS NOT A BOUNDARY SURVEY. PROPERTY LINES, IF SHOWN, WERE COMPILED FROM RECORD INFORMATION AND FROM FIELD TIES TO EXISTING BOUNDARY MONUMENTATION. THE LOCATION OF THESE LINES IS SUBJECT TO CHANGE, PENDING THE RESULTS OF A COMPLETE BOUNDARY SURVEY.
2. ALL CONSTRUCTION AND MATERIALS SHALL CONFORM TO THE DRAWINGS, SPECIFICATIONS, AND THE 2018 EDITION OF THE STATE OF CALIFORNIA STANDARD SPECIFICATIONS, ISSUED BY THE DEPARTMENT OF TRANSPORTATION (HEREAFTER REFERRED TO AS "STANDARD SPECIFICATIONS").
3. THESE DESIGNS ARE NOT COMPLETE WITHOUT THE FINAL STAMPED TECHNICAL SPECIFICATIONS PREPARED BY WATERWAYS CONSULTING, INC. REFER TO SPECIFICATIONS FOR DETAILS NOT SHOWN HEREON.
4. NOTIFY THE ENGINEER AT LEAST 48 HOURS PRIOR TO CONSTRUCTION. THE ENGINEER OR A DESIGNATED REPRESENTATIVE SHALL OBSERVE THE CONSTRUCTION PROCESS, AS NECESSARY TO ENSURE PROPER INSTALLATION PROCEDURES.
5. EXISTING UNDERGROUND UTILITY LOCATIONS:
   A. CALL UNDERGROUND SERVICE ALERT (1-800-642-2444) TO LOCATE ALL UNDERGROUND UTILITY LINES PRIOR TO COMMENCING CONSTRUCTION.
   B. PRIOR TO BEGINNING WORK, CONTACT ALL UTILITIES COMPANIES WITH REGARD TO WORKING OVER, UNDER, OR AROUND EXISTING FACILITIES AND TO OBTAIN INFORMATION REGARDING RESTRICTIONS THAT ARE REQUIRED TO PREVENT DAMAGE TO THE FACILITIES.
   C. EXISTING UTILITY LOCATIONS SHOWN ARE COMPILED FROM INFORMATION SUPPLIED BY THE APPROPRIATE UTILITY AGENCIES AND FROM FIELD MEASUREMENTS TO ABOVE GROUND FEATURES READILY VISIBLE AT THE TIME OF SURVEY. LOCATIONS SHOWN ARE APPROXIMATE. THE CONTRACTOR IS CAUTIONED THAT ONLY ACTUAL EXCAVATION WILL REVEAL THE DIMENSIONS, SIZES, MATERIALS, LOCATIONS, AND DEPTH OF UNDERGROUND UTILITIES.
   D. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR THE LOCATION AND/OR PROTECTION OF ALL EXISTING AND PROPOSED PIPING, UTILITIES, TRAFFIC SIGNAL EQUIPMENT (BOTH ABOVE GROUND AND BELOW GROUND), STRUCTURES, AND ALL OTHER EXISTING IMPROVEMENTS THROUGHOUT CONSTRUCTION.
   E. PRIOR TO COMMENCING FABRICATION OR CONSTRUCTION, DISCOVER OR VERIFY THE ACTUAL DIMENSIONS, SIZES, MATERIALS, LOCATIONS, AND ELEVATIONS OF ALL EXISTING UTILITIES AND POTHOLE THOSE AREAS WHERE POTENTIAL CONFLICTS ARE LIKELY OR DATA IS OTHERWISE INCOMPLETE.
   F. TAKE APPROPRIATE MEASURES TO PROTECT EXISTING UTILITIES DURING CONSTRUCTION OPERATIONS. CONTRACTOR IS SOLELY RESPONSIBLE FOR THE COST OF REPAIR/REPLACEMENT OF ANY EXISTING UTILITIES DAMAGED DURING CONSTRUCTION.
   G. UPON LEARNING OF THE EXISTENCE AND/OR LOCATIONS OF ANY UNDERGROUND FACILITIES NOT SHOWN OR SHOWN INACCURATELY ON THE PLANS OR NOT PROPERLY MARKED BY THE UTILITY OWNER, IMMEDIATELY NOTIFY THE UTILITY OWNER AND THE CITY BY TELEPHONE AND IN WRITING.
   H. UTILITY RELOCATIONS REQUIRED FOR THE CONSTRUCTION OF THE PROJECT FACILITIES WILL BE PERFORMED BY THE UTILITY COMPANY, UNLESS OTHERWISE NOTED.
12. IF DISCREPANCIES ARE DISCOVERED BETWEEN THE CONDITIONS EXISTING IN THE FIELD AND THE INFORMATION SHOWN ON THESE DRAWINGS, NOTIFY THE ENGINEER PRIOR TO PROCEEDING WITH CONSTRUCTION.
13. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO BE FULLY INFORMED OF AND TO COMPLY WITH ALL LAWS, ORDINANCES, CODES, REQUIREMENTS AND STANDARDS WHICH IN ANY MANNER AFFECT THE COURSE OF CONSTRUCTION OF THIS PROJECT, THOSE ENGAGED OR EMPLOYED IN THE CONSTRUCTION AND THE MATERIALS USED IN THE CONSTRUCTION.
14. ALL TESTS, INSPECTIONS, SPECIAL OR OTHERWISE, THAT ARE REQUIRED BY THE BUILDING CODES, LOCAL BUILDING DEPARTMENTS, OR THESE PLANS, SHALL BE DONE BY AN INDEPENDENT INSPECTION COMPANY. JOB SITE VISITS BY THE ENGINEER DO NOT CONSTITUTE AN OFFICIAL INSPECTION. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ENSURE THAT THE REQUIRED TESTS AND INSPECTIONS ARE PERFORMED.
15. PROJECT SCHEDULE: PRIOR TO COMMENCEMENT OF WORK, SUBMIT TO THE ENGINEER FOR REVIEW AND APPROVAL A DETAILED CONSTRUCTION SCHEDULE. DO NOT BEGIN ANY CONSTRUCTION WORK UNTIL THE PROJECT SCHEDULE AND WORK PLAN IS APPROVED BY THE ENGINEER. ALL CONSTRUCTION SHALL BE CLOSELY COORDINATED WITH THE ENGINEER SO THAT THE QUALITY OF WORK CAN BE CHECKED FOR APPROVAL. PURSUE WORK IN A CONTINUOUS AND DILIGENT MANNER TO ENSURE A TIMELY COMPLETION OF THE PROJECT.
16. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DESIGN, PERMITTING, INSTALLATION, AND MAINTENANCE OF ANY AND ALL TRAFFIC CONTROL MEASURES DEEMED NECESSARY.
17. THE CONTRACTOR SHALL BE RESPONSIBLE FOR GENERAL SAFETY DURING CONSTRUCTION. ALL WORK SHALL CONFORM TO PERTINENT SAFETY REGULATIONS AND CODES. THE CONTRACTOR SHALL BE SOLELY AND COMPLETELY RESPONSIBLE FOR FURNISHING, INSTALLING, AND MAINTAINING ALL WARNING SIGNS AND DEVICES NECESSARY TO SAFEGUARD THE GENERAL PUBLIC AND THE WORK, AND PROVIDE FOR THE PROPER AND SAFE ROUTING OF VEHICULAR AND PEDESTRIAN TRAFFIC DURING THE PERFORMANCE OF THE WORK. THE CONTRACTOR SHALL BE SOLELY AND COMPLETELY RESPONSIBLE FOR COMPLIANCE WITH ALL APPLICABLE PROVISIONS OF OSHA IN THE CONSTRUCTION PRACTICES FOR ALL EMPLOYEES DIRECTLY ENGAGED IN THE CONSTRUCTION OF THIS PROJECT.
18. CONSTRUCTION CONTRACTOR AGREES THAT IN ACCORDANCE WITH GENERALLY ACCEPTED CONSTRUCTION PRACTICES, CONSTRUCTION CONTRACTOR WILL BE REQUIRED TO ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THE PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY; THAT THIS REQUIREMENT SHALL BE MADE TO APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS, AND CONSTRUCTION CONTRACTOR FURTHER AGREES TO DEFEND, INDEMNIFY AND HOLD DESIGN PROFESSIONAL HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT, EXCEPTION LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF DESIGN PROFESSIONAL. NEITHER THE PROFESSIONAL ACTIVITIES OF CONSULTANT NOR THE PRESENCE OF CONSULTANT OR HIS OR HER EMPLOYEES OR SUB-CONSULTANTS AT A CONSTRUCTION SITE SHALL RELIEVE THE CONTRACTOR AND ITS SUBCONTRACTORS OF THEIR RESPONSIBILITIES INCLUDING, BUT NOT LIMITED TO, CONSTRUCTION MEANS, METHODS, SEQUENCE, TECHNIQUES OR PROCEDURES NECESSARY FOR PERFORMING, SUPERINTENDING OR COORDINATING ALL PORTIONS OF THE WORK OF CONSTRUCTION IN ACCORDANCE WITH THE CONTRACT DOCUMENTS AND APPLICABLE HEALTH OR SAFETY REQUIREMENTS OF ANY REGULATORY AGENCY OR OF STATE LAW.
19. MAINTAIN A CURRENT, COMPLETE, AND ACCURATE RECORD OF ALL AS-BUILT DEVIATIONS FROM THE CONSTRUCTION AS SHOWN ON THESE DRAWINGS AND SPECIFICATIONS, FOR THE PURPOSE OF PROVIDING THE ENGINEER OF RECORD WITH A BASIS FOR THE PREPARATION OF RECORD DRAWINGS.
20. MAINTAIN THE SITE IN A NEAT AND ORDERLY MANNER THROUGHOUT THE CONSTRUCTION PROCESS. STORE ALL MATERIALS WITHIN APPROVED STAGING AREAS.
21. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO BE FULLY INFORMED OF AND TO COMPLY WITH ALL PERMIT CONDITIONS, LAWS, ORDINANCES, CODES, REQUIREMENTS AND STANDARDS, WHICH IN ANY MANNER AFFECT THE COURSE OF CONSTRUCTION OF THIS PROJECT, THOSE ENGAGED OR EMPLOYED IN THE CONSTRUCTION AND THE MATERIALS USED IN THE CONSTRUCTION.
22. PROVIDE, AT CONTRACTOR'S SOLE EXPENSE, ALL MATERIALS, LABOR AND EQUIPMENT REQUIRED TO COMPLY WITH ALL APPLICABLE PERMIT CONDITIONS AND REQUIREMENTS.
23. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CONSTRUCTION STAKING AND LAYOUT, UNLESS OTHERWISE SPECIFIED.
24. FIELD INSPECTIONS AND OR THE PROVISION OF CONSTRUCTION STAKES DO NOT RELIEVE THE CONTRACTOR OF THEIR SOLE RESPONSIBILITY FOR ESTABLISHING ACCURATE CONSTRUCTED LINES AND GRADES, AS SPECIFIED.
25. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION AND PRESERVATION OF ALL SURVEY MONUMENTS OR PROPERTY CORNERS. DISTURBED MONUMENTS SHALL BE RESTORED BACK TO THEIR ORIGINAL LOCATION AND SHALL BE CERTIFIED BY A REGISTERED CIVIL ENGINEER OR LAND SURVEYOR AT THE SOLE EXPENSE OF THE CONTRACTOR.
26. THE OWNER SHALL BE RESPONSIBLE FOR VERIFYING THE LOCATION OF ALL PROPERTY LINES AND EASEMENTS AND CONFIRMING THAT PROPOSED PROJECT ELEMENTS ARE LOCATED ON DISTRICT OWNED LANDS OR ARE COORDINATED WITH OWNERS AND APPROPRIATE PERMISSIONS ARE GRANTED FOR THE WORK.
27. CONSTRUCTION WATER ??? TO BE IMPORTED BY THE CONTRACTOR. AVAILABLE AT THE EXISTING POND (???)
28. TREE DIMENSIONS: TRUNK DIAMETERS SHOWN REPRESENT DIAMETER AT BREAST HEIGHT (DBH), MEASURED IN INCHES. DBH IS MEASURED 4.5 FT ABOVE GROUND FOR SINGLE TRUNKS AND TRUNKS THAT SPLIT INTO SEVERAL STEMS CLOSE TO THE GROUND. THE DBH FOR TREES THAT SPLIT INTO SEVERAL STEMS CLOSE TO THE GROUND MAY BE CONSOLIDATED INTO A SINGLE DBH BY TAKING THE SQUARE ROOT OF THE SUM OF ALL SQUARED STEM DBH'S, UNLESS OTHERWISE NOTED. WHERE TREES FORK NEAR BREAST HEIGHT, TRUNK DIAMETER IS MEASURED AT THE NARROWEST PART OF THE MAIN STEM BELOW THE FORK. FOR TREES ON A SLOPE, BREAST HEIGHT IS REFERENCED FROM THE UPPER SIDE OF THE SLOPE. FOR LEANING TREES, BREAST HEIGHT IS MEASURED ON THE SIDE THAT THE TREE LEANS TOWARD. TREES WITH DBH LESS THAN 8" ARE TYPICALLY NOT SHOWN.

    12"P = 12" DBH PINE
29. TREE SPECIES ARE IDENTIFIED WHEN KNOWN. HOWEVER, FINAL DETERMINATION SHOULD BE MADE BY A QUALIFIED BOTANIST. REFER TO THE LEGEND FOR TREE SPECIES SYMBOLS.
30. TREE TRUNK DIMENSIONS MAY BE SHOWN OUT-OF-SCALE FOR PLOTTING CLARITY. CAUTION SHOULD BE USED IN DESIGNING NEAR TREE TRUNKS. THERE ARE LIMITATIONS ON FIELD ACCURACY, DRAFTING ACCURACY, MEDIUM STRETCH AS WELL AS THE "SPREAD" OR "LEANING" OF TREES. REQUEST ADDITIONAL TOPOGRAPHIC DETAIL WHERE CLOSE TOLERANCES ARE ANTICIPATED. INDIVIDUAL TREES ARE NOT TYPICALLY LOCATED WITHIN DRIPLINE CANOPY AREAS SHOWN.
29. WILLOWS TO BE REMOVED SHALL BE TRIMMED, TRANSPLANTED, AND UTILIZED IN THE REVEGETATION PLAN.
30. CONTRACTOR IS REQUIRED TO ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THE PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY; THIS REQUIREMENT SHALL BE MADE TO APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS.
31. THE CONTRACTOR SHALL CONFORM TO THE RULES AND REGULATIONS OF THE CONSTRUCTION SAFETY ORDERS OF THE CALIFORNIA DIVISION OF OCCUPATIONAL SAFETY AND HEALTH PERTAINING TO EXCAVATION AND TRENCHES THE CALIFORNIA CODE OF REGULATIONS TITLE 8, SUBCHAPTER 4 CONSTRUCTION SAFETY ORDERS, ARTICLE 6 EXCAVATION.
32. CULTURAL RESOURCES: IN THE EVENT THAT HUMAN REMAINS AND/OR CULTURAL MATERIALS ARE FOUND, ALL PROJECT-RELATED CONSTRUCTION SHALL CEASE WITHIN A 100-FOOT RADIUS. THE CONTRACTOR SHALL, PURSUANT TO SECTION 7050.5 OF THE HEALTH AND SAFETY CODE, AND SECTION 5097.94 OF THE PUBLIC RESOURCES CODE OF THE STATE OF CALIFORNIA, NOTIFY THE SAN MATEO COUNTY CORONER IMMEDIATELY.

EROSION CONTROL NOTES

1. THE EROSION CONTROL PLAN SHOWN IS INTENDED FOR THE SUMMER CONSTRUCTION SEASON (APRIL 15TH TO OCTOBER 15TH). IF THE DRAINAGE FEATURES SHOWN ON THESE DRAWINGS ARE NOT COMPLETED AND DISTURBED AREAS STABILIZED BY OCTOBER 1ST, CONSULT THE ENGINEER FOR ADDITIONAL RAINY SEASON EROSION CONTROL MEASURES.
2. COMPLY WITH THE APPROVED STORM WATER POLLUTION PREVENTION PLAN, TO BE PREPARED AND IMPLEMENTED BY THE CONTRACTOR IN COMPLIANCE WITH THE REQUIREMENTS OF THE STATE WATER RESOURCES CONTROL BOARD (SWRCB) NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) GENERAL PERMIT FOR STORM WATER DISCHARGES ASSOCIATED WITH CONSTRUCTION AND LAND DISTURBANCE ACTIVITIES, WATER QUALITY ORDER NO. 2009-0009-DWQ, GENERAL PERMIT NO. CAS000002, ADOPTED SEPTEMBER 2, 2009, (HEREAFTER CONSTRUCTION GENERAL PERMIT (CGP).
3. DO NOT BEGIN SITE DISTURBING ACTIVITIES UNTIL THE SWPPP HAS BEEN APPROVED BY THE CLIENT, UPLOADED TO SMARTS AND A WASTE DISCHARGE IDENTIFICATION (WDID) NUMBER RECEIVED.
4. IMPLEMENT SWPPP MEASURES AS THE FIRST ORDER OF BUSINESS UPON SITE MOBILIZATION.
5. PRIOR TO COMMENCING WORK, PROTECT AREAS TO REMAIN UNDISTURBED WITH ESA FENCING, AS SHOWN ON THE DRAWINGS. ADDITIONAL FENCING MAY BE REQUIRED AT THE DIRECTION OF THE ENGINEER.
6. UTILIZE ONLY THE APPROVED HAUL ROADS AND ACCESS POINTS (AS SHOWN ON THE DRAWINGS) FOR TRANSPORT OF MATERIALS AND EQUIPMENT.
7. BETWEEN OCTOBER 15 AND APRIL 15, PROTECT EXPOSED SOIL FROM EROSION AT ALL TIMES. DURING CONSTRUCTION, SUCH PROTECTION MAY CONSIST OF MULCHING AND/OR PLANTING OF NATIVE VEGETATION OF ADEQUATE DENSITY. BEFORE COMPLETION OF THE PROJECT, STABILIZE ALL EXPOSED SOIL ON DISTURBED SLOPES AGAINST EROSION.
8. MAINTAIN A STANDBY CREW FOR EMERGENCY WORK AT ALL TIMES DURING THE RAINY SEASON (OCTOBER 15 THROUGH APRIL 15). STOCKPILE NECESSARY MATERIALS AT CONVENIENT LOCATIONS TO FACILITATE RAPID CONSTRUCTION OF TEMPORARY DEVICES.
9. 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.
10. INCORPORATE ADEQUATE DRAINAGE PROCEDURES DURING THE CONSTRUCTION PROCESS TO ELIMINATE EXCESSIVE PONDING AND EROSION.
11. CONSTRUCT AND MAINTAIN EROSION CONTROL MEASURES TO PREVENT THE DISCHARGE OF EARTHEN MATERIALS TO THE CREEK FROM DISTURBED AREAS UNDER CONSTRUCTION AND FROM COMPLETED CONSTRUCTION AREAS.
12. INSTALL ALL PROTECTIVE DEVICES AT THE END OF EACH WORK DAY WHEN THE FIVE-DAY RAIN PROBABILITY EQUALS OR EXCEEDS 50 PERCENT AS DETERMINED FROM THE NATIONAL WEATHER SERVICE FORECAST OFFICE: WWW.SRH.NOAA.GOV.
13. AFTER EACH RAINSTORM, REMOVE ALL SILT AND DEBRIS FROM (CHECK BERMS AND SEDIMENTATION BASIN) OR (SEDIMENTATION DEVICES) AND PUMP THE BASIN DRY.
14. THE EROSION CONTROL DEVICES ON THIS PLAN ARE A SCHEMATIC REPRESENTATION 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, AT THE DISCRETION OF THE ENGINEER.
15. MAINTAIN ALL EROSION CONTROL DEVICES AND MODIFY THEM AS SITE PROGRESS DICTATES.
16. MONITOR THE EROSION CONTROL DEVICES DURING STORMS AND MODIFY THEM IN ORDER TO PREVENT PROGRESS OF ANY ONGOING EROSION.
17. CLEAN DAILY ANY EROSION OR DEBRIS SPILLING ONTO A PUBLIC STREET.
18. CONTACT THE ENGINEER IN THE EVENT THAT THE EROSION CONTROL PLAN AS DESIGNED REQUIRES ANY SUBSTANTIAL REVISIONS.
19. IMPLEMENT ALL REQUIRED BMP'S PRIOR TO COMMENCING SITE DISTURBING ACTIVITIES.

EARTHWORK NOTES

1. ALL GRADING SHALL COMPLY WITH THE RECOMMENDATIONS OF THE ENGINEER AND WITH THE APPLICABLE REQUIREMENTS OF THE SAN MATEO COUNTY GRADING ORDINANCE.
2. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VISIT THE SITE AND MAKE HIS OWN INTERPRETATIONS WITH REGARD TO MATERIALS, METHODS AND EQUIPMENT NECESSARY TO PERFORM THE WORK REQUIRED FOR THIS PROJECT.
3. GRADING SUMMARY:
   TOTAL CUT VOLUME = 3,500 CY
   TOTAL FILL VOLUME = 2,800 CY (COMPACTED IN PLACE WITH 20% LOSSES)
   NET (CUT/FILL) = 0 CY

   THE ABOVE QUANTITIES ARE APPROXIMATE IN-PLACE VOLUMES CALCULATED AS THE DIFFERENCE BETWEEN EXISTING GROUND AND THE PROPOSED FINISH GRADE, PREPARED FOR PERMITTING PURPOSES ONLY. EXISTING GROUND IS DEFINED BY THE TOPOGRAPHIC CONTOURS AND/OR SPOT ELEVATIONS ON THE PLAN. PROPOSED FINISH GRADE IS DEFINED AS THE DESIGN SURFACE ELEVATION OF WORK TO BE CONSTRUCTED. THE QUANTITIES HAVE NOT BEEN FACTORED TO INCLUDE ALLOWANCES FOR BULKING, CLEARING AND GRUBBING, SUBSIDENCE, SHRINKAGE, OVER EXCAVATION, AND RECOMPACTION, UNDERGROUND UTILITY AND SUBSTRUCTURE SPOILS AND CONSTRUCTION METHODS.

   THE CONTRACTOR SHALL PERFORM AN INDEPENDENT EARTHWORK ESTIMATE FOR THE PURPOSE OF PREPARING BID PRICES FOR EARTHWORK. THE BID PRICE SHALL INCLUDE COSTS FOR ANY NECESSARY IMPORT AND PLACEMENT OF EARTH MATERIALS OR THE EXPORT AND PROPER DISPOSAL OF EXCESS OR UNSUITABLE EARTH MATERIALS.
4. PRIOR TO COMMENCING WORK, PROTECT ALL SENSITIVE AREAS TO REMAIN UNDISTURBED WITH TEMPORARY FENCING, AS SHOWN ON THE DRAWINGS, AS SPECIFIED, OR AS DIRECTED BY THE ENGINEER.
5. DO NOT DISTURB AREAS OUTSIDE OF THE DESIGNATED LIMITS OF DISTURBANCE, UNLESS AUTHORIZED IN WRITING BY THE ENGINEER. THE COST OF ALL ADDITIONAL WORK ASSOCIATED WITH RESTORATION AND REVEGETATION OF DISTURBED AREAS OUTSIDE THE DESIGNATED LIMITS OF DISTURBANCE, AS SHOWN ON THE DRAWINGS, SHALL BE BORNE SOLELY BY THE CONTRACTOR.
6. REMOVE ALL EXCESS SOILS TO AN APPROVED DUMP SITE OR DISPOSE OF ON SITE AT A LOCATION TO BE APPROVED BY THE ENGINEER, IN A MANNER THAT WILL NOT CAUSE EROSION.
7. CLEARING AND GRUBBING, SUBGRADE PREPARATION AND EARTHWORK SHALL BE PERFORMED IN ACCORDANCE WITH SECTION 19 OF THE STANDARD SPECIFICATIONS, THESE DRAWINGS, AND THE TECHNICAL SPECIFICATIONS.
8. PRIOR TO STARTING WORK ON THE PROJECT, SUBMIT FOR ACCEPTANCE BY THE ENGINEER A HAZARDOUS MATERIALS CONTROLS AND SPILL PREVENTION PLAN. INCLUDE PROVISIONS FOR PREVENTING HAZARDOUS MATERIALS FROM CONTAMINATING SOIL OR ENTERING WATER COURSES, AND ESTABLISH A SPILL PREVENTION AND COUNTERMEASURE PLAN.
9. UNLESS AUTHORIZED BY THE GEOTECHNICAL ENGINEER, THE FOLLOWING MATERIALS SHALL NOT BE INCORPORATED INTO THE WORK:
   A. ORGANIC MATERIALS SUCH AS PEAT, MULCH, ORGANIC SILT OR SOD.
   B. SOILS CONTAINING EXPANSIVE CLAYS.
   C. MATERIAL CONTAINING EXCESSIVE MOISTURE.
   D. POORLY GRADED COURSE MATERIAL
   PARTICLE SIZES IN EXCESS OF 6 INCHES.
   E. MATERIAL WHICH WILL NOT ACHIEVE SPECIFIED DENSITY OR BEARING.
10. FINE GRADING ELEVATIONS, CONFORMS, AND SLOPES NOT CLEARLY SHOWN ON THE DRAWINGS SHALL BE DETERMINED BY THE CONTRACTOR IN THE FIELD TO DIRECT DRAINAGE TO PROTECTED DRAINAGE CONTROL STRUCTURES OR NATURAL WATERWAYS IN A MANNER THAT SUPPORTS THE INTENT OF THE DESIGN. ALL FINAL GRADING SHALL BE SUBJECT TO APPROVAL OF THE ENGINEER.
11. UNLESS OTHERWISE DIRECTED BY ENGINEER, ALL FILL TO BE COMPACTED TO A MINIMUM OF 85% MAXIMUM DENSITY AS DETERMINED BY ASTM-D1557 AND SO CERTIFIED BY TESTS AND REPORTS FROM THE CIVIL ENGINEER IN CHARGE OF THE GRADING CERTIFICATION.
12. SPREAD FILL MATERIAL IN LIFTS OF APPROXIMATELY 8 INCHES, MOISTENED OR DRIED TO NEAR OPTIMUM MOISTURE CONTENT AND RECOMPACTED. THE MATERIALS FOR ENGINEERED FILL SHALL BE APPROVED BY A REGISTERED CIVIL ENGINEER. ANY IMPORTED MATERIALS MUST BE APPROVED BEFORE BEING BROUGHT TO THE SITE. THE MATERIALS USED SHALL BE FREE OF ORGANIC MATTER AND OTHER DELETERIOUS MATERIALS.
13. ALL CONTACT SURFACES BETWEEN ORIGINAL GROUND AND RECOMPACTED FILL SHALL BE EITHER HORIZONTAL OR VERTICAL. ALL ORGANIC MATERIAL SHALL BE REMOVED AND THE REMAINING SURFACE SCARIFIED TO A DEPTH OF AT LEAST 12 INCHES, UNLESS DEEPER EXCAVATION IS REQUIRED BY THE ENGINEER.
14. REGULATORY AGENCIES MAY REQUIRE A FINAL GRADING COMPLIANCE LETTER. WE CAN ONLY OFFER THIS LETTER IF WE ARE CALLED TO THE SITE TO OBSERVE AND TEST, AS NECESSARY, ANY GRADING AND EXCAVATION OPERATIONS FROM THE START OF CONSTRUCTION. WE CANNOT PREPARE A LETTER IF WE ARE NOT AFFORDED THE OPPORTUNITY OF OBSERVATION FROM THE BEGINNING OF THE GRADING OPERATION. THE CONTRACTOR MUST BE MADE AWARE OF THIS AND EARTHWORK TESTING AND OBSERVATION MUST BE SCHEDULED ACCORDINGLY. PLEASE CONTACT OUR OFFICE: (831) 421-9291.

WATERWAYS CONSULTING INC.
509A SWIFT ST.
SANTA CRUZ, CA 95060
PH:(831)421-9291 // FAX:(888)819-6847
WWW.WATWAYS.COM

PRELIMINARY
NOT FOR CONSTRUCTION

PREPARED AT THE REQUEST OF:
SAN MATEO RESOURCE
CONCERVATION DISTRICT

NOTES

BUTANO POND
MITIGATION PROJECT
DRAFT 65% DESIGN

DESIGNED BY:	M.W.
DRAWN BY:	C.H./D.R.
CHECKED BY:	M.W.W.
DATE:	9/24/19
JOB NO.:	18-058

BAR IS ONE INCH ON ORIGINAL DRAWING, ADJUST SCALES FOR REDUCED PLOTS
0 1"

Appendix B

Butano Farms SFGS Mitigation Project - Construction Emissions (2020)
Pollutant: CO2

Upland Vegetation and Erosion Control (2 weeks/10 work days)

										On- Site		Off-Site			Total		
EQUIPMENT	hp	LoadFac*	CO2Fac*		Quantity	T DURATION	UNIT	D DURATION	UNIT	DayEmis	TotEmis	Emfac	Length	DayEmis	TotEmis	DayEmis	TotEmis
Chainsaw	< 25				1.5	20	work days	4.0	hours/day								
Chipper	< 25				1	10	work days	4.0	hours/day								
Mower	< 25				1	3	work days	6.0	hours/day								
Dump Truck (Off-Road)	400	0.38	474.5787		1	10	work days	1.0	hours/day	72136	721360					72136	721360
Mechanic Truck					0	10	work days	1	day	0	0	271.0003	7.3	0	0	0	0
Delivery Truck	1	1	8237.7965		0	10	work days	1	day	0	0	1846.6916	7.3	0	0	0	0
Worker Commute					4.5	10	work days	2	trips/day	0	0	271.0003	10.8	13171	131706	13171	131706
		* Equipment: CalEEMod Appendix D					**Tot (grams)**			**72,136**	**721,360**			**13,171**	**131,706**	**85,307**	**853,066**	**0.85** mtons
		Truck: EMFAC 2017 HHD Idle					**Tot (lbs)**			**159.0**	**1590.3**			**29.0**	**290.4**	**188.1**	**1880.7**	**0.94** tons
							Avg. Day (lbs)					Truck: EMFAC2017 HHDT 35 mph					**188.1**	
												Worker Commute: EMFAC2017 LDT2 35 mph						

Aquatic Habitat Restoration Activities (6 weeks/30 work days)

										On- Site		Off-Site			Total		
EQUIPMENT	hp	LoadFac*	CO2Fac*		Quantity	T DURATION	UNIT	D DURATION	UNIT	DayEmis	TotEmis	Emfac	Length	DayEmis	TotEmis	DayEmis	TotEmis
Bulldozer	255	0.4	479.7569		1	25	work days	5.0	hours/day	244676	6116900					244676	6116900
Excavator	163	0.38	472.2891		1	20	work days	8.0	hours/day	234029	4680574					234029	4680574
Front-end Loader	200	0.36	469.5127		1	20	work days	8.0	hours/day	270439	5408786					270439	5408786
Compactor (Roller)	81	0.38	473.8594		2	20	work days	6.0	hours/day	175025	3500494					175025	3500494
Dump Truck (Off-Road)	400	0.38	474.5787		2	15	work days	8.0	hours/day	1154175	17312631					1154175	17312631
Mechanic Truck					0	30	work days	1	day	0	0	271.0003	7.3	0	0	0	0
Delivery Truck	1	1	8237.7965		0	30	work days	1	day	343	10287	1846.6916	7.3	4489	134674	4832	144961
Worker Commute					8.5	30	work days	2	trips/day	0	0	271.0003	10.8	24878	746335	24878	746335
		* Equipment: CalEEMod Appendix D					**Tot (grams)**			**1,834,011**	**30,912,772**			**29,367**	**881,008**	**1,863,378**	**31,793,781**	**31.79** mtons
		Truck: EMFAC 2014 HHD Idle					**Tot (lbs)**			**4043.3**	**68150.3**			**64.7**	**1942.3**	**4108.0**	**70092.6**	**35.05** tons
							Avg. Day (lbs)					Truck: EMFAC2014 HHDT 35 mph					**2336.4**	
												Worker Commute: EMFAC2014 LDT2 35 mph						

Pre-Project Activities and Site Preparation (6 weeks/30 work days)

										On- Site		Off-Site			Total		
EQUIPMENT	hp	LoadFac*	CO2Fac*		Quantity	T DURATION	UNIT	D DURATION	UNIT	DayEmis	TotEmis	Emfac	Length	DayEmis	TotEmis	DayEmis	TotEmis
Flat-bed Crane Truck	226	0.29	472.9488		1	2	work days	4.0	hours/day	123988	247977					123988	247977
Pump (for dewatering)	84	0.74	568.2990		1	30	work days	8.0	hours/day	282604	8478112					282604	8478112
Bobcat	65	0.37	471.9075		1	5	work days	8.0	hours/day	90795	453975					90795	453975
Water Truck (Off-Road)	400	0.38	474.5787		1	20	work days	4.0	hours/day	288544	5770877					288544	5770877
Dump Truck (Off-Road)	400	0.38	474.5787		1	5	work days	4.0	hours/day	288544	1442719					288544	1442719
Mechanic Truck					1	8	work days	1	day	0	0	271.0003	7.3	1978	15826	1978	15826
Delivery Truck	1	1	8237.7965		1	17	work days	1	day	1030	17505	1846.6916	7.3	13481	229174	14511	246680
Worker Commute					7	30	work days	2	trips/day	0	0	271.0003	10.8	20488	614629	20488	614629
		* Equipment: CalEEMod Appendix D					**Tot (grams)**			**1,075,504**	**16,411,165**			**35,947**	**859,629**	**1,111,451**	**17,270,794**	**17.27** mtons
		Truck: EMFAC 2014 HHD Idle					**Tot (lbs)**			**2371.1**	**36180.1**			**79.2**	**1895.1**	**2450.3**	**38075.2**	**19.04** tons
							Avg. Day (lbs)					Truck: EMFAC2014 HHDT 35 mph					**1269.2**	
												Worker Commute: EMFAC2014 LDT2 35 mph						

Total
49.92 mtons

Butano Farms SFGS Mitigation Project - Construction Emissions (2020)
Pollutant: NOx

Upland Vegetation and Erosion Control (2 weeks/10 work days)

										On- Site		Off-Site				Total	
EQUIPMENT	hp	LoadFac*	NOxFac*		Quantity	T DURATION	UNIT	D DURATION	UNIT	DayEmis	TotEmis	Emfac	Length	DayEmis	TotEmis	DayEmis	TotEmis
Chainsaw	< 25				1.5	20	work days	4.0	hours/day								
Chipper	< 25				1	10	work days	4.0	hours/day								
Mower	< 25				1	3	work days	6.0	hours/day								
Dump Truck (Off-Road)	400	0.38	2.3468		1	10	work days	1.0	hours/day	357	3567					357	3567
Mechanic Truck					0	10	work days	1	day	0	0	0.0425	7.3	0	0	0	0
Delivery Truck	1	1	51.8573		0	10	work days	1	day	0	0	6.0899	7.3	0	0	0	0
Worker Commute					4.5	10	work days	2	trips/day	0	0	0.0425	10.8	2	21	2	21
		* Equipment: CalEEMod Appendix D					Tot (grams)			357	3,567			2	21	359	3,588
		Truck: EMFAC 2017 HHD Idle					Tot (lbs)			0.8	7.9			0.0	0.0	0.8	7.9 **0.0040 tons**
							Avg. Day (lbs)					Truck: EMFAC2017 HHDT 35 mph					0.8
												Worker Commute: EMFAC2017 LDT2 35 mph					

Aquatic Habitat Restoration Activities (6 weeks/30 work days)

										On- Site		Off-Site				Total	
EQUIPMENT	hp	LoadFac*	NOxFac*		Quantity	T DURATION	UNIT	D DURATION	UNIT	DayEmis	TotEmis	Emfac	Length	DayEmis	TotEmis	DayEmis	TotEmis
Bulldozer	255	0.4	5.6409		1	25	work days	5.0	hours/day	2877	71921					2877	71921
Excavator	163	0.38	2.2784		1	20	work days	8.0	hours/day	1129	22580					1129	22580
Front-end Loader	200	0.36	3.4212		1	20	work days	8.0	hours/day	1971	39412					1971	39412
Compactor (Roller)	81	0.38	3.8815		2	20	work days	6.0	hours/day	1434	28674					1434	28674
Dump Truck (Off-Road)	400	0.38	2.3468		2	15	work days	8.0	hours/day	5707	85610					5707	85610
Mechanic Truck					0	30	work days	1	day	0	0	0.0425	7.3	0	0	0	0
Delivery Truck	1	1	51.8573		0	30	work days	1	day	2	65	6.0899	7.3	15	444	17	509
Worker Commute					8.5	30	work days	2	trips/day	0	0	0.0425	10.8	4	117	4	117
		* Equipment: CalEEMod Appendix D					Tot (grams)			10,243	176,340			19	561	10,261	176,901
		Truck: EMFAC 2014 HHD Idle					Tot (lbs)			22.6	388.8			0.0	1.2	22.6	390.0 **0.1950 tons**
							Avg. Day (lbs)					Truck: EMFAC2014 HHDT 35 mph					13.0
												Worker Commute: EMFAC2014 LDT2 35 mph					

Pre-Project Activities and Site Preparation (6 weeks/30 work days)

										On- Site		Off-Site				Total	
EQUIPMENT	hp	LoadFac*	NOxFac*		Quantity	T DURATION	UNIT	D DURATION	UNIT	DayEmis	TotEmis	Emfac	Length	DayEmis	TotEmis	DayEmis	TotEmis
Flat-bed Crane Truck	226	0.29	4.5633		1	2	work days	4.0	hours/day	1196	2393					1196	2393
Pump (for dewatering)	84	0.74	3.2190		1	30	work days	8.0	hours/day	1601	48022					1601	48022
Bobcat	65	0.37	2.5046		1	5	work days	8.0	hours/day	482	2409					482	2409
Water Truck (Off-Road)	400	0.38	2.3468		1	20	work days	4.0	hours/day	1427	28537					1427	28537
Dump Truck (Off-Road)	400	0.38	2.3468		1	5	work days	4.0	hours/day	1427	7134					1427	7134
Mechanic Truck					1	8	work days	1	day	0	0	0.0425	7.3	0	2	0	2
Delivery Truck	1	1	51.8573		1	17	work days	1	day	6	110	6.0899	7.3	44	756	51	866
Worker Commute					7	30	work days	2	trips/day	0	0	0.0425	10.8	3	96	3	96
		* Equipment: CalEEMod Appendix D					Tot (grams)			6,139	88,605			48	855	6,187	89,460
		Truck: EMFAC 2014 HHD Idle					Tot (lbs)			13.5	195.3			0.1	1.9	13.6	197.2 **0.0986 tons**
							Avg. Day (lbs)					Truck: EMFAC2014 HHDT 35 mph					6.6
												Worker Commute: EMFAC2014 LDT2 35 mph					

Butano Farms SFGS Mitigation Project - Construction Emissions (2020)
Pollutant: ROG

Upland Vegetation and Erosion Control (2 weeks/10 work days)

										On- Site		Off-Site			Total		
EQUIPMENT	hp	LoadFac*	ROGFac*		Quantity	T DURATION	UNIT	D DURATION	UNIT	DayEmis	TotEmis	Emfac	Length	DayEmis	TotEmis	DayEmis	TotEmis
Chainsaw	< 25				1.5	20	work days	4.0	hours/day								
Chipper	< 25				1	10	work days	4.0	hours/day								
Mower	< 25				1	3	work days	6.0	hours/day								
Dump Truck (Off-Road)	400	0.38	0.2460		1	10	work days	1.0	hours/day	37	374					37	374
Mechanic Truck					0	10	work days	1	day	0	0	0.0145	7.3	0	0	0	0
Delivery Truck	1	1	3.2501		0	10	work days	1	day	0	0	0.1403	7.3	0	0	0	0
Worker Commute					4.5	10	work days	2	trips/day	0	0	0.0145	10.8	1	7	1	7
		* Equipment: CalEEMod Appendix D					**Tot (grams)**			**37**	**374**			**1**	**7**	**38**	**381**
		Truck: EMFAC 2017 HHD Idle					**Tot (lbs)**			**0.1**	**0.8**			**0.0**	**0.0**	**0.1**	**0.8** **0.0004 tons**
							Avg. Day (lbs)					Truck: EMFAC2017 HHDT 35 mph					**0.1**
												Worker Commute: EMFAC2017 LDT2 35 mph					

Aquatic Habitat Restoration Activities (6 weeks/30 work days)

										On- Site		Off-Site			Total		
EQUIPMENT	hp	LoadFac*	ROGFac*		Quantity	T DURATION	UNIT	D DURATION	UNIT	DayEmis	TotEmis	Emfac	Length	DayEmis	TotEmis	DayEmis	TotEmis
Bulldozer	255	0.4	0.5350		1	25	work days	5.0	hours/day	273	6821					273	6821
Excavator	163	0.38	0.2310		1	20	work days	8.0	hours/day	114	2289					114	2289
Front-end Loader	200	0.36	0.2900		1	20	work days	8.0	hours/day	167	3341					167	3341
Compactor (Roller)	81	0.38	0.3880		2	20	work days	6.0	hours/day	143	2866					143	2866
Dump Truck (Off-Road)	400	0.38	0.2460		2	15	work days	8.0	hours/day	598	8974					598	8974
Mechanic Truck					0	30	work days	1	day	0	0	0.0145	7.3	0	0	0	0
Delivery Truck	1	1	3.2501		0	30	work days	1	day	0	4	0.1403	7.3	0	10	0	14
Worker Commute					8.5	30	work days	2	trips/day	0	0	0.0145	10.8	1	40	1	40
		* Equipment: CalEEMod Appendix D					**Tot (grams)**			**1,023**	**17,474**			**2**	**50**	**1,025**	**17,525**
		Truck: EMFAC 2014 HHD Idle					**Tot (lbs)**			**2.3**	**38.5**			**0.0**	**0.1**	**2.3**	**38.6** **0.0193 tons**
							Avg. Day (lbs)					Truck: EMFAC2014 HHDT 35 mph					**1.3**
												Worker Commute: EMFAC2014 LDT2 35 mph					

Pre-Project Activities and Site Preparation (6 weeks/30 work days)

										On- Site		Off-Site			Total		
EQUIPMENT	hp	LoadFac*	ROGFac*		Quantity	T DURATION	UNIT	D DURATION	UNIT	DayEmis	TotEmis	Emfac	Length	DayEmis	TotEmis	DayEmis	TotEmis
Flat-bed Crane Truck	226	0.29	0.3840		1	2	work days	4.0	hours/day	101	201					101	201
Pump (for dewatering)	84	0.74	0.3860		1	30	work days	8.0	hours/day	192	5759					192	5759
Bobcat	65	0.37	0.1880		1	5	work days	8.0	hours/day	36	181					36	181
Water Truck (Off-Road)	400	0.38	0.2460		1	20	work days	4.0	hours/day	150	2991					150	2991
Dump Truck (Off-Road)	400	0.38	0.2460		1	5	work days	4.0	hours/day	150	748					150	748
Mechanic Truck					1	8	work days	1	day	0	0	0.0145	7.3	0	1	0	1
Delivery Truck	1	1	3.2501		1	17	work days	1	day	0	7	0.1403	7.3	1	17	1	24
Worker Commute					7	30	work days	2	trips/day	0	0	0.0145	10.8	1	33	1	33
		* Equipment: CalEEMod Appendix D					**Tot (grams)**			**628**	**9,887**			**2**	**51**	**631**	**9,938**
		Truck: EMFAC 2014 HHD Idle					**Tot (lbs)**			**1.4**	**21.8**			**0.0**	**0.1**	**1.4**	**21.9** **0.0110 tons**
							Avg. Day (lbs)					Truck: EMFAC2014 HHDT 35 mph					**0.7**
												Worker Commute: EMFAC2014 LDT2 35 mph					

Butano Farms SFGS Mitigation Project - Construction Emissions (2020)
Pollutant: PM10

Upland Vegetation and Erosion Control (2 weeks/10 work days)

										On- Site		Off-Site				Total	
EQUIPMENT	hp	LoadFac*	PM10Fac*		Quantity	T DURATION	UNIT	D DURATION	UNIT	DayEmis	TotEmis	Emfac	Length	DayEmis	TotEmis	DayEmis	TotEmis
Chainsaw	< 25				1.5	20	work days	4.0	hours/day								
Chipper	< 25				1	10	work days	4.0	hours/day								
Mower	< 25				1	3	work days	6.0	hours/day								
Dump Truck (Off-Road)	400	0.38	0.0860		1	10	work days	1.0	hours/day	13	131					13	131
Mechanic Truck					0	10	work days	1	day	0	0	0.0051	7.3	0	0	0	0
Delivery Truck	1	1	0.0000		0	10	work days	1	day	0	0	0.0477	7.3	0	0	0	0
Worker Commute					4.5	10	work days	2	trips/day	0	0	0.0051	10.8	0	2	0	2
		* Equipment: CalEEMod Appendix D					Tot (grams)			13	131			0	2	13	133
		Truck: EMFAC 2017 HHD Idle					Tot (lbs)			0.0	0.3			0.0	0.0	0.0	0.3
							Avg. Day (lbs)					Truck: EMFAC2017 HHDT 35 mph					0.0
												Worker Commute: EMFAC2017 LDT2 35 mph					

0.0001 tons

Aquatic Habitat Restoration Activities (6 weeks/30 work days)

										On- Site		Off-Site				Total	
EQUIPMENT	hp	LoadFac*	PM10Fac*		Quantity	T DURATION	UNIT	D DURATION	UNIT	DayEmis	TotEmis	Emfac	Length	DayEmis	TotEmis	DayEmis	TotEmis
Bulldozer	255	0.4	0.2590		1	25	work days	5.0	hours/day	132	3302					132	3302
Excavator	163	0.38	0.1100		1	20	work days	8.0	hours/day	55	1090					55	1090
Front-end Loader	200	0.36	0.1140		1	20	work days	8.0	hours/day	66	1313					66	1313
Compactor (Roller)	81	0.38	0.2470		2	20	work days	6.0	hours/day	91	1825					91	1825
Dump Truck (Off-Road)	400	0.38	0.0860		2	15	work days	8.0	hours/day	209	3137					209	3137
Mechanic Truck					0	30	work days	1	day	0	0	0.0051	7.3	0	0	0	0
Delivery Truck	1	1	0.0000		0	30	work days	1	day	0	0	0.0477	7.3	0	3	0	3
Worker Commute					8.5	30	work days	2	trips/day	0	0	0.0051	10.8	0	14	0	14
		* Equipment: CalEEMod Appendix D					Tot (grams)			421	7,365			1	17	421	7,383
		Truck: EMFAC 2014 HHD Idle					Tot (lbs)			0.9	16.2			0.0	0.0	0.9	16.3
							Avg. Day (lbs)					Truck: EMFAC2014 HHDT 35 mph					0.5
												Worker Commute: EMFAC2014 LDT2 35 mph					

0.0081 tons

Pre-Project Activities and Site Preparation (6 weeks/30 work days)

										On- Site		Off-Site				Total	
EQUIPMENT	hp	LoadFac*	PM10Fac*		Quantity	T DURATION	UNIT	D DURATION	UNIT	DayEmis	TotEmis	Emfac	Length	DayEmis	TotEmis	DayEmis	TotEmis
Flat-bed Crane Truck	226	0.29	0.1880		1	2	work days	4.0	hours/day	49	99					49	99
Pump (for dewatering)	84	0.74	0.1890		1	30	work days	8.0	hours/day	94	2820					94	2820
Bobcat	65	0.37	0.1080		1	5	work days	8.0	hours/day	21	104					21	104
Water Truck (Off-Road)	400	0.38	0.0860		1	20	work days	4.0	hours/day	52	1046					52	1046
Dump Truck (Off-Road)	400	0.38	0.0860		1	5	work days	4.0	hours/day	52	261					52	261
Mechanic Truck					1	8	work days	1	day	0	0	0.0051	7.3	0	0	0	0
Delivery Truck	1	1	0.0000		1	17	work days	1	day	0	0	0.0477	7.3	0	6	0	6
Worker Commute					7	30	work days	2	trips/day	0	0	0.0051	10.8	0	12	0	12
		* Equipment: CalEEMod Appendix D					Tot (grams)			269	4,329			1	18	269	4,347
		Truck: EMFAC 2014 HHD Idle					Tot (lbs)			0.6	9.5			0.0	0.0	0.6	9.6
							Avg. Day (lbs)					Truck: EMFAC2014 HHDT 35 mph					0.3
												Worker Commute: EMFAC2014 LDT2 35 mph					

0.0048 tons

Butano Farms SFGS Mitigation Project - Construction Emissions (2020)
Pollutant: PM25

Upland Vegetation and Erosion Control (2 weeks/10 work days)

										On- Site		Off-Site				Total	
EQUIPMENT	hp	LoadFac*	PM25Fac*		Quantity	T DURATION	UNIT	D DURATION	UNIT	DayEmis	TotEmis	Emfac	Length	DayEmis	TotEmis	DayEmis	TotEmis
Chainsaw	< 25				1.5	20	work days	4.0	hours/day								
Chipper	< 25				1	10	work days	4.0	hours/day								
Mower	< 25				1	3	work days	6.0	hours/day								
Dump Truck (Off-Road)	400	0.38	0.0790		1	10	work days	1.0	hours/day	12	120					12	120
Mechanic Truck					0	10	work days	1	day	0	0	0.0049	7.3	0	0	0	0
Delivery Truck	1	1	0.0000		0	10	work days	1	day	0	0	0.0457	7.3	0	0	0	0
Worker Commute					4.5	10	work days	2	trips/day	0	0	0.0049	10.8	0	2	0	2
		* Equipment: CalEEMod Appendix D					Tot (grams)			12	120			0	2	12	122
		Truck: EMFAC 2017 HHD Idle					Tot (lbs)			0.0	0.3			0.0	0.0	0.0	0.3
							Avg. Day (lbs)					Truck: EMFAC2017 HHDT 35 mph					0.0
												Worker Commute: EMFAC2017 LDT2 35 mph					

0.0001 tons

Aquatic Habitat Restoration Activities (6 weeks/30 work days)

										On- Site		Off-Site				Total	
EQUIPMENT	hp	LoadFac*	PM25Fac*		Quantity	T DURATION	UNIT	D DURATION	UNIT	DayEmis	TotEmis	Emfac	Length	DayEmis	TotEmis	DayEmis	TotEmis
Bulldozer	255	0.4	0.2380		1	25	work days	5.0	hours/day	121	3035					121	3035
Excavator	163	0.38	0.1020		1	20	work days	8.0	hours/day	51	1011					51	1011
Front-end Loader	200	0.36	0.1000		1	20	work days	8.0	hours/day	58	1152					58	1152
Compactor (Roller)	81	0.38	0.2280		2	20	work days	6.0	hours/day	84	1684					84	1684
Dump Truck (Off-Road)	400	0.38	0.0790		2	15	work days	8.0	hours/day	192	2882					192	2882
Mechanic Truck					0	30	work days	1	day	0	0	0.0049	7.3	0	0	0	0
Delivery Truck	1	1	0.0000		0	30	work days	1	day	0	0	0.0457	7.3	0	3	0	3
Worker Commute					8.5	30	work days	2	trips/day	0	0	0.0049	10.8	0	13	0	13
		* Equipment: CalEEMod Appendix D					Tot (grams)			384	6,729			1	17	385	6,746
		Truck: EMFAC 2014 HHD Idle					Tot (lbs)			0.8	14.8			0.0	0.0	0.8	14.9
							Avg. Day (lbs)					Truck: EMFAC2014 HHDT 35 mph					0.5
												Worker Commute: EMFAC2014 LDT2 35 mph					

0.0074 tons

Pre-Project Activities and Site Preparation (6 weeks/30 work days)

										On- Site		Off-Site				Total	
EQUIPMENT	hp	LoadFac*	PM25Fac*		Quantity	T DURATION	UNIT	D DURATION	UNIT	DayEmis	TotEmis	Emfac	Length	DayEmis	TotEmis	DayEmis	TotEmis
Flat-bed Crane Truck	226	0.29	0.1730		1	2	work days	4.0	hours/day	45	91					45	91
Pump (for dewatering)	84	0.74	0.1890		1	30	work days	8.0	hours/day	94	2820					94	2820
Bobcat	65	0.37	0.1000		1	5	work days	8.0	hours/day	19	96					19	96
Water Truck (Off-Road)	400	0.38	0.0790		1	20	work days	4.0	hours/day	48	961					48	961
Dump Truck (Off-Road)	400	0.38	0.0790		1	5	work days	4.0	hours/day	48	240					48	240
Mechanic Truck					1	8	work days	1	day	0	0	0.0049	7.3	0	0	0	0
Delivery Truck	1	1	0.0000		1	17	work days	1	day	0	0	0.0457	7.3	0	6	0	6
Worker Commute					7	30	work days	2	trips/day	0	0	0.0049	10.8	0	11	0	11
		* Equipment: CalEEMod Appendix D					Tot (grams)			255	4,207			1	17	255	4,224
		Truck: EMFAC 2014 HHD Idle					Tot (lbs)			0.6	9.3			0.0	0.0	0.6	9.3
							Avg. Day (lbs)					Truck: EMFAC2014 HHDT 35 mph					0.3
												Worker Commute: EMFAC2014 LDT2 35 mph					

0.0047 tons

Appendix C

IPaC **U.S. Fish & Wildlife Service**

IPaC resource list

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

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

NOT FOR CONSULTATION

Location

San Mateo County, California

Local office

Sacramento Fish And Wildlife Office

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

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

Endangered species

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

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

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

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

1. Draw the project location and click CONTINUE.
2. Click DEFINE PROJECT.
3. Log in (if directed to do so).
4. Provide a name and description for your project.
5. Click REQUEST SPECIES LIST.

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

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

NOT FOR CONSULTATION

1. Species listed under the Endangered Species Act are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the listing status page for more information.
2. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

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

Mammals

NAME	STATUS

Southern Sea Otter Enhydra lutris nereis — Threatened
Marine mammal
No critical habitat has been designated for this species.
https://ecos.fws.gov/ecp/species/8560

Birds

NAME	STATUS
California Least Tern Sterna antillarum browni No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/8104	Endangered
Marbled Murrelet Brachyramphus marmoratus There is **final** critical habitat for this species. Your location is outside the critical habitat. https://ecos.fws.gov/ecp/species/4467	Threatened
Short-tailed Albatross Phoebastria (=Diomedea) albatrus No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/433	Endangered
Western Snowy Plover Charadrius nivosus nivosus There is **final** critical habitat for this species. Your location is outside the critical habitat. https://ecos.fws.gov/ecp/species/8035	Threatened

Reptiles

NAME	STATUS
Green Sea Turtle Chelonia mydas No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/6199	Threatened
San Francisco Garter Snake Thamnophis sirtalis tetrataenia No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/5956	Endangered

Amphibians

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

Fishes

NOT FOR CONSULTATION

NAME	STATUS
Tidewater Goby Eucyclogobius newberryi There is **final** critical habitat for this species. Your location is outside the critical habitat. https://ecos.fws.gov/ecp/species/57	Endangered

Insects

NAME	STATUS
San Bruno Elfin Butterfly Callophrys mossii bayensis There is **proposed** critical habitat for this species. The location of the critical habitat is not available. https://ecos.fws.gov/ecp/species/3394	Endangered

Critical habitats

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

This location overlaps the critical habitat for the following species:

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

NOT FOR CONSULTATION

Migratory birds

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

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

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

Additional information can be found using the following links:

- Birds of Conservation Concern http://www.fws.gov/birds/management/managed-species/birds-of-conservation-concern.php
- Measures for avoiding and minimizing impacts to birds http://www.fws.gov/birds/management/project-assessment-tools-and-guidance/conservation-measures.php

- Nationwide conservation measures for birds
  http://www.fws.gov/migratorybirds/pdf/management/nationwidestandardconservationmeasures.pdf

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

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

NOT FOR CONSULTATION

NAME	BREEDING SEASON (IF A BREEDING SEASON IS INDICATED FOR A BIRD ON YOUR LIST, THE BIRD MAY BREED IN YOUR PROJECT AREA SOMETIME WITHIN THE TIMEFRAME SPECIFIED, WHICH IS A VERY LIBERAL ESTIMATE OF THE DATES INSIDE WHICH THE BIRD BREEDS ACROSS ITS ENTIRE RANGE. "BREEDS ELSEWHERE" INDICATES THAT THE BIRD DOES NOT LIKELY BREED IN YOUR PROJECT AREA.)
Allen's Hummingbird Selasphorus sasin This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9637	Breeds Feb 1 to Jul 15
Bald Eagle Haliaeetus leucocephalus This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1626	Breeds Jan 1 to Aug 31

Black Oystercatcher Haematopus bachmani — Breeds Apr 15 to Oct 31
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/9591

Black Skimmer Rynchops niger — Breeds May 20 to Sep 15
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/5234

Black Turnstone Arenaria melanocephala — Breeds elsewhere
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Burrowing Owl Athene cunicularia — Breeds Mar 15 to Aug 31
This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA
https://ecos.fws.gov/ecp/species/9737

Clark's Grebe Aechmophorus clarkii — Breeds Jan 1 to Dec 31
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Common Yellowthroat Geothlypis trichas sinuosa — Breeds May 20 to Jul 31
This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA
https://ecos.fws.gov/ecp/species/2084

Golden Eagle Aquila chrysaetos — Breeds Jan 1 to Aug 31
This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.
https://ecos.fws.gov/ecp/species/1680

Lawrence's Goldfinch Carduelis lawrencei — Breeds Mar 20 to Sep 20
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/9464

Long-billed Curlew Numenius americanus — Breeds elsewhere
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/5511

NOT FOR CONSULTATION

Marbled Godwit Limosa fedoa — Breeds elsewhere
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/9481

Nuttall's Woodpecker Picoides nuttallii — Breeds Apr 1 to Jul 20
This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA
https://ecos.fws.gov/ecp/species/9410

Oak Titmouse Baeolophus inornatus — Breeds Mar 15 to Jul 15
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/9656

Rufous Hummingbird selasphorus rufus — Breeds elsewhere
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/8002

Short-billed Dowitcher Limnodromus griseus — Breeds elsewhere
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/9480

Song Sparrow Melospiza melodia — Breeds Feb 20 to Sep 5
This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA

Spotted Towhee Pipilo maculatus clementae — Breeds Apr 15 to Jul 20
This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA
https://ecos.fws.gov/ecp/species/4243

Tricolored Blackbird Agelaius tricolor — Breeds Mar 15 to Aug 10
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/3910

Whimbrel Numenius phaeopus — Breeds elsewhere
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/9483

Willet Tringa semipalmata — Breeds elsewhere
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

NOT FOR CONSULTATION

Wrentit Chamaea fasciata — Breeds Mar 15 to Aug 10

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

Probability of Presence Summary

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

Probability of Presence (■)

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

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

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

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

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

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

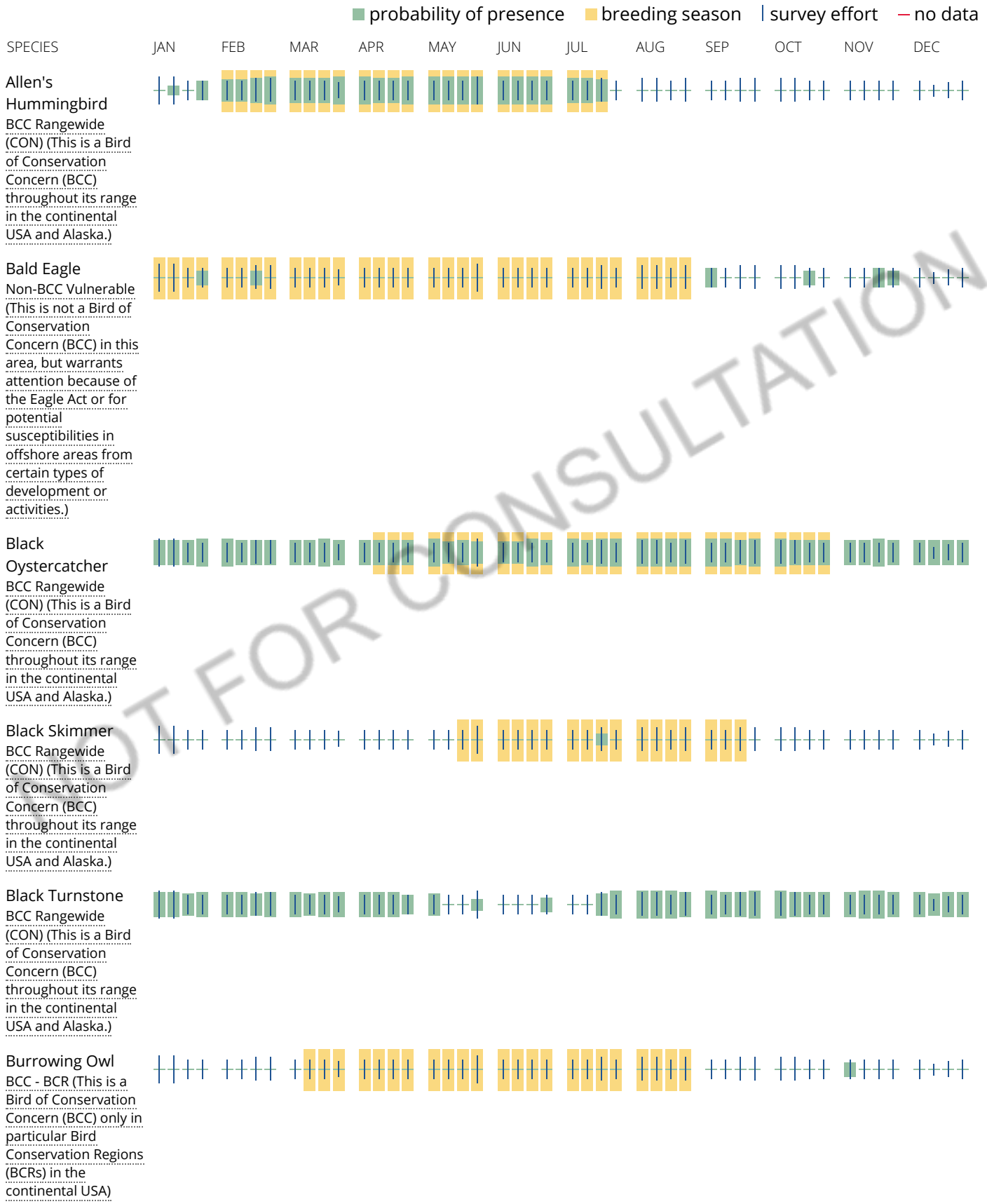
To see a bar's survey effort range, simply hover your mouse cursor over the bar.

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

NOT FOR CONSULTATION

Survey Timeframe

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



NOT FOR CONSULTATION

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

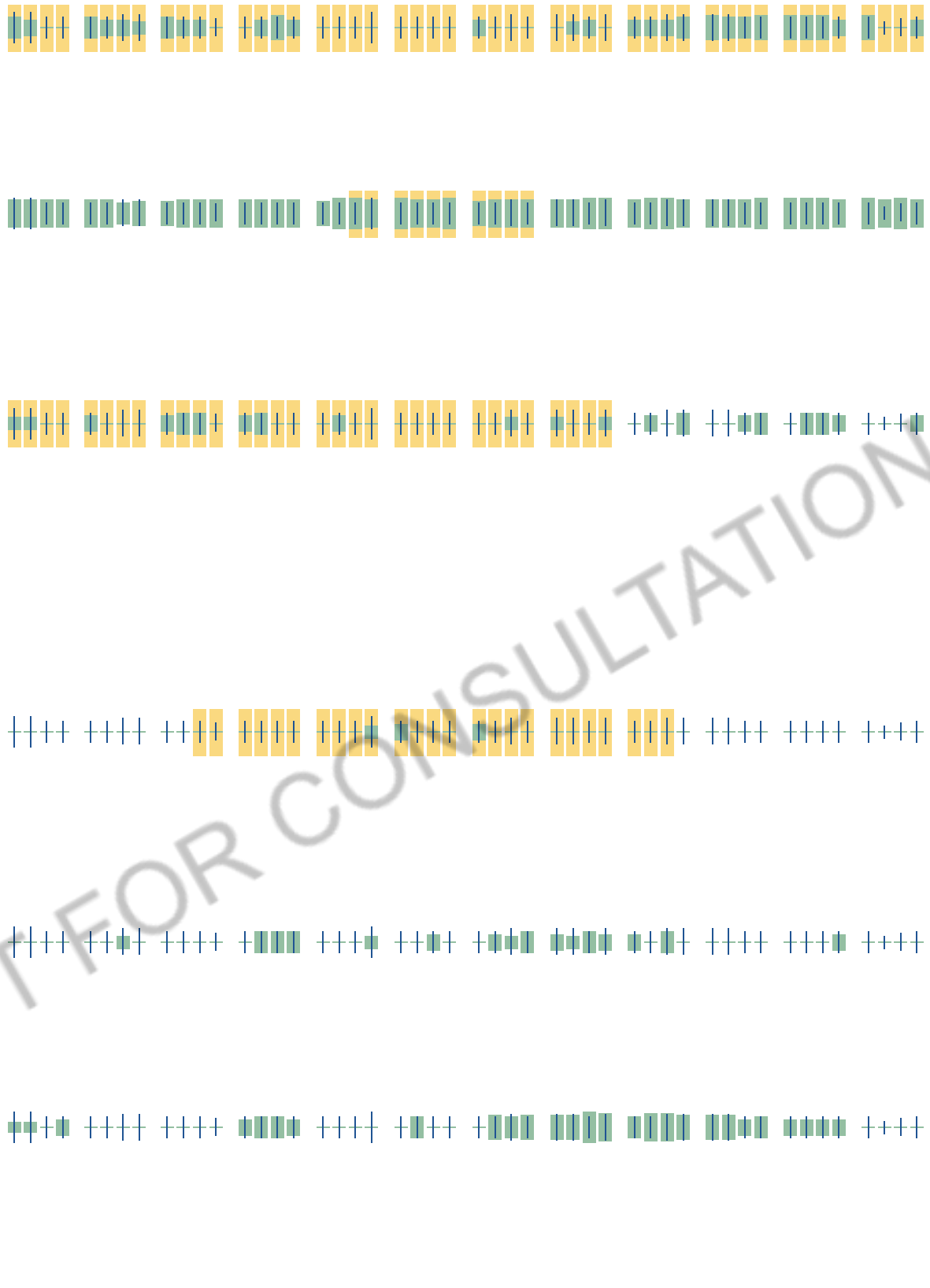
Common Yellowthroat
BCC - BCR (This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA)

Golden Eagle
Non-BCC Vulnerable (This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.)

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

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

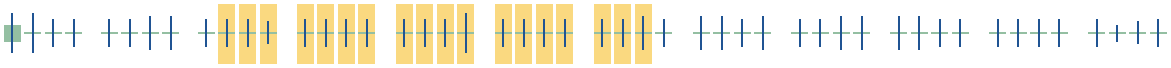
Marbled Godwit
BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)



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

NOT FOR CONSULTATION

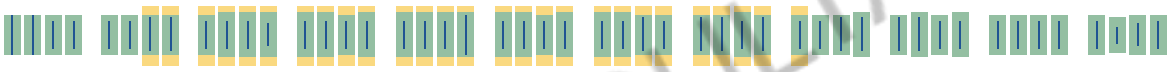
Oak Titmouse
BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)



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

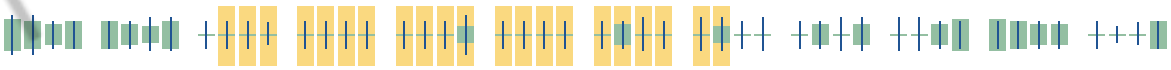
Short-billed Dowitcher
BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)

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



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

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

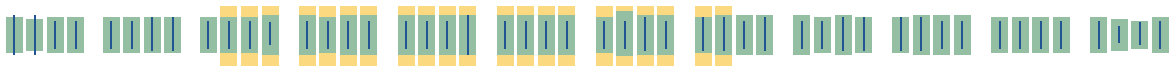


Whimbrel
BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)

NOT FOR CONSULTATION

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

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



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

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

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

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

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

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

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

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

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

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

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may refer to the following resources: The Cornell Lab of Ornithology All About Birds Bird Guide, or (if you are unsuccessful in locating the bird of interest there), the Cornell Lab of Ornithology Neotropical Birds

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guide. If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?

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

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

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

Details about birds that are potentially affected by offshore projects

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

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

What if I have eagles on my list?

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

Proper Interpretation and Use of Your Migratory Bird Report

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

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minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ “Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds” at the bottom of your migratory bird trust resources page.

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Marine mammals

Marine mammals are protected under the Marine Mammal Protection Act. Some are also protected under the Endangered Species Act[1] and the Convention on International Trade in Endangered Species of Wild Fauna and Flora[2].

The responsibilities for the protection, conservation, and management of marine mammals are shared by the U.S. Fish and Wildlife Service [responsible for otters, walruses, polar bears, manatees, and dugongs] and NOAA Fisheries[3] [responsible for seals, sea lions, whales, dolphins, and porpoises]. Marine mammals under the responsibility of NOAA Fisheries are **not** shown on this list; for additional information on those species please visit the Marine Mammals page of the NOAA Fisheries website.

The Marine Mammal Protection Act prohibits the take (to harass, hunt, capture, kill, or attempt to harass, hunt, capture or kill) of marine mammals and further coordination may be necessary for project evaluation. Please contact the U.S. Fish and Wildlife Service Field Office shown.

1. The Endangered Species Act (ESA) of 1973.
2. The Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) is a treaty to ensure that international trade in plants and animals does not threaten their survival in the wild.
3. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

The following marine mammals under the responsibility of the U.S. Fish and Wildlife Service are potentially affected by activities in this location:

NAME

Southern Sea Otter Enhydra lutris nereis
https://ecos.fws.gov/ecp/species/8560

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Facilities

National Wildlife Refuge lands

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

THERE ARE NO REFUGE LANDS AT THIS LOCATION.

Fish hatcheries

THERE ARE NO FISH HATCHERIES AT THIS LOCATION.

Wetlands in the National Wetlands Inventory

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

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

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

This location overlaps the following wetlands:

FRESHWATER EMERGENT WETLAND

PEM1Fh

FRESHWATER FORESTED/SHRUB WETLAND

PFO/SSC

RIVERINE

R4SBC

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

Data limitations

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

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

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

Data exclusions

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters.

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Some deepwater reef communities (coral or tuberficid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

Data precautions

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

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Selected Elements by Common Name

California Department of Fish and Wildlife

California Natural Diversity Database

Query Criteria: Quad IS (Ano Nuevo (3712213) OR Big Basin (3712222) OR Franklin Point (3712223) OR Half Moon Bay (3712244) OR La Honda (3712233) OR Mindego Hill (3712232) OR Pigeon Point (3712224) OR San Gregorio (3712234) OR Woodside (3712243))

Butano Farms - 9-Quad Search

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
American badger *Taxidea taxus*	AMAJF04010	None	None	G5	S3	SSC
American peregrine falcon *Falco peregrinus anatum*	ABNKD06071	Delisted	Delisted	G4T4	S3S4	FP
Anderson's manzanita *Arctostaphylos andersonii*	PDERI04030	None	None	G2	S2	1B.2
arcuate bush-mallow *Malacothamnus arcuatus*	PDMAL0Q0E0	None	None	G2Q	S2	1B.2
bank swallow *Riparia riparia*	ABPAU08010	None	Threatened	G5	S2	
Bay checkerspot butterfly *Euphydryas editha bayensis*	IILEPK4055	Threatened	None	G5T1	S1	
Ben Lomond spineflower *Chorizanthe pungens var. hartwegiana*	PDPGN040M1	Endangered	None	G2T1	S1	1B.1
bent-flowered fiddleneck *Amsinckia lunaris*	PDBOR01070	None	None	G3	S3	1B.2
black swift *Cypseloides niger*	ABNUA01010	None	None	G4	S2	SSC
Blasdale's bent grass *Agrostis blasdalei*	PMPOA04060	None	None	G2	S2	1B.2
Bonny Doon manzanita *Arctostaphylos silvicola*	PDERI041F0	None	None	G1	S1	1B.2
burrowing owl *Athene cunicularia*	ABNSB10010	None	None	G4	S3	SSC
Butano Ridge cypress *Hesperocyparis abramsiana var. butanoensis*	PGCUP04082	Threatened	Endangered	G1T1	S1	1B.2
California black rail *Laterallus jamaicensis coturniculus*	ABNME03041	None	Threatened	G3G4T1	S1	FP
California giant salamander *Dicamptodon ensatus*	AAAAH01020	None	None	G3	S2S3	SSC
California red-legged frog *Rana draytonii*	AAABH01022	Threatened	None	G2G3	S2S3	SSC
California tiger salamander *Ambystoma californiense*	AAAAA01180	Threatened	Threatened	G2G3	S2S3	WL
chaparral ragwort *Senecio aphanactis*	PDAST8H060	None	None	G3	S2	2B.2

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Choris' popcornflower *Plagiobothrys chorisianus var. chorisianus*	PDBOR0V061	None	None	G3T1Q	S1	1B.2
Coastal Brackish Marsh *Coastal Brackish Marsh*	CTT52200CA	None	None	G2	S2.1	
coastal marsh milk-vetch *Astragalus pycnostachyus var. pycnostachyus*	PDFAB0F7B2	None	None	G2T2	S2	1B.2
coho salmon - central California coast ESU *Oncorhynchus kisutch pop. 4*	AFCHA02034	Endangered	Endangered	G4	S2?	
Crystal Springs lessingia *Lessingia arachnoidea*	PDAST5S0C0	None	None	G2	S2	1B.2
Dudley's lousewort *Pedicularis dudleyi*	PDSCR1K0D0	None	Rare	G2	S2	1B.2
Edgewood blind harvestman *Calicina minor*	ILARA13020	None	None	G1	S1	
Edgewood Park micro-blind harvestman *Microcina edgewoodensis*	ILARA47010	None	None	G1	S1	
elongate copper moss *Mielichhoferia elongata*	NBMUS4Q022	None	None	G5	S3S4	4.3
foothill yellow-legged frog *Rana boylii*	AAABH01050	None	Candidate Threatened	G3	S3	SSC
fountain thistle *Cirsium fontinale var. fontinale*	PDAST2E161	Endangered	Endangered	G2T1	S1	1B.1
fragrant fritillary *Fritillaria liliacea*	PMLIL0V0C0	None	None	G2	S2	1B.2
Franciscan onion *Allium peninsulare var. franciscanum*	PMLIL021R1	None	None	G5T2	S2	1B.2
Franciscan thistle *Cirsium andrewsii*	PDAST2E050	None	None	G3	S3	1B.2
great blue heron *Ardea herodias*	ABNGA04010	None	None	G5	S4	
hoary bat *Lasiurus cinereus*	AMACC05030	None	None	G5	S4	
Kellman's bristle moss *Orthotrichum kellmanii*	NBMUS56190	None	None	G1	S1	1B.2
Kellogg's horkelia *Horkelia cuneata var. sericea*	PDROS0W043	None	None	G4T1?	S1?	1B.1
Kings Mountain manzanita *Arctostaphylos regismontana*	PDERI041C0	None	None	G2	S2	1B.2
legenere *Legenere limosa*	PDCAM0C010	None	None	G2	S2	1B.1
long-eared owl *Asio otus*	ABNSB13010	None	None	G5	S3?	SSC

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
longfin smelt *Spirinchus thaleichthys*	AFCHB03010	Candidate	Threatened	G5	S1	
marbled murrelet *Brachyramphus marmoratus*	ABNNN06010	Threatened	Endangered	G3G4	S1	
Marin western flax *Hesperolinon congestum*	PDLIN01060	Threatened	Threatened	G1	S1	1B.1
marsh microseris *Microseris paludosa*	PDAST6E0D0	None	None	G2	S2	1B.2
Methuselah's beard lichen *Usnea longissima*	NLLEC5P420	None	None	G4	S4	4.2
mimic tryonia (=California brackishwater snail) *Tryonia imitator*	IMGASJ7040	None	None	G2	S2	
minute pocket moss *Fissidens pauperculus*	NBMUS2W0U0	None	None	G3?	S2	1B.2
monarch - California overwintering population *Danaus plexippus pop. 1*	IILEPP2012	None	None	G4T2T3	S2S3	
Monterey pine *Pinus radiata*	PGPIN040V0	None	None	G1	S1	1B.1
Monterey Pine Forest *Monterey Pine Forest*	CTT83130CA	None	None	G1	S1.1	
Myrtle's silverspot butterfly *Speyeria zerene myrtleae*	IILEPJ608C	Endangered	None	G5T1	S1	
N. Central Coast Calif. Roach/Stickleback/Steelhead Stream *N. Central Coast Calif. Roach/Stickleback/Steelhead Stream*	CARA2633CA	None	None	GNR	SNR	
North Central Coast Drainage Sacramento Sucker/Roach River *North Central Coast Drainage Sacramento Sucker/Roach River*	CARA2623CA	None	None	GNR	SNR	
North Central Coast Short-Run Coho Stream *North Central Coast Short-Run Coho Stream*	CARA2632CA	None	None	GNR	SNR	
North Central Coast Steelhead/Sculpin Stream *North Central Coast Steelhead/Sculpin Stream*	CARA2637CA	None	None	GNR	SNR	
Northern Coastal Salt Marsh *Northern Coastal Salt Marsh*	CTT52110CA	None	None	G3	S3.2	
Northern Interior Cypress Forest *Northern Interior Cypress Forest*	CTT83220CA	None	None	G2	S2.2	
obscure bumble bee *Bombus caliginosus*	IIHYM24380	None	None	G4?	S1S2	
Ohlone manzanita *Arctostaphylos ohloneana*	PDERI042Y0	None	None	G1	S1	1B.1
Pacific Grove clover *Trifolium polyodon*	PDFAB402H0	None	Rare	G1	S1	1B.1

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
pallid bat *Antrozous pallidus*	AMACC10010	None	None	G5	S3	SSC
perennial goldfields *Lasthenia californica ssp. macrantha*	PDAST5L0C5	None	None	G3T2	S2	1B.2
pine rose *Rosa pinetorum*	PDROS1J0W0	None	None	G2	S2	1B.2
Point Reyes horkelia *Horkelia marinensis*	PDROS0W0B0	None	None	G2	S2	1B.2
Point Reyes meadowfoam *Limnanthes douglasii ssp. sulphurea*	PDLIM02038	None	Endangered	G4T1	S1	1B.2
red-bellied newt *Taricha rivularis*	AAAAF02020	None	None	G4	S2	SSC
Ricksecker's water scavenger beetle *Hydrochara ricksecker*i	IICOL5V010	None	None	G2?	S2?	
rose leptosiphon *Leptosiphon rosaceus*	PDPLM09180	None	None	G1	S1	1B.1
Sacramento-San Joaquin Coastal Lagoon *Sacramento-San Joaquin Coastal Lagoon*	CALA1360CA	None	None	GNR	SNR	
saltmarsh common yellowthroat *Geothlypis trichas sinuosa*	ABPBX1201A	None	None	G5T3	S3	SSC
San Francisco campion *Silene verecunda ssp. verecunda*	PDCAR0U213	None	None	G5T1	S1	1B.2
San Francisco collinsia *Collinsia multicolor*	PDSCR0H0B0	None	None	G2	S2	1B.2
San Francisco dusky-footed woodrat *Neotoma fuscipes annectens*	AMAFF08082	None	None	G5T2T3	S2S3	SSC
San Francisco gartersnake *Thamnophis sirtalis tetrataenia*	ARADB3613B	Endangered	Endangered	G5T2Q	S2	FP
San Francisco popcornflower *Plagiobothrys diffusus*	PDBOR0V080	None	Endangered	G1Q	S1	1B.1
San Mateo thorn-mint *Acanthomintha duttonii*	PDLAM01040	Endangered	Endangered	G1	S1	1B.1
San Mateo woolly sunflower *Eriophyllum latilobum*	PDAST3N060	Endangered	Endangered	G1	S1	1B.1
sand-loving wallflower *Erysimum ammophilum*	PDBRA16010	None	None	G2	S2	1B.2
sandy beach tiger beetle *Cicindela hirticollis gravida*	IICOL02101	None	None	G5T2	S2	
Santa Clara red ribbons *Clarkia concinna ssp. automixa*	PDONA050A1	None	None	G5?T3	S3	4.3
Santa Cruz black salamander *Aneides niger*	AAAAD01070	None	None	G3	S3	SSC

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Santa Cruz clover *Trifolium buckwestiorum*	PDFAB402W0	None	None	G2	S2	1B.1
Santa Cruz cypress *Hesperocyparis abramsiana var. abramsiana*	PGCUP04081	Threatened	Endangered	G1T1	S1	1B.2
Santa Cruz microseris *Stebbinsoseris decipiens*	PDAST6E050	None	None	G2	S2	1B.2
Santa Cruz Mountains beardtongue *Penstemon rattanii var. kleei*	PDSCR1L5B1	None	None	G4T2	S2	1B.2
Santa Cruz Mountains pussypaws *Calyptridium parryi var. hesseae*	PDPOR09052	None	None	G3G4T2	S2	1B.1
Schreiber's manzanita *Arctostaphylos glutinosa*	PDERI040G0	None	None	G1	S1	1B.2
Scouler's catchfly *Silene scouleri ssp. scouleri*	PDCAR0U1MC	None	None	G5T4T5	S2S3	2B.2
Serpentine Bunchgrass *Serpentine Bunchgrass*	CTT42130CA	None	None	G2	S2.2	
short-leaved evax *Hesperevax sparsiflora var. brevifolia*	PDASTE5011	None	None	G4T3	S2	1B.2
slender silver moss *Anomobryum julaceum*	NBMUS80010	None	None	G5?	S2	4.2
slender-leaved pondweed *Stuckenia filiformis ssp. alpina*	PMPOT03091	None	None	G5T5	S2S3	2B.2
steelhead - central California coast DPS *Oncorhynchus mykiss irideus pop. 8*	AFCHA0209G	Threatened	None	G5T2T3Q	S2S3	
Steller (=northern) sea-lion *Eumetopias jubatus*	AMAJC03010	Delisted	None	G3	S2	
stinkbells *Fritillaria agrestis*	PMLIL0V010	None	None	G3	S3	4.2
tidewater goby *Eucyclogobius newberryi*	AFCQN04010	Endangered	None	G3	S3	SSC
Toren's grimmia *Grimmia torenii*	NBMUS32330	None	None	G2	S2	1B.3
Townsend's big-eared bat *Corynorhinus townsendii*	AMACC08010	None	None	G3G4	S2	SSC
tricolored blackbird *Agelaius tricolor*	ABPBXB0020	None	Threatened	G2G3	S1S2	SSC
unsilvered fritillary *Speyeria adiaste adiaste*	IILEPJ6143	None	None	G1G2T1	S1	
vaginulate grimmia *Grimmia vaginulata*	NBMUS32340	None	None	G3	S1	1B.1
Valley Needlegrass Grassland *Valley Needlegrass Grassland*	CTT42110CA	None	None	G3	S3.1	

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
western bumble bee *Bombus occidentalis*	IIHYM24250	None	Candidate Endangered	G2G3	S1	
western leatherwood *Dirca occidentalis*	PDTHY03010	None	None	G2	S2	1B.2
western pearlshell *Margaritifera falcata*	IMBIV27020	None	None	G4G5	S1S2	
western pond turtle *Emys marmorata*	ARAAD02030	None	None	G3G4	S3	SSC
western snowy plover *Charadrius alexandrinus nivosus*	ABNNB03031	Threatened	None	G3T3	S2S3	SSC
white-flowered rein orchid *Piperia candida*	PMORC1X050	None	None	G3	S3	1B.2
white-rayed pentachaeta *Pentachaeta bellidiflora*	PDAST6X030	Endangered	Endangered	G1	S1	1B.1
woodland woollythreads *Monolopia gracilens*	PDAST6G010	None	None	G3	S3	1B.2

Record Count: 109

CNPS California Native Plant Society

Plant List

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

\Scientific Name	Common Name	Family	Lifeform	Blooming Period	CA Rare Plant Rank	State Rank	Global Rank
Agrostis blasdalei	Blasdale's bent grass	Poaceae	perennial rhizomatous herb	May-Jul	1B.2	S2	G2
Amsinckia lunaris	bent-flowered fiddleneck	Boraginaceae	annual herb	Mar-Jun	1B.2	S3	G3
Anomobryum julaceum	slender silver moss	Bryaceae	moss		4.2	S2	G5?
Arctostaphylos andersonii	Anderson's manzanita	Ericaceae	perennial evergreen shrub	Nov-May	1B.2	S2	G2
Arctostaphylos glutinosa	Schreiber's manzanita	Ericaceae	perennial evergreen shrub	(Nov)Mar-Apr	1B.2	S1	G1
Arctostaphylos regismontana	Kings Mountain manzanita	Ericaceae	perennial evergreen shrub	Dec-Apr	1B.2	S2	G2
Astragalus nuttallii var. nuttallii	ocean bluff milk-vetch	Fabaceae	perennial herb	Jan-Nov	4.2	S4	G4T4
Astragalus pycnostachyus var. pycnostachyus	coastal marsh milk-vetch	Fabaceae	perennial herb	(Apr)Jun-Oct	1B.2	S2	G2T2
Castilleja ambigua var. ambigua	johnny-nip	Orobanchaceae	annual herb (hemiparasitic)	Mar-Aug	4.2	S3S4	G4T4
Cirsium andrewsii	Franciscan thistle	Asteraceae	perennial herb	Mar-Jul	1B.2	S3	G3

Collinsia multicolor	San Francisco collinsia	Plantaginaceae	annual herb	(Feb)Mar-May	1B.2	S2	G2
Corethrogyne leucophylla	branching beach aster	Asteraceae	perennial herb	May,Jul,Aug,Sep,Oct,Dec	3.2	S3	G3Q
Cypripedium montanum	mountain lady's-slipper	Orchidaceae	perennial rhizomatous herb	Mar-Aug	4.2	S4	G4
Dirca occidentalis	western leatherwood	Thymelaeaceae	perennial deciduous shrub	Jan-Mar(Apr)	1B.2	S2	G2
Elymus californicus	California bottle-brush grass	Poaceae	perennial herb	May-Aug(Nov)	4.3	S4	G4
Eriophyllum latilobum	San Mateo woolly sunflower	Asteraceae	perennial herb	May-Jun	1B.1	S1	G1
Erysimum ammophilum	sand-loving wallflower	Brassicaceae	perennial herb	Feb-Jun	1B.2	S2	G2
Fissidens pauperculus	minute pocket moss	Fissidentaceae	moss		1B.2	S2	G3?
Fritillaria agrestis	stinkbells	Liliaceae	perennial bulbiferous herb	Mar-Jun	4.2	S3	G3
Fritillaria liliacea	fragrant fritillary	Liliaceae	perennial bulbiferous herb	Feb-Apr	1B.2	S2	G2
Grindelia hirsutula var. maritima	San Francisco gumplant	Asteraceae	perennial herb	Jun-Sep	3.2	S1	G5T1Q
Hesperocyparis abramsiana var. butanoensis	Butano Ridge cypress	Cupressaceae	perennial evergreen tree	Oct	1B.2	S1	G1T1

Horkelia cuneata var. sericea	Kellogg's horkelia	Rosaceae	perennial herb	Apr-Sep	1B.1	S1?	G4T1?
Horkelia marinensis	Point Reyes horkelia	Rosaceae	perennial herb	May-Sep	1B.2	S2	G2
Hosackia gracilis	harlequin lotus	Fabaceae	perennial rhizomatous herb	Mar-Jul	4.2	S3	G3G4
Iris longipetala	coast iris	Iridaceae	perennial rhizomatous herb	Mar-May	4.2	S3	G3
Lasthenia californica ssp. macrantha	perennial goldfields	Asteraceae	perennial herb	Jan-Nov	1B.2	S2	G3T2
Leptosiphon rosaceus	rose leptosiphon	Polemoniaceae	annual herb	Apr-Jul	1B.1	S1	G1
Limnanthes douglasii ssp. sulphurea	Point Reyes meadowfoam	Limnanthaceae	annual herb	Mar-May	1B.2	S1	G4T1
Malacothamnus arcuatus	arcuate bush-mallow	Malvaceae	perennial evergreen shrub	Apr-Sep	1B.2	S2	G2Q
Microseris paludosa	marsh microseris	Asteraceae	perennial herb	Apr-Jun(Jul)	1B.2	S2	G2
Mielichhoferia elongata	elongate copper moss	Mielichhoferiaceae	moss		4.3	S4	G5
Monolopia gracilens	woodland woolythreads	Asteraceae	annual herb	(Feb)Mar-Jul	1B.2	S3	G3
Pinus radiata	Monterey pine	Pinaceae	perennial evergreen tree		1B.1	S1	G1

Plagiobothrys chorisianus var. chorisianus	Choris' popcornflower	Boraginaceae	annual herb	Mar-Jun	1B.2	S1	G3T1Q
Plagiobothrys diffusus	San Francisco popcornflower	Boraginaceae	annual herb	Mar-Jun	1B.1	S1	G1Q
Rosa pinetorum	pine rose	Rosaceae	perennial shrub	May,Jul	1B.2	S2	G2
Sanicula hoffmannii	Hoffmann's sanicle	Apiaceae	perennial herb	Mar-May	4.3	S3	G3
Sidalcea hickmanii ssp. viridis	Marin checkerbloom	Malvaceae	perennial herb	May-Jun	1B.1	SH	G3TH
Silene scouleri ssp. scouleri	Scouler's catchfly	Caryophyllaceae	perennial herb	(Mar-May)Jun-Aug(Sep)	2B.2	S2S3	G5T4T5
Silene verecunda ssp. verecunda	San Francisco campion	Caryophyllaceae	perennial herb	(Feb)Mar-Jun(Aug)	1B.2	S1	G5T1
Stebbinsoseris decipiens	Santa Cruz microseris	Asteraceae	annual herb	Apr-May	1B.2	S2	G2
Stuckenia filiformis ssp. alpina	slender-leaved pondweed	Potamogetonaceae	perennial rhizomatous herb (aquatic)	May-Jul	2B.2	S2S3	G5T5
Trifolium buckwestiorum	Santa Cruz clover	Fabaceae	annual herb	Apr-Oct	1B.1	S2	G2

Suggested Citation

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Appendix D

Historic Properties Survey Report (HPSR) and Finding of No Effect to Cultural Resources, Butano Farms San Francisco Garter Snake Habitat Enhancement Project, San Mateo County, California.

San Francisco Garter Snake. Photo by M. Hylkema 2002.

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For

Vinnedge Environmental Consulting, Inc.
Berkeley, CA.

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(Not for Public Distribution)

Contents

PDF Pro Trial

Historic Properties Survey Report (HPSR) and Finding of No Effect to Cultural Resources, Butano Farms San Francisco Garter Snake Habitat Enhancement Project, San Mateo County, California.

Summary Statement:

This *Historic Properties Survey Report* (HPSR) and *Finding of No Effect* to cultural resources was prepared by Past Lifeways Archaeological Studies in anticipation of proposed improvements to San Francisco Garter Snake (SFGS) and Red Legged Frog (RLF) habitat adjacent to the Butano Creek Stream channel within the Butano Farms property in San Mateo County, California (see Map 1 and Figure 1). The project area within Butano Farms consists of approximately 65 acres and is the property of the Peninsula Open Space Trust (POST). The project as proposed involves the San Mateo County Resource Conservation District (RCD), and POST who are co-managing habitat restoration goals associated with mitigations for biological impacts from Pacific Gas & Electric Company's Line 101 Inline Inspection and Upgrade, and Lomita Park Station Rebuild Project in the City of Millbrae, San Mateo County. PG&E provided financial and in-kind contribution to conservation partners RCD and POST for managing land within Butano Farms for the San Francisco Garter Snake.

The San Francisco Garter Snake (*Thamnophis sirtalis tetrataenia*) and California red-legged frog (*Rana draytonii*) are listed endangered species that thrive in areas of open grassland with standing water ponds; however, habitat encroachment by agriculture and ranching has diminished the range of these species. Therefore, this project proposes to address the enhancement of habitat within an existing agricultural setting adjacent to a segment of Butano Creek in order to benefit both species. The primary purpose of the project is to stabilize vegetation growth, increase the capacity of an existing pond and excavate several small wetland basins within the project Area of Potential Effect (described below) with the intent of improving the aquatic habitat for the SFGS- which will also benefit the RLF's while meeting the mitigative thresholds motivating this work.

The project includes earth moving activities that have the potential to inadvertently impact cultural resources. Given that there is a federal nexus in the project permitting process, this Historic Properties Survey Report (HPSR) has been prepared in anticipation of meeting these requirements as established under Section 106 of the National Historic Preservation Act of 1966. Furthermore, a Finding of Effects conclusion is documented in this HPSR for the lead Federal Agency (anticipated to be the Army Corps of Engineers) to present to the State Office of Historic Preservation (OHP) for their review and concurrence.

In summary, the literature review and field survey of the project APE has determined that two ancestral Native American archaeological sites (CA-SMA-184 and CA-SMA-185) are in the vicinity of the project location; however, neither site is within the APE. No additional cultural resources were identified within the APE; therefore, a *Finding of No Effect* (or *No Impact*) is concluded.

Map 1: Project Vicinity Map.

Regulatory Context

Because the proposed project involves federal permits with both the US Fish and Wildlife Service (USFWS) and US Army Corps of Engineers (USACOE) for this undertaking, an evaluation of potential impacts to cultural resources was performed in accordance to federal environmental standards established under the National Environmental Protection Act (NEPA), which includes conforming to Section 106 of the National Historic Preservation Act of 1966 (16 USC 470 et seq.), and codified in 36 CFR Part 800. Regarding this Cultural Resources evaluation (HPSR), the lead federal agency for the project is the USACOE, operating in consultation with the San Mateo Resource Conservation District (SMRCD), POST and OHP. Accordingly, the lead federal agency must initiate consultation with OHP and consider the potential for effects to significant Cultural Resources from this proposed undertaking. This means that historic properties must be identified prior to proceeding with the project, and a determination made of their significance.

Figure 1: Google Earth View of Project Location near Pescadero in San Mateo County.

In consultation with OHP, potentially adverse effects must be identified along with any applicable mitigative measures- should significant historic properties exist within the project APE.

Historic properties and the types of cultural resources represented must be evaluated according to their eligibility for listing on the National Register of Historic Places, established in accordance with 36 CFR Part 63 and described in the National Bulletin 15. National Register eligibility criteria (34 CFR 60.4) include four basic categories, any one of which can meet the necessary threshold of eligibility. A cultural resource can be significant if it is:

> **(A)** Associated with events that have made a significant contribution to the broad patterns of history; or
> **(B)** Associated with the lives of persons significant in our past; or
> **(C)** Embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possesses high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinctions; or
> **(D)** Have yielded, or may be likely to yield, information important in prehistory or history.

Under CEQA (the California Environmental Quality Act), archaeological and historic resources must be evaluated for their potential eligibility to the California Register of Historical Resources (PRC Sect. 21000 et seq.). Identified resources eligible for listing to the California Register (per PRC 5024.1), follow the same criteria established for Section 106. These findings are recorded in an Archaeological Survey Report (ASR); however, for those projects using either federal funds or operating under a federal permit, Section 106 procedures take precedence and documentation is detailed in the Historic Properties Survey Report (HPSR).

If studies determine that no archaeological or historical resources exist within a projects APE, then the State Office of Historic Preservation can be asked to concur with a *Finding of No Effect* (or No Significant Impact) to Historic Properties and further consultation can be concluded. On the other hand, if resources are positively identified within the project Study Area or APE, but can be avoided or otherwise protected, then a *Finding of No Adverse Effect* to historic properties can be proposed, allowing for the project to move forward. However, if it is determined that a project will impact a cultural resource, then this must be documented in a *Finding of Significant Effect*, and impacts must be addressed through data recovery or other means- and mitigated in order to reach a level of no significant impact or effect. OHP must be consulted and concurrence sought for any findings and mitigative measures.

This HPSR for the SFGS Habitat Enhancement Project has identified two previously recorded archaeological sites within ¼ mile of the project APE. These sites are registered as CA-SMA-184 and SMA-185. Fortunately, neither of these potentially significant archaeological sites are within the project APE and they will not be impacted by project implementation. Therefore, a *Finding of No Effect* has been concluded, and presented below.

Project Description and Area of Potential Effect (APE):

The project Area of Potential Effect for cultural resources encompasses approximately 65 acres where several project related tasks will occur (see Figure 2). The southeastern portion of the APE includes a section of wetland along Butano Creek, and there is an existing cattle pond several hundred feet to the north of the stream channel that is situated within the alignment of a small draw, or arroyo created between two rounded grass covered hills (existing vegetation communities within the APE are depicted in Figure 3, and Pictures 1-7). An existing unimproved dirt road enters the project site from Pescadero Road approximately a mile and half to the northwest of the APE, and traverses over the rounded hills to the northwest boundary of the APE, which is designated as the "upland" component of the project APE (see Figure 4). In summary, the project proposes to:

1) Excavate and enlarge an existing pond to increase the depth and area of open water;

2) Create a sediment retention forebay upstream of the existing pond to reduce erosion in the adjacent drainages and as well as sediment transport into the pond;

3) Restore grassland habitat within the pond's watershed by modifying the grazing regime to enhance the grassland components and reduce woody vegetation, removing woody vegetation that is encroaching into the grassland, controlling invasive plants through

Figure 2: Project Area of Potential Effect and Proposed Actions.

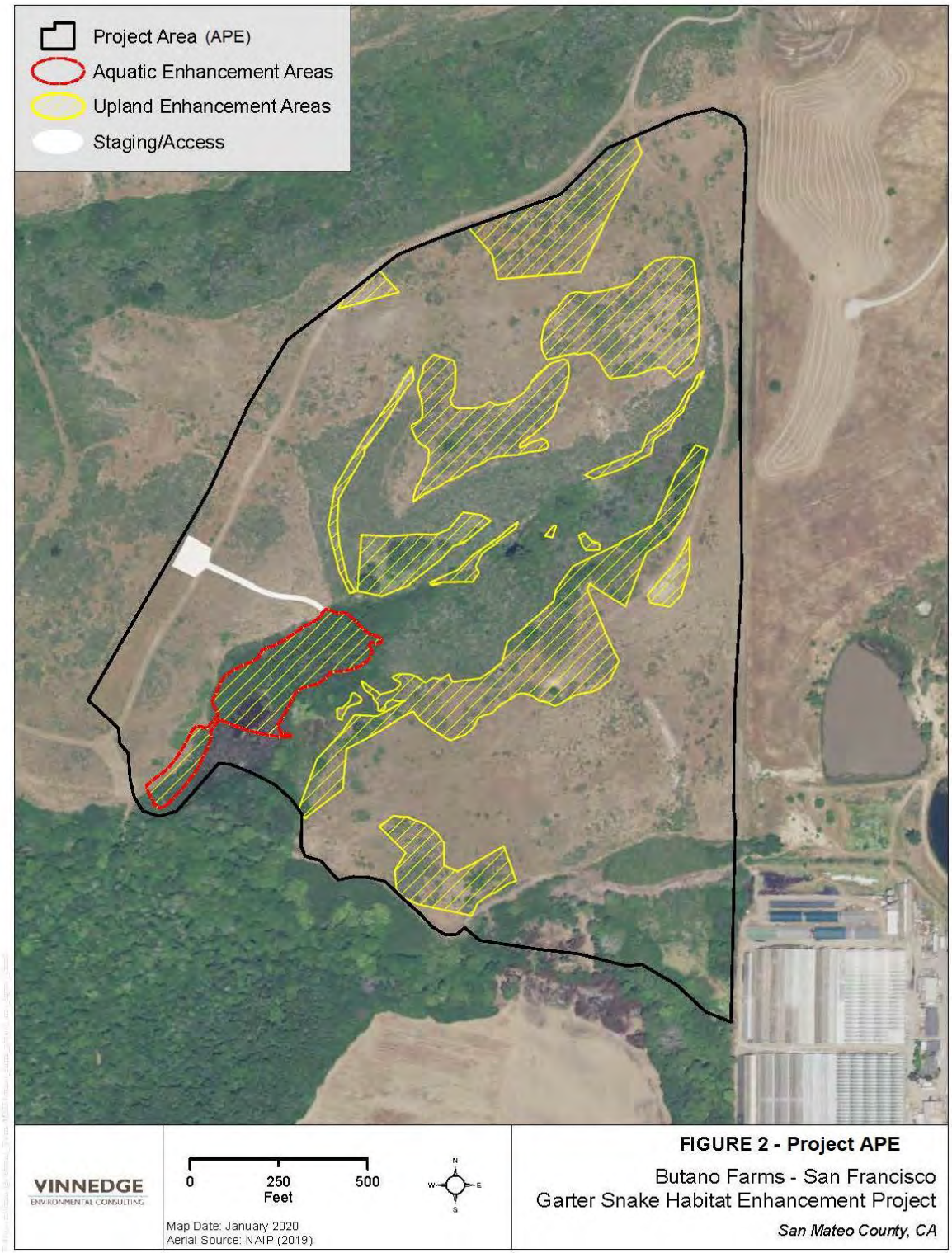
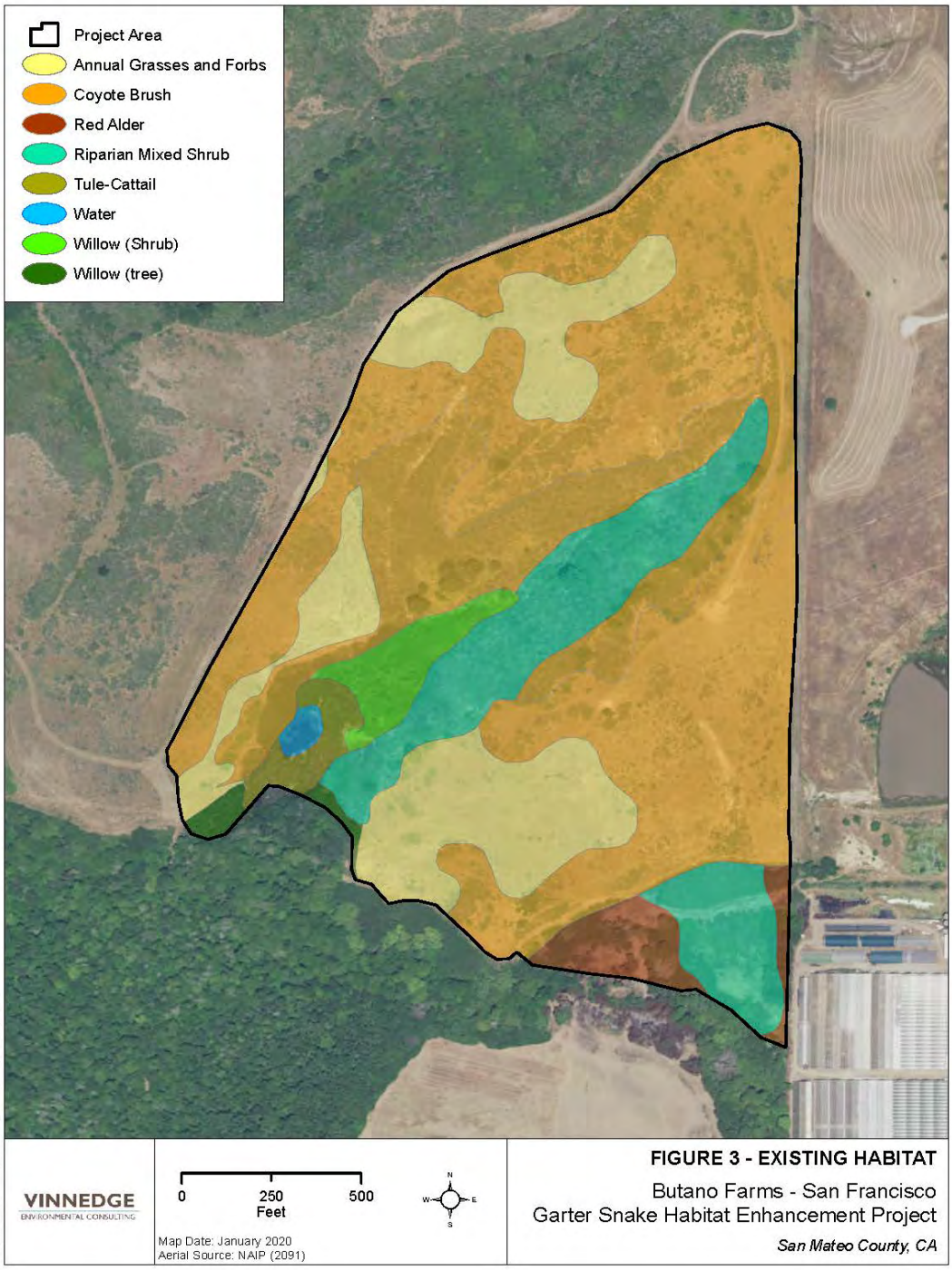


Figure 3: Existing Vegetation Communities within the APE.



4) various treatment approaches, increase soil health through application of soil amendments, and seeding with native grasses;

5) and Minimize on-going bank erosion along the pond edges through creation of designated areas for controlled cattle access to the pond (drinking water source), and/or development of alternative water systems to reduce erosion and improve distribution of cattle across the landscape.

Under the proposed project, aquatic habitat would be expanded, enhanced and protected (see Figure 5). Details about each component of aquatic habitat restoration activities are provided below.

- ***Aquatic Habitat Expansion (0.19 acres):*** Two new shallow ponds will be excavated along the northwest section of the existing pond. These new ponds would have depths of 10-20" to provide shallow water habitat for CRLF and Sierra tree frogs, both food sources of SFGS.

- ***Aquatic Habitat Enhancement (0.49 acres):*** This component of the project would remove riparian tree species (mostly willows), and sediment to achieve a water depth of 10"-20" in the wetland bench (0.18 acres), and also excavate the deep water pond to a depth of 3-7' (0.31 acres).

- ***Aquatic Habitat Protection (0.50 acres):*** The remaining .5 acre of existing pond habitat would be protected. The current conditions at this location contain a dense mix of tules and cattails, which help filter sediment from the drainage before entering Butano Creek.

The existing 3 acres of riparian habitat around the pond and in its lower unnamed drainage area would be enhanced as follows: approximately 0.5 acres of riparian forest habitat will be transitioned to grassland dominated habitat; approximately 2.5 acres of the riparian are will remain relatively intact, however sediment management structures (berms) would result in alterations to the riparian vegetation. Berms will be constructed from material removed from the pond and placed in the willowed area to the northeast of the pond. These constructed berms will function to slow the flow of water moving through the floodplain and allow sediment to fall out prior to the water reaching the pond. The berms will ultimately build up the elevation of the floodplain and minimize future erosion in the gullies.

Approximately 61 acres of upland habitat has been selected for brush removal, grassland restoration and soil rehabilitation to enhance SFGS basking habitat and minimize erosion. This work will improve soil health, decrease erosion and reduce the amount of sediment entering the pond.

Within the 61 acres identified for upland habitat enhancement, approximately 14.5 acres of shrub (coyote brush) habitat will be converted to native grassland through removal of shrubs, invasive trees and non-native grasses. Contractors will utilize wood chips from tree and brush removal activities for mulch, which will be spread across upland areas to improve soil health, encourage revegetation of deep rooting native grasses and help minimize future erosion from these areas.

This mulch will also be placed in existing gullies to provide soil cover and help decrease erosion and gully growth. Livestock Fencing will be installed to control livestock access to portions of the restored upland habitat.

Figure 4: Project Actions within the Upland Area of the Project APE.

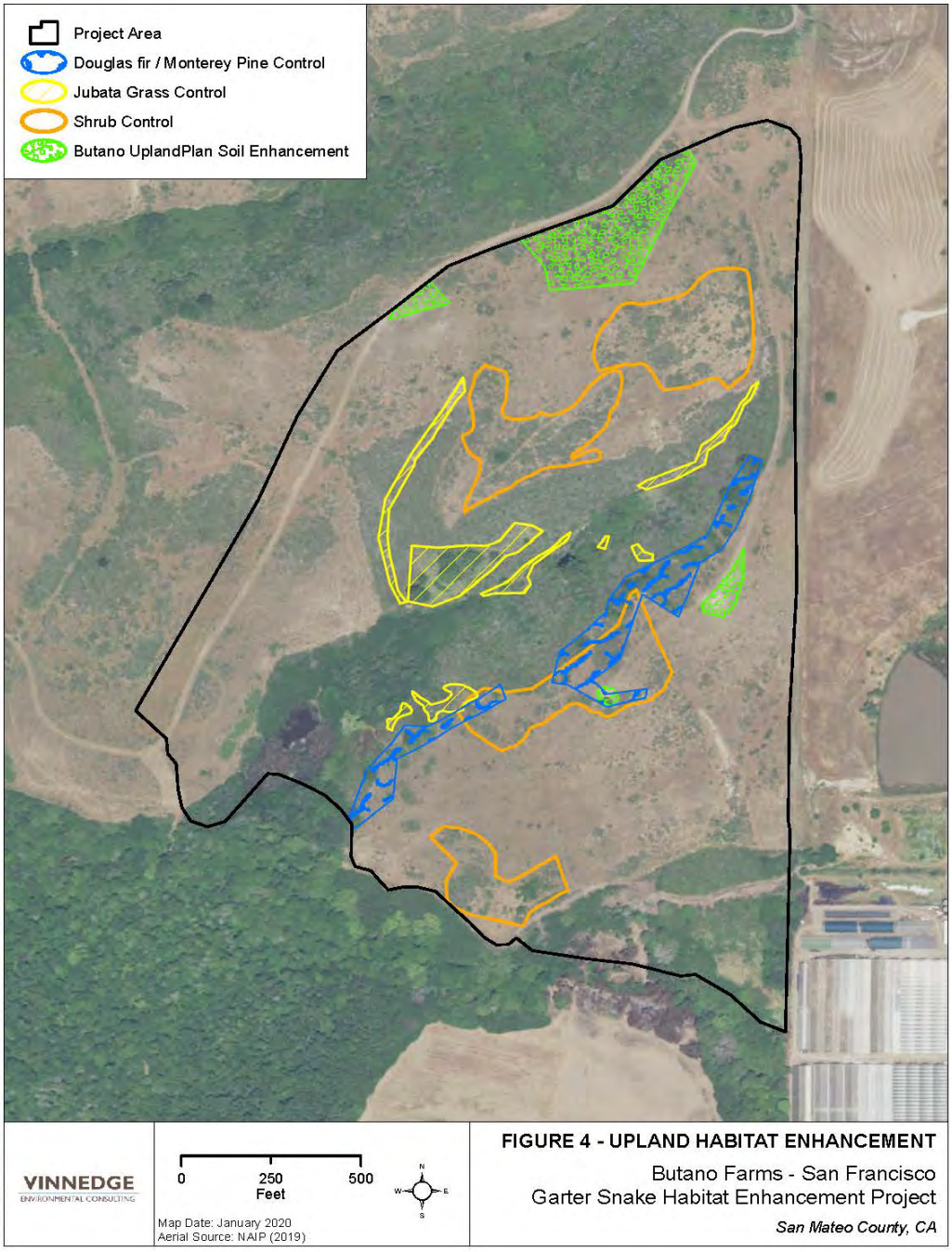
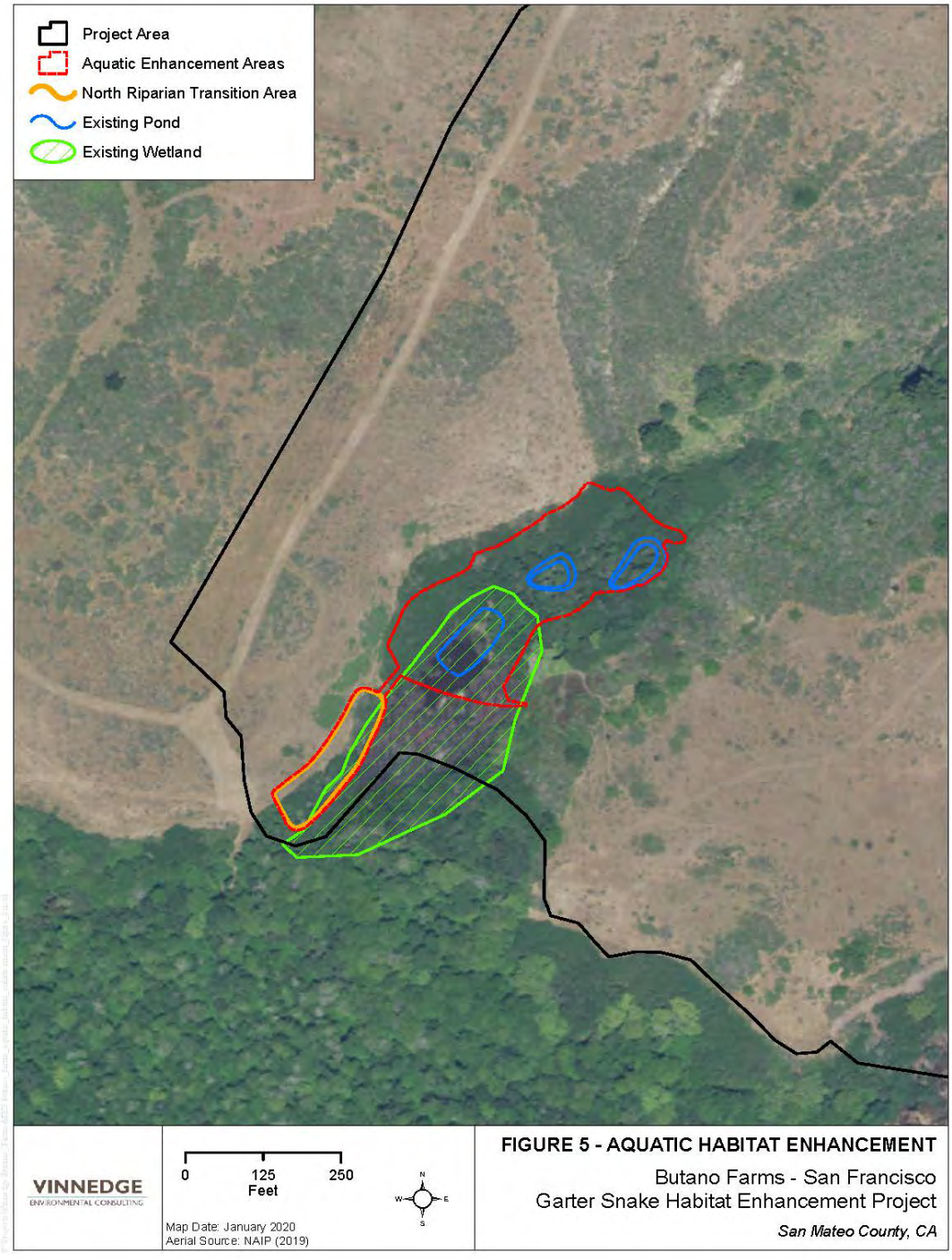


Figure 5: Aquatic Actions within the Project APE.



Cultural and Environmental Contextual Setting:

The following section serves to provide a contextual summary of the region's prehistory and history in order to establish an understanding of the potential range of cultural resources that might be present within the APE, or Study Area, and their significance.

Prehistory:

The prehistory of the project area overlays a larger fabric of dynamic cultural transformations that began sometime over 12,000 years ago, during the late Pleistocene (the end of the Great Ice Age) when world sea level was lower, and people first arrived along the west coast of North America. Episodes of dramatic (even cataclysmic) environmental changes have led to the recognition of four major climatic shifts that have transpired during the time of human occupation. These changes define the Late Pleistocene, Early, Middle and Late Holocene epochs (we are in the Late Holocene, which began some 3,200 years ago).

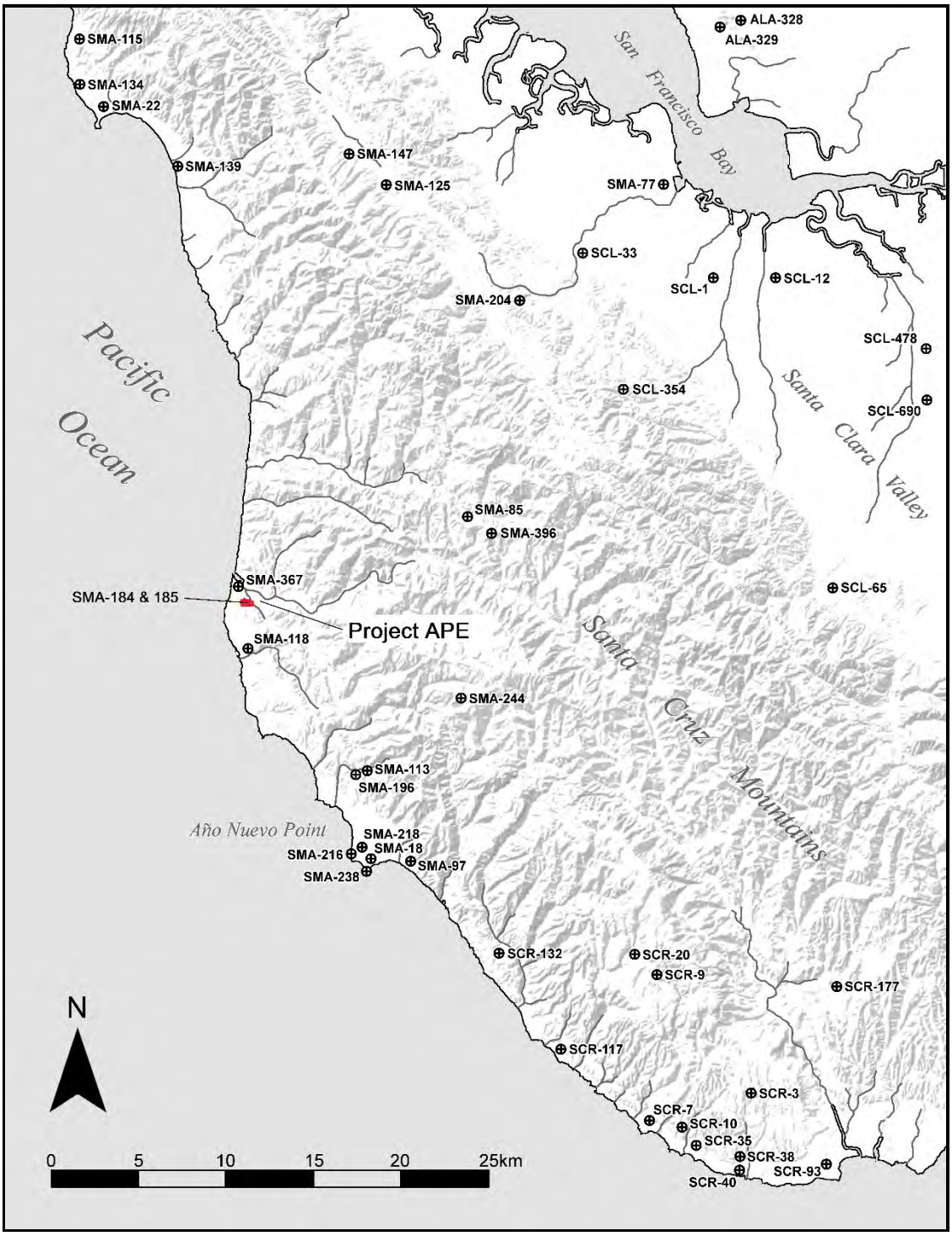
Archaeologists have shown that people have been active agents of change to the landscape throughout the San Francisco Peninsula ever since the time of their first arrivals (Lightfoot et al. 2013). The early presence of humans is evidenced through the antiquity of the multiple prehistoric archaeological sites that have been found distributed throughout the region as well as across the rest of western North America. It is known that the Americas were populated through more than one migration event by people coming across Beringia (the formerly dry land mass that once connected Siberia to Alaska) from Asia by following the migratory habits of the game animals they hunted (Haynes 2002). Genetic studies have discovered that sometimes populations migrated back into Siberia from Beringia. Clearly substantial cultural diversity existed even in the distant past.

Geologic interpretation of sediment profiles from deep borings in the south Bay indicate that between 17,000 and 7,000 years ago, post-Pleistocene warming trends in the global environment caused a rapid rise in sea level as glacial ice melted (Atwater, Helley, and Hedel 1977; Atwater et al. 1979). Sometime around 10,000 years ago, during the Early Holocene period (circa 8,000 - 4,650 BC), the progressively rising sea began to encroach up through the deeper stream channels that meandered through the wide oak woodland and grassland valley plains of what was to become San Francisco Bay. The level coastal terrace terrain that once extended considerably farther offshore began to submerge until sea level reached its present height by Middle Holocene times, some 6,000 years ago (Bickel 1978; Brown 1978).

With the stabilization of sea level, marine and terrestrial plants and animals developed distinctive behaviors and territorial distributions that allowed for predictable, patterned resources important to human societies. Cyclical patterns of seasonal food availability, and repetitive use of these resources by the early people has resulted in the distribution of extensive archaeological deposits at locations where residential and or task specific activities became established.

Archaeological studies of the cultural prehistory of the Peninsular coast and Northern Monterey Bay, also referred to as the Santa Cruz Locality, have found that the majority of coastal sites studied thus far date from the Middle and Late Holocene, and represent adaptive strategies developed after the stabilization of sea level ca. 6000 years ago (Breschini 1983; Hildebrandt et al. 2009; Hylkema 1991; 2002; Jones et al 2007; Masters and Aiello 2007:35-51; Milliken et al 2007). Figure 6 identifies several key sites mentioned in this discussion and depicts the regional context of studied sites relative to the project location.

Figure 6: Locations of Selected Archaeological sites discussed in this HPSR.



Within the Santa Cruz Locality, four general archaeological phases have been defined based on, a) changing combinations of artifact forms from temporally discrete archaeological sites, and b) proposed decreases in group mobility through time. These phases are the *Metcalf Phase* (ca. 10000-5500 B.P.), the *Sand Hill Bluff Phase* (ca. 5500- 3000 B.P.), the *Año Nuevo Phase* (ca. 3000-900 B.P.), and the *Bonny Doon Phase* (ca.900 B.P. to Spanish colonization) (Hylkema and Cuthrell 2013; Jones et al. 2007:137; Milliken et al. 2007:104).

Though absolute chronological boundaries are difficult to distinguish in this region, several general trends emerge from comparison of sites throughout the Santa Cruz Locality. One of the most noticeable diachronic changes in artifact composition is among combinations of projectile point forms and the source materials from which they were made. Also, greater use of *Olivella* shell beads and abalone pendants, which served as markers of wealth and group membership among peoples throughout Central California, gave a significant economic advantage to coastal groups like the *Quiroste*- the tribe that occupied the Pescadero Marsh region. The basic characteristic of the *Sand Hill Bluff, Año Nuevo,* and *Bonny Doon Phases* is presented below.

Sand Hill Bluff Phase (ca. 5500-3000 B.P.):

Several archaeological sites within the Santa Cruz Locality and San Francisco Peninsula dating to the Sand Hill Bluff Phase produced artifacts that suggest relatively high group mobility. Given that Franciscan chert sources are spatially restricted to the Santa Clara Valley and Monterey chert to the coastline around Año Nuevo Point, the distribution of these materials serve as markers of exchange and travel. Although locally available Monterey chert from the Año Nuevo source typically dominates chipped stone inventories in most Santa Cruz Locality sites through time, the regular occurrence of non- local lithic materials and the variety of point forms during the Sand Hill Bluff Phase indicates higher group mobility than in the subsequent Año Nuevo Phase, when lithic assemblages are comprised almost exclusively of Monterey chert and a few North Coast Range obsidians (Hylkema 1991).

Sand Hill Bluff Phase sites share similar mixes of corner and side-notched point forms, as well as the larger Rossi Square-stemmed type (defined by Jones and Hylkema 1988) and shouldered contracting-stemmed forms made from Monterey and Franciscan cherts. Points and bifaces of locally available chalcedony, opal, and quartz (Hylkema 2012), as well as of imported obsidian (sourced from the North Coast Ranges and eastern Sierra Nevada Mountains), are found regularly in sites throughout the interior Santa Clara Valley, the Scotts Valley basin, and along the coastlines of Santa Cruz and San Mateo Counties.

The Sand Hill Bluff Phase site SCR-7 has produced nearly 200 weapon tips representing a wide variety of notched dart and spear head forms (Hylkema 1991; 2002), including the Rossi Square-stemmed type (Jones and Hylkema 1988), various shouldered contracting- stemmed forms, and a range of lanceolate forms. Corner- and side-notched points, often with diverse basal styles and serrated blade margins, are the most frequently recovered types. Points made from non-local lithic materials composed 32% of the SCR-7 assemblage. Although Franciscan chert projectile points are present in these coastal sites, an absence of associated debitage suggests that they arrived with people who had access to the Santa Clara Valley source. Conversely, points and debitage from coeval archaeological site SCL-65 in the town of Saratoga shows a reversed ratio of Franciscan to Monterey cherts, but produced similar point forms (Fitzgerald 1993). This parallel order probably represents the extent of coast and interior travel by the same, or a closely related social group.

Lithic assemblages with similar point type and source material attributes are also evident at other sites on both sides of the Santa Cruz Mountains during this phase, including SCL-33, SCR-3, SCR-10, SCR-38, SCR-40, and SCR-313, as well as the lower components of SCR-9 and SCR-20 (Jones et al. 2000; Fitzgerald 1993; Hylkema 1991; Hylkema 2002). At SCR-3, points made from exotic Franciscan chert and obsidian composed 13 of 34 (38.2%) specimens, and 15 of the 27 (55.5%) points recovered at SCR-9. Compare this ratio with Año Nuevo Phase site SMA-218, where 98% of the recovered points and bifaces (n=100) were made from Monterey chert and did not include any of the earlier notched or square-stemmed forms or Franciscan chert. On the coast, notched forms have their origins in even older Metcalf Phase times (Jones et al. 2000; Milliken et al. 2007:120-121; Wesson and Bobo 1999). One site, SMA-196 in Quiroste Valley, may be as old as Metcalf Phase given the presence of two Monterey chert side-notched points and a basin shaped milling slab in a deposit completely lacking organic material such as bone, shell, or charcoal, suggesting a very archaic date. Regardless of their temporal origins, notched point forms and the Rossi Square-stemmed type dominates the Sand Hill Bluff Phase and is totally absent during the later Año Nuevo Phase.

Other attributes of this temporal phase include the common occurrence of pebble choppers or hand axes made from andesitic and quartzitic cobbles, possibly used to split larger bones to extract marrow from larger prey species. Mixed assemblages of milling tools are evident, and although milling slab fragments are infrequent; numerous discoidal hand stones that often exhibit deliberately shaped shoulders and slightly beveled axial ends are regularly recovered. Sand Hill Bluff phase assemblages also include mortars and pestles, an indication of the increasing value of acorns and possibly other plant foods to the diet, as well as greater dependence upon storable food resources. At SCR-9, which has a Sand Hill Bluff Phase lower component and a transitional Año Nuevo Phase upper component, nearly equal representations of both sets of milling gear were found throughout the two-meter-deep midden deposit. The SCR-9 assemblage included 9 partial mortars, 13 pestles, 14 hand stones and 2 partial milling slabs (Hylkema 1991).

Also common during this phase are bi-pitted cobbles that were possibly used as anvils to split shellfish or as shell-meat tenderizers (these become increasingly common during the subsequent Año Nuevo Phase; Hylkema 1998). Distinctive discoidal stone fishing-net weights with wide notches appear at SCR-3 and other regional sites. *Olivella* shells and beads are not very common in Sand Hill Bluff Phase sites, but thick rectangular L series (Jones et al. 2007:134-136), and whole-olivella A series and "barrel" beads representative of this phase have been found at SCR-38 and SCR-93 (Hylkema 1991).

Año Nuevo Phase (ca. 3000 to 900 B.P.):

The Año Nuevo Phase saw a change in lithic materials, with bifaces and points made from Monterey chert (and less commonly from exotic obsidian) becoming the exclusive chipped stone source used throughout the coastal and interior upland zones of the Santa Cruz Mountains and Peninsular coast (Hylkema 1991; Milliken et al. 2007). This corresponded to a time of greater artifact diversity and social complexity among peoples living in the valleys and oak woodlands surrounding San Francisco Bay, where an increasing reliance on stored nut crops has been credited as key element leading to a greater level of social complexity and possibly to greater territorial circumscription, with a corresponding reduction in group mobility (Basgall 1987; Breschini 1983; Hylkema 2007; Milliken et al. 2007).

During this time, two economic spheres developed and interacted. While coastal communities maintained an older adaptive strategy of logistical foraging, people of the Bay Area developed leadership and membership institutions and permanent residential bases, as evidenced by the large cemeteries and expressions of monumentality in mounds such as ALA-328, ALA-329, SCL-1 and many others (e.g., Hylkema 2002; Leventhal 1993; Lightfoot and Luby 2002; Milliken et al 2007; Nelson 1909). Through these enduring institutions, the many Native American polities present at the time of Spanish colonization probably began to coalesce at this time (Hylkema 2007:397-420).

This is also when a population from the interior Livermore area, manifested as the Meganos Tradition, entered the southeast bay and encountered people represented archaeologically by the Berkeley Pattern (Hughes 1994:81-89). Evidence of increased violence and conflict during this time is apparent (Allen 2012:197-216; Hylkema 2002:260) and was particularly evident at site SCL-478 in the Santa Clara Valley, dated ca. 2000-2500 B.P. (Wiberg 2002). This expression of increased violence arguably could have resulted in the need for cohesive mechanisms of kinship and alliance to enforce territories and defense, or from which to make offensive strikes. These types of population movements and territorial disputes may have led the ancestral Quiroste to become more spatially restricted and focused on localized resources.

On the Peninsular coast, Año Nuevo Phase sites SCR-9 (upper component), SMA-18, SMA-218 and others contain voluminous deposits of dietary shell (principally California mussel [*Mytilus californianus*]), as well as a variety of faunal remains including marine and terrestrial mammals as well as fish and birds. SCR-9 produced 1,477 faunal bone specimens, many identifiable, and >80 kg of marine shellfish remains per m3. At SMA- 218, Año Nuevo Phase chipped stone artifacts were associated with a large collection of northern fur seal (*Callorhinus ursinus*) elements that composed nearly half of the identified faunal assemblage. In contrast, the coeval shell-rich upland site SCR-9, located ca. 7 km from the coast, was dominated by large numbers of deer bone elements with only a few fur seal bones. These bones, along with other seasonally diagnostic faunal elements, suggest a year-round presence in the uplands with regular visits to Año Nuevo for access to Monterey chert and fur seals. However, archaeological surveys indicate that the larger mortuary sites were situated on the coastal terraces rather than in the uplands (Hylkema 1991).

Regional sites also contain large quantities of Monterey chert debitage (Hylkema 1991; 2002; Hildebrandt et al. 2009). For example, SMA-18 produced 258.8 flakes per m3, 98% of which was Monterey chert, and SCR-132 produced 871 flakes per m3, with 99% Monterey chert. At SMA-218, Unit 7 produced 17,304 specimens (9.3 kg), for a debitage density >90 kg/m3. This site also produced 339 bifaces and points that were almost exclusively of the Año Nuevo Long-stemmed type, along with preforms in various stages manufacture. This pattern of staged point reduction sequences is mimicked at nearly all other contemporaneous local coastal sites (Hylkema 1991). A virtual absence of Franciscan chert artifacts at SMA-218 and other coastal sites during the Año Nuevo Phase implies that the coastal cultures no longer accessed the Santa Clara Valley lithic source.

Along with Franciscan chert, notched point forms disappear during this phase. The Año Nuevo Long-stemmed point type defined by Jones and Hylkema (1988:163-186), with lesser numbers of large and small obsidian lanceolates from North Bay sources, dominate the projectile point styles nearly to the exclusion of all others forms for over 1500 years. Obsidian lanceolate's pair with long-stem points at sites SMA-18, SMA-97, SMA-218, and interior Bay Shore site SMA-77. SMA-77, situated on the San Francisco Bay shore side of the peninsula, produced eight long-stems and

four obsidian lanceolates from among 14 points. Various stages of long-stemmed point manufacture are evident at most sites in the region, especially SMA-218 (285 bifaces; 54 projectile points; 82% of identifiable points long-stemmed) and SMA-238 (>400 bifaces at all reduction stages) at Año Nuevo Point (Hylkema 1991). At nearby site SCR-132, two Año Nuevo Long-stemmed points were recovered, as well as several bifaces showing the long-stem reduction sequence, all found above a dated floor feature with a single Franciscan chert Rossi Square-stem point found 20 cm below the feature. Two radiocarbon dates separate the components well (WSU #3205, Haliotis sp., U-4, 30-40cm, 1900 + 50; WSU # 3231, charcoal, U-4, 60-70cm, 5240 + 100 [Hylkema 1991:220-239]).

The Año Nuevo Long-stemmed type defined by Jones and Hylkema (1988) was first described by Dr. Bert Gerow of Stanford University, who recovered eight of them (as previously noted) from SMA-77, a mortuary site along the southwestern San Francisco Bay shoreline (Gerow and Force 1968; Justice 2002:257). Findings from this site led Gerow to propose an "Early Bay Tradition" that was initially distinct from sites of the East Bay and San Joaquin Delta (i.e., the Lower Berkeley Pattern), but eventually merged with other contemporary populations (Gerow 1974). A result of this "convergence" was the development of the subsequent Upper Berkeley Pattern, as proposed by Frederickson (1974:57-73), sometime around 2500 B.P. (Milliken et al. 2007:104). Interior Bay Shore and Santa Clara Valley populations trended towards an increased reliance on stored nut crops, with substantial reductions in group mobility and increases in social hierarchy (Basgall 1987; Bennyhoff and Hughes 1987; Hylkema 2002; Lightfoot and Luby 2002).

On the coast, milling tool assemblages continued to include hand stones and milling slabs as well as mortars and pestles, an indication of the continued need to pursue a diversified nut and seed food harvesting strategy. Increasing numbers of grooved and edge-notched stone weights along with bone fishing gorges suggest a greater emphasis online fishing than during the previous *Sand Hill Bluff Phase*, but faunal data are currently lacking (see Gobalet 1992). Bone scapula saws, awls, and fragments of whale rib and abalone prying tools have been noted at several sites (Hylkema 1991; 2002).

Whole *Olivella* type A series beads and unmodified *Olivella* shells are present at most coastal sites in this phase (Hylkema 1991; 2002), reflecting their increased valuation among interior cultures, but shaped beads are nearly absent, with only a few *Olivella* type G series saucer beads recovered at SCR-9 and SMA-218. Whole *Olivella* shells are also present in most sites, albeit in low numbers. It appears that the export of *Olivella* beads or whole shells to California's interior was one component of coastal peoples' economies during this time (see Figure 7).

In sum, two distinct traditions developed during the *Año Nuevo Phase*. Peoples in the interior San Francisco Bay area (Berkeley Pattern) shifted toward greater reliance on stored food resources, and more pronounced social hierarchies developed. In contrast, peoples living near the coast continued to pursue more generalized subsistence strategies, and large, permanently occupied sites are much less common here than in the vicinity of the Bay. Expressions of wealth and social hierarchy do not seem very apparent in coastal sites of the *Año Nuevo Phase*. However, unusually large obsidian lanceolate blades that may have been prestige items were found at several coastal sites, including SMA-18 and SMA-97 (Hildebrandt et al. 2009; Hylkema 1991).

Bonny Doon Phase (ca. 900 B.P. to Spanish Colonization):

On the coast, many cultural attributes that characterized the *Año Nuevo Phase* remained constant between ca. 3000-900 B.P., but shortly thereafter changes in technology and social organization within the San Francisco Bay region resulted in increasing territorial circumscription. These changes are illustrated by the large number of historically documented tribal polities in the Santa Cruz Locality, including the Quiroste tribe that controlled the vicinity of the Butano Farms Mounds.

Figure 7: *Olivella* shell beads and drill (courtesy of Mark Hylkema).

Within the greater San Francisco Bay area, a trend toward more complex social organization appears to have gained momentum after 1300 B.P. with the advent of the Middle/Late Transition (ca. 1100-900 B.P.) and the Late Period, also referred to as the Augustine Pattern (Fredrickson 1974:57-73). This was a time of cultural transition that replaced earlier artifact assemblages, particularly of *Olivella* shell beads and abalone pendants, with new types that served as markers of wealth and specialized social group membership (Bennyhoff and Hughes 1987; Groza 2002; Hughes 1994; Milliken et al. 2007; Hylkema 2002; 2007). Higher densities of these shells at coastal sites during this phase indicate that coastal peoples increased collection in response to greater demands for these raw materials by peoples living in the interior. Mortuary contexts in interior sites throughout Central California display large increases in *Olivella* and abalone shell goods after the Middle/Late Transition (ca. 1100-900 B.P.), and up to the Spanish Mission Period (Hughes 1994; Hylkema 2007; Schwitalla 2013).

Hylkema (1991) compared the volumes of *Olivella* shells from two *Año Nuevo Phase* sites (upper component SCR-9 and SCR-132) with two *Bonny Doon Phase* sites (SMA- 97 and SMA-244). The earlier sites produced a combined total of 4.3 *Olivella* shells/m3 of excavated deposits, while the later ones produced 64 *Olivella* shells/m3. SMA-19 produced 3799 *Olivella* specimens (681 whole) from 0.8 m3 of deposits (4748.8 shells/m3), most of which had been bleached by heating. Eight AMS dates (six from California mussel shell, two from charred botanical remains) from SMA-19 ranged between ca. 620-300 cal. B.P. (Hylkema 2002). Activities associated with *Olivella* bead production, including raw material collection, firing, and bead blank cutting, clearly indicate substantial investments of labor during the Late Period *Bonny Doon Phase,* but drilled and shaped beads are rare.

During the *Bonny Doon Phase*, the spread of bow and arrow technology throughout the Santa Cruz Locality is indicated by the presence of small, serrated lanceolate obsidian points (Stockton Serrate type; SS) and the Desert Side-notched (DSN) type (see Figure 8). At SMA-244, five obsidian SS points were recovered from 7.5 m3 of excavated deposits, as well as numerous talc-schist disk beads. All points were from the Napa Valley source and produced hydration readings ranging between 1.3-1.7 µm (Hylkema 1991:349). At SCR-20 (the Bonny Doon site), three obsidian SS points from the Napa Valley source were recovered from the upper 50 cm and yielded hydration rim readings of 1.2-1.4 µm (Hylkema 1991:189-190). Many DSN points were also found, documenting co-occurrence of these two types. This was also true of SMA-113 in Quiroste Valley not very far from the Study Area (Hylkema and Cuthrell 2013).

Figure 8: Late Period Arrow tips from the Santa Cruz Locality (Stockton serrated and three Desert side-notched type).

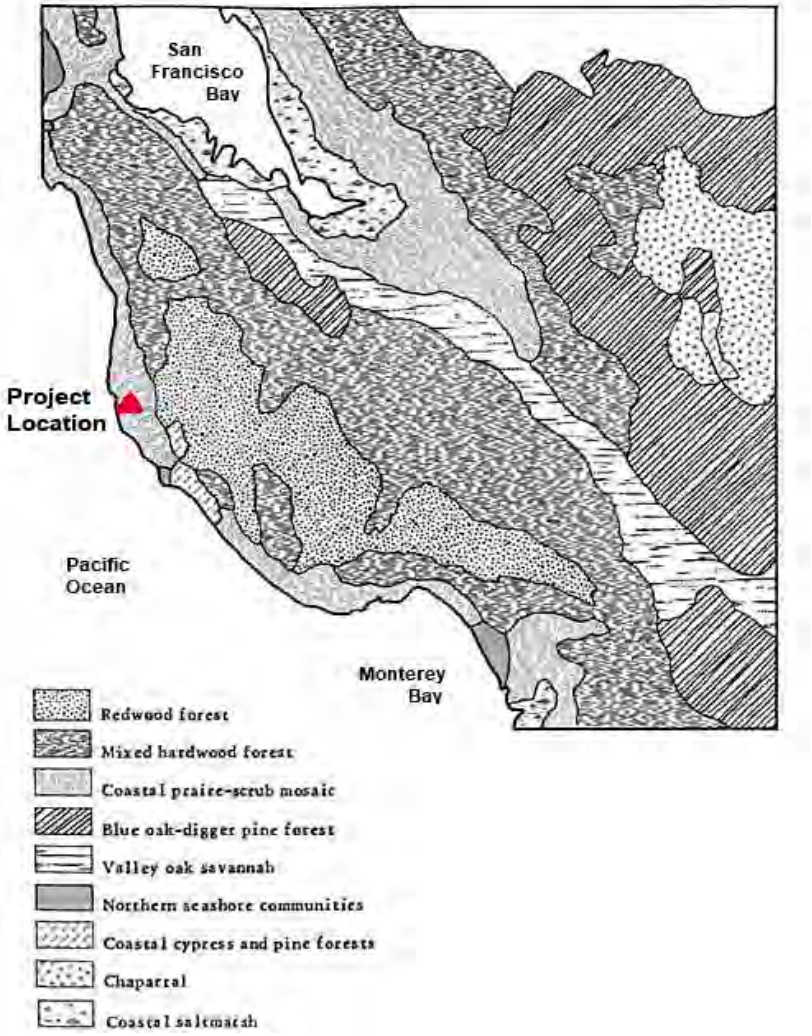
It is likely that larger dart tips, possibly Año Nuevo Long-stems, were still in use during the later Bonny Doon Phase too. These may have been the point type described by Fr. Palou of the Rivera expedition in 1774 when traveling in the Santa Cruz Mountains: “They carried short lances having curved blades made of flint as well worked as if it had been iron, the only difference being these have no grain” (Stanger and Brown 1969:141).

Tubular stone tobacco pipes appear during this phase as well. Fragments of a large one was noted at SMA-97 (Hylkema 1991), and a small pipe was recovered from SCR-117 (Fitzgerald and Ruby 1997).

Research on landscape management practices indicates that people in Quiroste territory used fire to alter natural patterns of vegetation succession, maintaining open grasslands around Quiroste Valley by the early part of the *Bonny Doon Phase* (Lightfoot et al, 2013). Since substantial investments of time and labor were required to maintain landscapes with more highly productive and reliable yet more costly resources, landscape management likely indicates a high degree of stability in territories during this time.

During the *Bonny Doon Phase*, the ancestral Ohlone of San Mateo County lived in a landscape of great ecological diversity. Their environment brought them near marine, sandy beach, rocky shore, tidal and freshwater marsh, grassland prairie, oak grassland savanna, riparian, chaparral, mixed hardwood, and evergreen forest habitats (see Figure 9).

Figure 9: Vegetation Communities of the San Francisco Peninsula (after Kuchler 1977).



Combinations of various habitats frequently converged in geographically narrow areas, and the mosaic distribution of productive biological communities gave a significant advantage to the ancestral Ohlone by enabling them to formulate alternative subsistence strategies such as co-harvesting, long-term storage, and exchange systems. Enhancing vegetal productivity through the application of fire, along with institutionalized leadership roles and kinship/alliance systems, served to ameliorate episodes of scarcity and the effects of resource over-exploitation (as described by Basgall 1987:21-52; Bean and Lawton 1973:v-xlvii; Bean and King 1974; Blackburn and Anderson 1993; Chagnon 1970; Fages 1937; Lewis 1973; Milliken 1983; Simons 1992:73-103).

Archaeological evidence from sites in the area shows that productive ecological zones, in terms of native subsistence needs, involved littoral and grassland habitats concentrated along the narrow coastal terraces and upland meadows in the Santa Cruz Mountains. A survey of nearly 200 sites on the peninsula between Montara Point and the San Lorenzo River (42 at Año Nuevo State Reserve) west of the crest of the Santa Cruz Mountain range, found that 70 percent occur within the terrace zone, 20 percent have been found in the adjacent mountain uplands, and the remaining 10 percent are spread along riparian corridors that cut into the mountains (Hylkema 1991:23).

Very narrow, moderately level sections of coastal terrace parallel the length of the peninsula coast. Intermittent extensions of flat terrace penetrate inland between the coniferous forest slopes of the Santa Cruz Mountains at places such as Pescadero valley. Grasses and shrubs dominate the terrace habitat (Kuchler 1977), and this community supported a range of terrestrial mammals that were trapped, snared or felled by projectiles (Harrington 1942).

A variety of sea birds, migratory ducks and geese were available and historic accounts state that large numbers of waterfowl would congregate in seasonal wetland basins on the coastal terrace (Stanger and Brown 1969). The mountains rise directly above the terrace and are dominated by unproductive evergreen forest with sporadic patches of economically important grass meadows and oak trees dispersed within mixed hardwood forest.

By the end of the prehistoric period, an economic network developed throughout central California that transported coastal products to the interior and brought exotic materials to the coast. Despite linguistic variations there was a shared ideology and wealth system which grew exponentially until everything was truncated by historic developments heralded by the abrupt arrival of Spanish explorers in the fall of 1769.

Historic Period Native Lifeways

Ethnohistoric observations written during the first European land expedition of 1769 and later missionary records noted that several different tribal communities (referred to as tribelets by contemporary anthropologists) controlled territory along the San Francisco Peninsula coast. It was noted that coastal populations seasonally relocated from the coastal edge to locations in the nearby Santa Cruz Mountains (Palou, Vol. 3 in Bolton 1926:3:293-303; Crespi in Stanger and Brown 1969:88). Kinship data derived from Spanish Mission records show that coastal communities ultimately assimilated into a larger Bay Shore alliance network through marriage and kinship (King 1994:203-228; Milliken 1983; 1991; 1995).

At the time of first contact populations were organized into extended families, or clans that formed villages. Within the villages, clan members ascribed to different clubs or societies. Membership usually involved initiation where novices learned the customs of the organization and used shell beads to pay dues. Different membership driven organizations sponsored ceremonial events, each having their own distinctive costumes and regalia. Abalone (*Haliotis*) shell pendants were frequently used as badges of membership and rank. Together the various organizations formed the fabric of society and directed the storage and redistribution of surplus food resources, construction of village buildings, planned hunting strategies and followed the seasonal cycles of nature that would determine where and when they should relocate themselves. Both men and women could be members of various societies (Kroeber 1928), and an elite group of women (called *Mayen* in the northern San Francisco Bay region*)*, directed the construction of large circular dance houses that were excavated several feet below the surrounding ground level (Collier and Thalman 1996).

The *Mayen* selected the most virtuous individuals to represent various spiritual forces that were personified in dances and ceremonies. This practice was called *Kuksui*. *Kuksu* dancers wore woven feather bandoleers made from woodpecker quills placed edge to edge that draped over their foreheads and down their shoulders. Young children were initiated into the various societies and were taught proper manners and customs acceptable to their community by their elders. Once membership was invoked, they earned status and rank over the term of their lives.

Women had geometric lines and patterns tattooed over their chins, neck and shoulders to identify their clan affiliation, and to prevent improper attention from a suitor who otherwise might not be aware of her social standing. Men wore their hair long, and often had long beards and moustaches. Both men and women used sharpened and polished deer bone pins to hold their hair into various fashionable styles. Both occasionally adorned themselves with polished circular stone disks that were inserted in their ear lobes or nasal septum. Most had their ears pierced and wore decorations of brightly colored feathers and bird bone tubes. Finely woven fibers of milkweed were used to make hairnets that sometimes were covered with feathers or shell beads.

Men typically governed the political structure of the village and did the hunting while women handled the gathering and processing of vegetal foods (Harrington 1942; Kroeber 1928). Each village had a “head man” and the many villages throughout the Santa Cruz Mountains and coast each had its head man. Feuds and violence between members of some villages was not uncommon, but relatives typically sought to avoid conflicts through payments made in shell beads. Men wore little or no clothing, a trait common among hunting people living near the animals they depended on where they must avoid retaining the human scent in order to better blend in with their natural surroundings. Women wore a braided tule rush skirt with a rear apron made from finely tanned deerskin.

Houses called *ruk* and/or *tac* were constructed of Tule reeds that were tightly thatched and woven over a framework of willow poles. Every house had an indoor and outdoor hearth and underground oven. Many fist-sized river cobbles were used to distribute heat in the ovens where plant bulbs, shellfish and animal meats could be roasted. Long poles with painted rings of black, red and white and brightly colored feathers attached were erected in the cemeteries adjacent to the villages. Each village also had a partially underground, roofed sweathouse where interior fires steamed the occupants like a sauna. This was where the men spent a lot of their time telling stories and repairing

their hunting tools. Bows were kept in the sweathouse where the smoke kept the human scent off them. When women had just given birth, both she and the newborn spent their first few days together resting on a bed of herbs within a special sweathouse, where they could keep warm together.

Historic Period Transformations and the Quiroste Tribe:

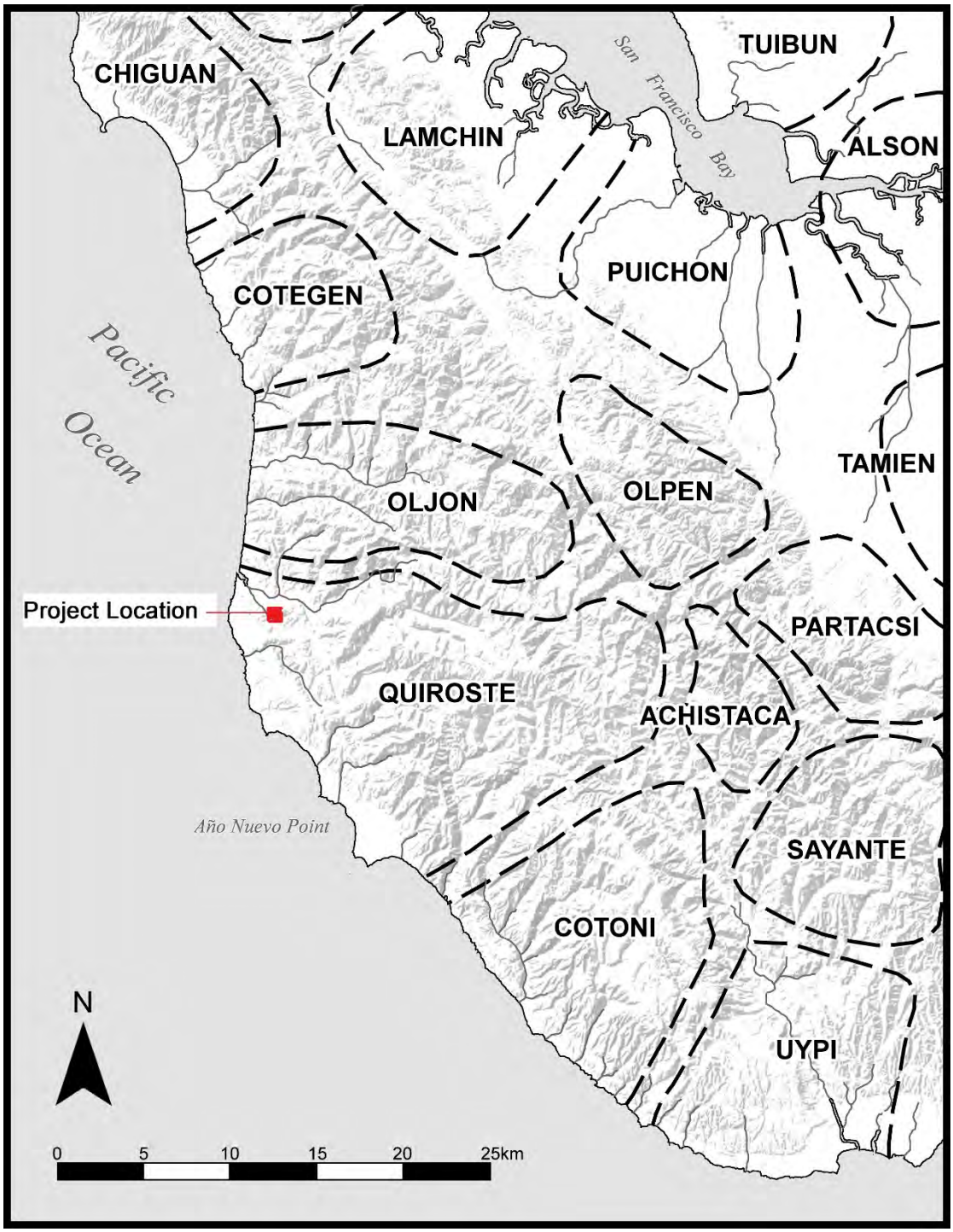
The proto-historic period for the project area begins in the year 1542 with the first sea explorations conducted by imperial Spain; however, the Historic Period did not truly begin until the Spanish Government sponsored the colonization of the area. This did not occur until as late as 1769 when the first overland expedition reached Upper California and inadvertently encountered San Francisco Bay. The diaries and accounts of these first expeditions provide valuable insights into the lifeways of the local Native American people.

The Project APE is within the territory of the ethnographic *Quiroste* Tribe, which was one of the most powerful polities on the Central California Coast (see Figure 10). The *Quiroste* were one of some fifty independent tribal groups that have collectively been referred to as the Ohlone Indians by contemporary scholars and some tribal descendants (Cambra et al. 2007; Milliken 1991). In order to give greater context to ancestral Native American cultural resources within the project area, portions of an article published by Hylkema and Cuthrell (*California Archaeology*, Vol. 5, No 2: 225- 247, 2013) were excerpted and included in the discussion that follows.

Archaeological and historical information from within the ancestral territory of the *Quiroste*, especially at Año Nuevo State Park, reveals a long tradition of in-situ cultural developments spanning the Middle and Late Holocene (Hylkema 2002). Año Nuevo State Park was the center for Monterey chert stone tool production, and a source of export for economically important *Olivella* and abalone shell. These resources, along with abundant terrestrial and marine foods and materials established the *Quiroste* as a prominent polity among the many others that controlled territories throughout the San Francisco Bay Area. An equally biologically productive area within their territorial control was the marsh at the mouth of Pescadero Creek, along with the interior uplands where terrestrial game and vegetal resources facilitated this tribe's economic stability.

European explorers, missionaries, and colonists arriving at the San Francisco Peninsula in the early 1770s found a region controlled by a mosaic of individual Native American tribal polities (Milliken 1991; 1995). Spanish authorities mobilized to settle the area, and native communities of the Peninsula were soon inducted into one or more of the three Franciscan Missions that were strategically placed among them (Mission Dolores, est. 1776; Santa Clara, 1777; and Santa Cruz, 1791). Other villagers were attracted to the Royal Presidio of San Francisco (est. 1776) and the Pueblo of San Jose de Guadalupe (est. 1777). The *Quiroste* were documented as present at all three missions (Milliken 1991; 1995). The *Quiroste* controlled one of the most productive resource zones on the peninsular coast, with a territory ranging from Point Año Nuevo northward to Pescadero Marsh and inland into the Santa Cruz Mountains.

Figure 10: Tribal Polities Adjacent to the Project APE, circa 1770s (after Hylkema and Cuthrell 2013).



With the advent of Spanish colonial contact in the 1770s, encounters with the *Quiroste* demonstrated that they were a well-organized polity whose management practices maintained open coastal landscapes that produced predictable herbaceous seed and geophyte resources in their territory (for discussion of ecological effects of burning, see Cuthrell 2013). Extensive burned grasslands were recorded by the members of the Portola expedition in the fall of 1769, both in *Quiroste* territory and throughout Ohlone territory (Brown 2001; Browning 1992). Fr. Juan Crespi pointedly observed that they burned the meadows "for a better yield of the grass seeds that they eat" (Brown 2001:565). On the journey, Crespi also observed stands of burned California hazel (*Corylus cornuta* var. *californica*) south of Santa Cruz (Cuthrell 2013; Stanger and Brown 1969:79).

In their initial foray into *Quiroste* territory in late October 1769, members of the Portola expedition were guided to a *Quiroste* village that we believe is today site SMA-113 along Whitehouse Creek, where they were hosted and recorded several insightful observations. Crespi wrote:

> "Here we stopped close to a large village of very well-behaved good heathens, who greeted us with loud cheers and rejoiced greatly at our coming. At this village there was a very large grass-roofed house, round like a half-orange, which, by what we saw of it inside, could hold everyone in the whole village. Around the big house they had many little houses of split sticks set upright…These heathens presented us with a great many large black and white-colored tamales: the white tamales were made of acorns, and they said that the black -colored ones were very good too. They brought two or three bags of the wild tobacco they use, and our people took all they wanted of it. One old heathen man came up smoking upon a very large and well-carven Indian pipe made of hard stone. The Indians almost all carry tall red-colored staffs, some with feathers; they presented four of these staffs to Sergeant Don Francisco Ortega" (Stanger and Brown 1969:88).

The ceremonial use of tobacco in the region was also noted by Father Palou in 1774. Near San Bruno, he presented the native people with glass beads and tobacco and wrote:

> "…upon seeing [the tobacco] they named it with the same term as at Monterey, *sauans*; they set to smoking, and I noticed used the same ceremony of blowing the smoke upwards, saying some words with each puff: I could understand only one of them, which was *Esmen*, meaning Sun. I saw they had the same custom of the headman's smoking first and then giving the pipe to another, when it goes around among all of them" (Stanger and Brown 1969:141-142).

At Casa Grande, Portola noted that the village was composed of some 200 people (Companys 1983:384). Although the *Quiroste* clearly held a numerical advantage over the small group of explorers, they displayed great hospitality, as noted by engineer Miguel Costanso:

> "The Indians, advised by the scouts of our coming to their lands, received us with great affability and kindness, and, furthermore, presented us with seeds kneaded into thick pats. They also offered us some cakes of a certain sweet paste, which some of our men said was the honey of wasps; they brought it carefully wrapped in the leaves of the Carrizo cane, and its taste was not all bad. In the middle of the village there was a large house, spherical in form and very roomy; the other small houses, built in the form of a pyramid, had very little room, and were built of split pine wood. Because the large house so surpassed the others, the village was named after it" (Browning 1992:107).

Costanso also wrote that they were furnished with four guides from the village of Casa Grande who showed them the way to Pescadero after they left Whitehouse Creek. He gives a positive impression of the landscape and mentioned that they met several Indians along the way who were actively engaged in harvesting seeds from the meadowlands: "To us, the land seemed rich and of good quality; the watering places were frequent; and the natives the best disposition and temper that we had yet seen" (Browning 1992:109). Their route would have brought them around the inland side of Pescadero Marsh, possibly through the project APE.

Later expeditions sought out the *Quiroste* at the village that came to be called the Rancheria de la Casa Grande. In December 1774, Father Francisco Palou observed that near the big house was a cemetery, "in which was planted a high pole, this being the monument used by the heathen for the sepulchers of the chief men of the village" (Bolton 1926:295). Evidently the use of the Casa Grande place was seasonal- or for ceremonial events. Subsequent expeditions following the Portola route some years later found the village empty of people and seemingly abandoned.

Mission registers noted that many *Quiroste* identified themselves as from a coastal village called *Mitine* (also *Mutene*, or *Mitline*) that may have been the site of Casa Grande (Merriam 1968; Brown 1973). It was said to be on the coast to the west of a mountain village named *Chipletac* (possibly inland around the Mindego Hill area). Another village called *Churmutce* (San Rafael) was in Pescadero Valley (Milliken 1991:459).

The *Quiroste* people are credited with leading the first active resistance to Spanish colonialism in the bay area. In 1791, a 60-year-old Quiroste headman named *Charquin* was baptized at the Mission San Francisco outstation in San Pedro Valley. He left eight days later, possibly disenchanted that a neighboring chief, *Lachi* of the *Oljon* tribe of San Gregorio Creek, was given special status by the Spanish authorities (Milliken 1991:186). Milliken noted that at the time of his baptism, *Charquin* did not have any relatives at Mission San Francisco, while *Lachi* did:

> "[Lachi] was part of a family already intermarried with one of the most important Christian families of Mission San Francisco, that of Pruristac captain Luciano Tiburcio Mossues. The Quiroste had been the largest, most powerful group on the Pacific Coast between the Golden Gate and Monterey Bay. Yet in 1791 they found themselves outsiders in the mission network of status and power" (Milliken 1991:186).

In 1793, missionaries visiting the *Quiroste* villages learned they were providing sanctuary to several fugitive neophytes. By late April or May 1793, Spanish soldiers sought out and captured *Charquin* and he was sent as a prisoner to the Santa Barbara Presidio. In retaliation, on December 14, 1793, several *Quiroste* under the leadership of at least two men named *Ochole* and *Pella* attacked and burned buildings at Mission Santa Cruz.

Spanish soldiers were immediately transferred to Mission Santa Cruz as reinforcements and scouts were sent into the mountains to capture the *Quiroste* ringleaders. In February 1794, it was reported that Indians in the Santa Cruz Mountains were making arrows, presumably to carry out a second attack on the mission (Milliken 1991:189-190; 1995:120). In the same month, a raid on the remaining *Quiroste* holdouts by a small group of neophytes resulted in the capture of *Pella* and seven other *Quiroste* people.

Soon afterward, many people from the "San Bernardino district," which encompassed *Quiroste* territory, joined Mission Santa Clara (See Figure 11). In 1794, 224 neophytes from this district were baptized at the mission, more than twice as many as in any other year (Milliken 1995:274). In 1795, *Charquin* escaped from the Santa Barbara Presidio, but he was recaptured. By April 1796, both *Charquin* and *Ochole* were imprisoned at the San Francisco Presidio. At this time, they were transferred to the Monterey Presidio and then to the Presidio of San Diego, where both men died in 1798.

Spanish and Mexican Periods: Changing Historical Landscapes.

By 1805, no more coastal villages are recorded as having been reduced, and by 1816 Mission Santa Cruz established a cattle ranch at what they named el Rancho del Punta de Año Nuevo. They built a small adobe building (which was recently discovered by this author and is situated between today's Park Visitor Center and Horse Barn), which was inhabited by mission Indian neophytes (sixteen men and one woman) who managed up to 3,600 head of cattle. Eventually, Mission Santa Cruz expanded their pastures even further north to reach the Pescadero and Butano Valley grasslands.

During Spanish Mission times, the Pescadero area supported increasingly vast cattle herds that roamed the hills and valleys; livestock generally ranged freely over the landscape and rapidly multiplied, creating an industry focused on the production of leather goods and tallow. This new economic bounty required a large labor force to operate a string of widely distributed cattle ranches, and soon the missionaries began to send their neophytes on raids among their former enemy tribes to retrieve additional neophyte labor. In time, the missions became the principal supporter of Indian neophytes as well as the Spanish colonists stationed at the presidios and pueblos; and they began interacting with American, Russian and British business ventures by selling cattle hides and tallow. By 1810 foreign ships arrived regularly to load ranching products and sell exotic goods, and many missions transformed from agricultural communes to ranching facilities.

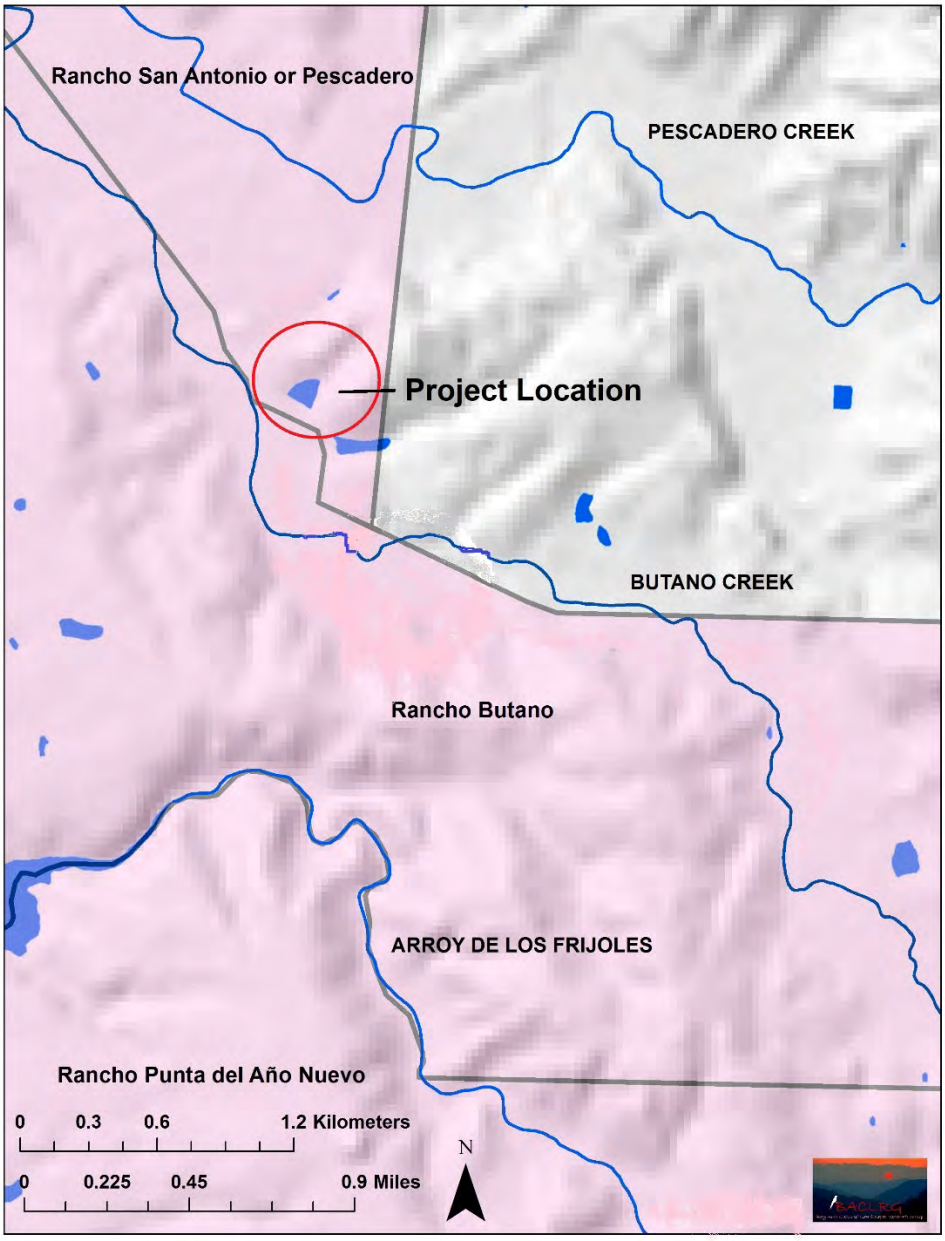
Given the fact that the missions controlled the land and labor, it did not take long for the local citizens of the pueblos to start complaining to officials that they could not participate in this closed economy. Meanwhile, after 1810, events were unfolding in Mexico that would result in the Mexican Revolution and the overthrow of the Spanish dominion in Mexico and California by 1822. By this time, all the *Quiroste* had been inducted into the mission system (Milliken et al. 1993).

Historic Trends within the Project APE

Under Mexican rule, substantial changes in California society began, including the dismantling of the mission properties and expansion of colonists into California's former mission landholdings. Settlers petitioned for land grants, and between the years of 1834 and 1836 alone the Mexican Congress released 8 million acres of mission lands to private ownership. Without the authority of the missions, the Indians lost any potential claim to their lands. However, the former mission neophytes soon adapted to newly evolving economic opportunities by composing the labor force for the new ranchos; and they frequently served as the caballeros and vaqueros working the cattle herds.

The Former Mission cattle ranches at Pescadero and Año Nuevo were ultimately divided into three separate Mexican Period land grants deeded to Mexican citizens. These new land divisions included Rancho San Antonio- or Pescadero, Rancho Punta del Año Nuevo, and Rancho Butano. The project location is near the demarcation boundary between Rancho Pescadero and Rancho Butano (see Figure 11).

Figure 11: Mexican Period Ranchos around the Project APE.



Rancho San Antonio was granted in 1833 by Governor Jose Figueroa to Juan Jose Gonzales, who had been a Presidio Guard at San Francisco. The grant composed some 3,282 acres near today's town of Pescadero and was patented to him by the U.S. Government in 1866. Rancho Butano, which initially extended only from the coast between Bean Hollow Beach and Butano Creek, was granted to Ramona Sanchez in 1838. This was the first grant issued by Governor Juan Alvarado. Doña Ramona occupied her property until 1852, when she sold it to Manuel Rodriguez, who received the U.S. Patent to the land in 1866. Rancho Año Nuevo was granted to Simeon Castro by Governor Juan Alvarado, May 27, 1842. At that time, this property of some 17,753 acres stretched from Wadell Creek to the south, and northwestwards up to the inland course of Butano Creek. In 1857, after the death of Don Simeon, his widow, Maria Antonia Pico, and his family received the Patent for the property. However, in 1866 the part of this ranch that includes the Butano Farms property was annexed to Manuel Rodriguez's Rancho Butano.

Early American Period:

With the annexation of Texas into the Union and the subsequent Mexican American War of 1845-1848, hostilities were formally ended with the signing of a document known as the Treaty of Guadalupe Hidalgo. Article XI of the treaty bound the United States to observe that "special care shall...be taken not to place its Indian occupants under the necessity of seeking new homes" when removal of Indians was carried out or settlement was made by citizens of the U.S. Meanwhile the discovery of gold in the Sierra Nevada foothills sparked an incredible world-wide fever for gold that was said to be just waiting in the streams to be picked out. California became a state in 1850 and the new California legislature acted to initiate the Public Land Commission to manage formal surveys and land allotments.

In 1860, the Bartlett Weeks Family, natives of Maine who came to California in 1859 purchased 157 acres of what is now downtown Pescadero and became neighbors with another American settler, Alexander Moore who had already built his house on the north side of Pescadero Creek in 1853. Clearly the influx of American and other settlers was transforming the coastal area into a mosaic of subdivided properties.

Loren Coburn's Estate 1872-1920

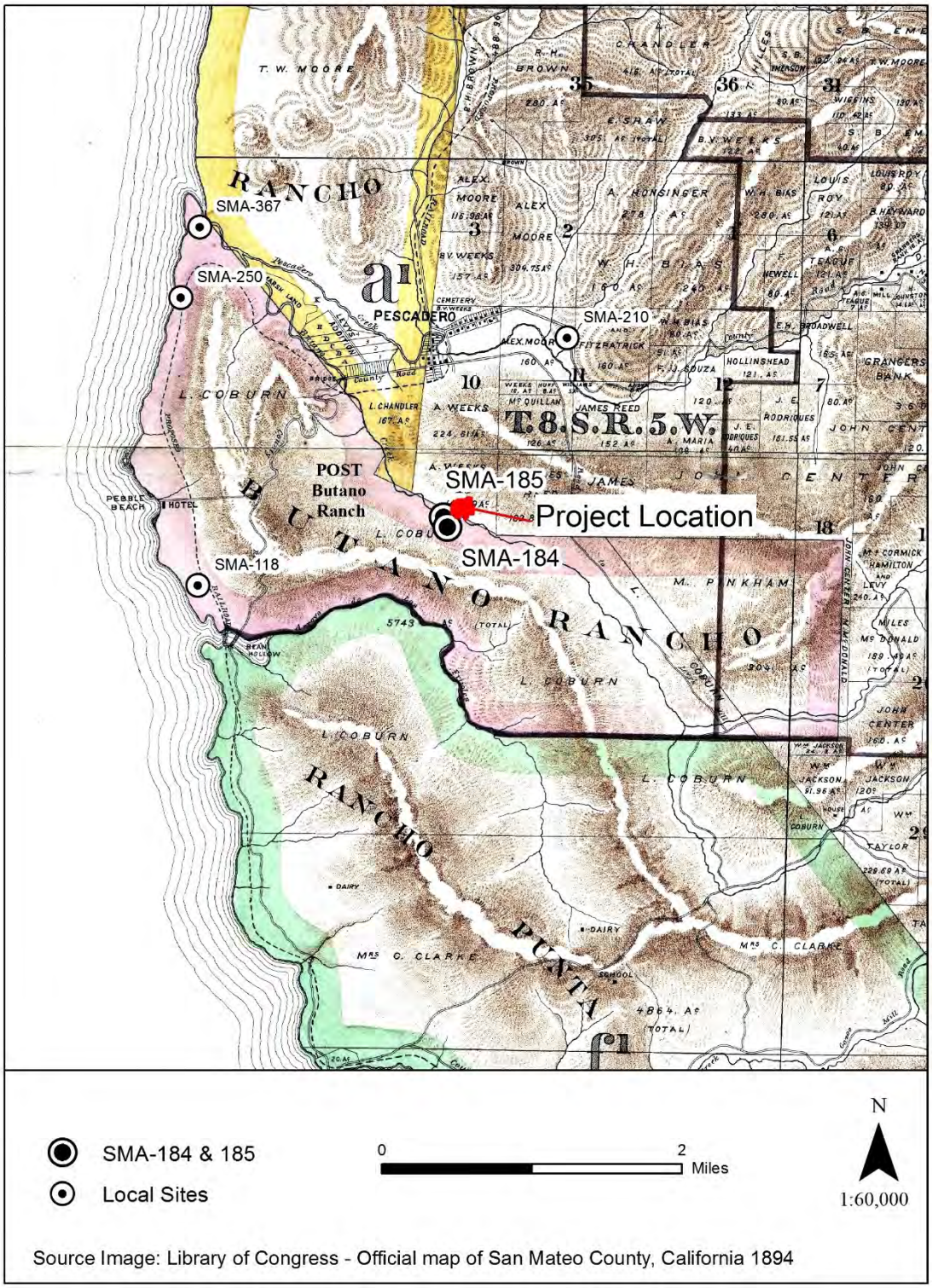
In 1872, Mr. Loren Coburn- a wealthy entrepreneur formerly from Vermont had taken an interest in lands along the San Mateo County coast. He quickly purchased potions of what were Rancho Año Nuevo, Rancho Pescadero and Rancho Butano. Pescadero Marsh remained an un-important feature to Mr. Coburn, and at that time there were no formal roads through it, although cattle grazed freely throughout the marsh as it remained un- fenced. Within the project APE, Rancho Butano was within Coburn's landholdings which can be seen in an 1894 property map (see Figure 12).

Coburn had purchased a very large amount of property, spreading from Pescadero Marsh south to Pigeon Point and inland into the redwood forests of today's Butano State Park. He and his family resided in the nearby town of Pescadero, and over time, other members of the Coburn clan arrived, and settled in the town (Morrall 1992).

Unfortunately, Mr. Loren Coburn had developed a reputation among his Pescadero neighbors as being somewhat stingy and reclusive. He was rather fond of suing trespassers, business associates and even competing family members. It was said that he was somewhat tight-fisted, and his reputation as a curmudgeon was exacerbated when he became disenchanted by an increasing number of visitors and tourists who "trespassed" over his property to reach Pebble Beach, a small cove just a little over a mile south of Pescadero Marsh.

Pebble Beach was famous for the high-quality jaspers that washed out from the eroding cliffs, which the public liked to collect. Although Coburn had a wagon trail across his property that led to the beach, he did not want people to use it and installed a locked gate to prevent further pedestrian and equestrian traffic. The townsfolk of Pescadero were incensed about their being closed off from Pebble Beach, and after several episodes of having his gate torn down and receiving violent threats, he appealed to the San Mateo County court to enforce his property rights. Although the court ruled in his favor, people continued to trespass, and a local politician sought to overrule the court decision. This dynamic series of challenges went on for nearly 20 years before Coburn eventually lost the right to prevent travel over his lands to reach Pebble Beach (Morrall 1992).

Figure 12: 1864 Tax Map Showing Coburn Landholdings and the Project Location (archaeological site locations added).



Over the years, even as Loren Coburn became increasingly infirm, he continued to be involved in many lawsuits. Among them were those brought forth by his neighboring relatives who sought to take over his estate by having him declared incompetent.

Ultimately, Loren Coburn passed away on November 14, 1918 at the age of ninety-two. By 1920, Coburn's landholdings near Pescadero were subdivided into small farms by the Peninsula Farms Company, which had acquired property rights from one of Coburn's Trustees, Mr. Christopher Wideman (Morrall 1992:214). Similarly, Butano Farms became an agricultural pursuit.

Result of the Records Review and Field Survey:

The literature review and field surveys were done by Mark Hylkema, the Principal Investigator for Past Lifeways Archaeological Studies.

Researchers Qualifications Statement

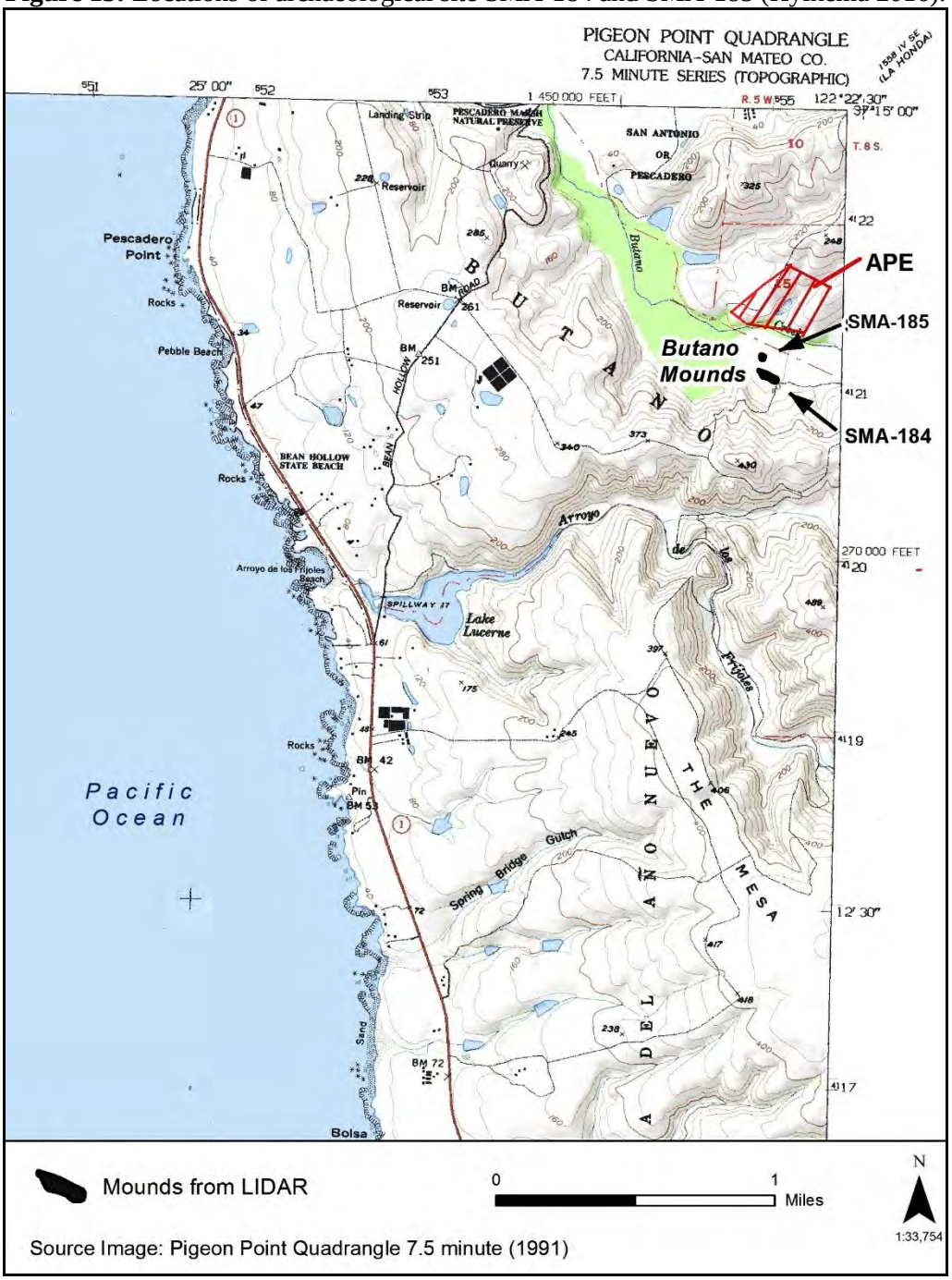
Mr. Hylkema is a Registered Professional Archaeologist (RPA) and has 39 years' professional experience in the archaeology of Central California. He was President of the Society for California Archaeology (2015/2016 term) and is an Adjunct Professor of Anthropology at Foothill College in Los Altos Hills. Mr. Hylkema has a master's degree in Archaeology/Social Science and did his graduate research on the archaeology of the San Mateo and Santa Cruz County coast (Hylkema 1991). Mark has published extensively on local archaeology (see citations in this report) and is on the editorial board of the journal, California Archaeology.

Results of the Records Review

A literature search was done prior to conducting a field examination of the APE to determine if there were any previously recorded historic or prehistoric cultural resources present. Most of the results of the literature review have been presented in the Cultural and Environmental Contextual Study above, while other results were generated during the field survey described here. Neither the National Register of Historic Places, California Historical Landmarks, California Register of Historical Resources, or California Points of Historical Interest (as listed in the Office of Historic Preservation's *Historic Property Directory*) resulted in any positive findings within the project APE.

An archaeological records review was done through the California Historical Resources Information System's (CHRIS) Northwest Information Center (NWIC) at Sonoma State University on January 2016 (NWIC File# 15-0821). The record search indicated that an archaeological survey had been conducted in an area of Butano Farms adjacent to the project APE, and that two previously recorded archaeological sites were noted within ¼ mile of the project APE . These include ancestral Native American sites CA-SMA-184 and CA-SMA-185 (see Figure 13). The locations of these two sites, as well as others in the vicinity were documented in an *Enhanced Archaeological Survey Report* (Hylkema 2015), and in an HPSR with a Finding of No Adverse Effect for wetlands enhancement along Butano Stream Channel (Hylkema 2016).

Figure 13: Locations of archaeological site SMA-184 and SMA-185 (Hylkema 2016).

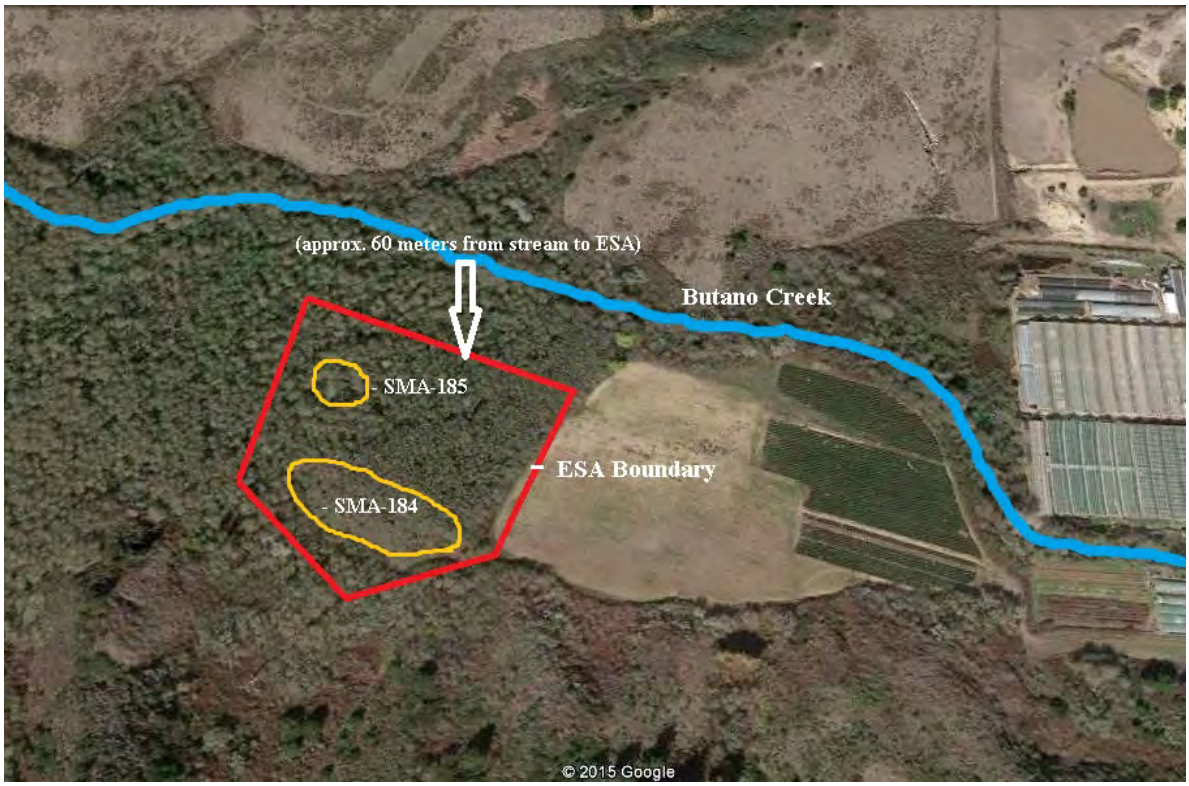


Both SMA-184 and SMA-185 were first recorded in April 1979 as part of an environmental impact evaluation sponsored by the State Water Resources Control Board. This was done in response to a proposal to establish a reservoir along Butano Creek. The surveyors reported observing two midden sites associated with two separate topographic high points within the flood plain and fields surrounding the reservoir location. They noted the presence of a wide surface scatter of chipped stone debris and shell fragments and concluded that these were evidence of prehistoric Native American activities. These sites are commonly referred to as the Butano Mounds today.

An Enhanced Archaeological Survey documented by Hylkema (2015) concluded that both mounded sites of SMA-184 and SMA-185 retained enough structural integrity- an essential aspect of a "determination of significance" under cultural resources laws (both State and Federal), to qualify as significant.

An Environmentally Sensitive Area, or ESA had been established to encompass the two archaeological sites (see Figure 14) in order to protect these resources from improvements to the wetland and Butano Creek stream channel that were done in 2016. The report summarized that it would be prudent to avoid agricultural activities or livestock grazing within the ESA; therefore, a buffer area between the ESA and the proposed Butano Creek Stream Restoration Project was established. The ESA is approximately 100 meters south of the SFGS project APE.

Figure 14: Environmentally Sensitive Area (ESA) encompassing sites SMA-184 and SMA-185 established by Hylkema (2015).



Results of the Archaeological Survey

A field reconnaissance of the entire project APE was done on February 9, 2020. Both the lower and upper elevations were walked and examined. Ground visibility was generally good as surface vegetation had not yet obscured the larger survey area. Exposed road grades and rodent turbation provided many opportunities to look at subsurface stratigraphic contexts. Specifically, the survey looked for cultural elements that might suggest the presence of ancestral Native American archaeological resources, such as chipped stone, milling stones, fire affected rocks, bone, dietary shellfish, etc.; however, none of this was observed during this survey. Neither were historic artifacts such as glass, ceramics, metal, masonry or structural materials. The only cultural features present were the unimproved dirt roads, eroded gullies and a few modern fence alignments and invasive non-native vegetation- none of which appeared older than fifty years given their existing conditions.

The lower elevations consisted of stream channel wetlands and an existing stock pond. Pictures 1 7 depict existing conditions within the project APE.

Picture 1. View of existing pond (center) from NE of APE towards SW APE.

Picture 2: View of existing pond.

Picture 3: Existing conditions within the arroyo that drains into the pond.

Picture 4: Northern View of the APE, with arroyo between two knolls.

Picture 5: View of existing conditions within the APE towards the South boundary.

Picture 6: Northeastern boundary of project APE.

Picture 7: Southwest view of APE depicting existing vegetation.

In conclusion, the pedestrian survey did not locate any cultural elements or previously unrecorded prehistoric or historic archaeological resources.

Native American Consultation

In compliance with Federal and State regulations regarding mandatory consultation with Native American Tribes and individuals registered as Most Likely Descendants (MLDs) by the State Native American Heritage Commission (NAHC), this project has outreached to the MLDs of San Mateo County. While there are no Federally Recognized Tribal Governments in the county, the MLDs listed are understood to be active stakeholders who may have an interest or concern in the project as proposed.

The Peninsula Open Space Trust has performed this task by mailing letters to the MLDs describing the project and the negative cultural resources findings related to it and offering an opportunity to consult about the goals and outcomes. Specifically, the MLDs were asked if they had any additional knowledge of traditional cultural places relevant to the APE or had any concerns about the project. Appendix B contains an example of the consultation letters and their content.

Of the MLDs contacted, several have responded by requesting to be informed of the progress and outcome of the project- especially if any inadvertent archaeological finds are made during project development. This will be the responsibility of the Peninsula Open Space Trust in cooperation with the projects Prime Contractor and relevant Sub Contractors.

Conclusion and Finding of No Effect

Although two significant ancestral Native American archaeological sites were found to exist with about 100 meters south of the project Area of Potential Effect (sites SMA-184 and SMA-185), neither are currently threatened or in any way involved with the Butano Farms San Francisco Garter Snake Habitat Enhancement Project. Furthermore, both sites are protected by an existing Environmentally Sensitive Area established on behalf of POST during a prior stream restoration project (Hylkema 2016).

Neither the literature review or the archaeological survey found evidence of ancestral Native American cultural resources or historic archaeological resources within the project APE. Therefore, it is concluded that the project as proposed will not impact or otherwise affect any archaeological resources.

In summary, this Historic Property Survey Report concludes with a *Finding of No Effect to cultural Resources*.

Concluding Admonition

In the unlikely event that inadvertent archaeological finds are made during the course of the project, all ground (or stream) disturbing activities at the location of the find must immediately stop until a qualified archaeologist can be consulted to evaluate the find and offer recommendations appropriate to the nature of the find.

Should any human remains become evident- from either the recent or distant past, all activity must immediately stop, and the San Mateo County Coroner's Office must be immediately notified (PRC 5097). If the remains are determined to be those of ancestral Native Americans, then the coroner must notify the State Native American Heritage Commission (NAHC) within 48 hours. In turn, the NAHC must assign an MLD to the project within 24 hours and seek recommendations for the proper disposition of the remains. Any artifacts found in the immediate vicinity of the point of origin of the skeletal remains shall be assessed as associated funerary items.

Because federal monies and permits are involved, any human remains encountered must be treated according to mandates established under the Native American Graves and Repatriation Act of 1990.

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