COUNTY OF SAN MATEO, PLANNING AND BUILDING DEPARTMENT

# NOTICE OF INTENT TO ADOPT NEGATIVE DECLARATION

A notice, pursuant to the California Environmental Quality Act of 1970, as amended (Public Resources Code 21,000, et seq.), that the following project: *Fitzgerald Marine Preserve Improvement Project*, when adopted and implemented, will not have a significant impact on the environment.

FILE NO.: PLN 2010-00093

OWNER/APPLICANT: County of San Mateo/San Mateo County Parks and Recreation Department

ASSESSOR'S PARCEL NOS.: 037-103-110, 037-111-060, 037-200-130, and 037-101-250

PROJECT LOCATION: Fitzgerald Marine Preserve, Moss Beach

PROJECT DESCRIPTION: The applicant is proposing to make public access improvements to the Preserve. This improvement plan is comprised of two components:

1. A beach access improvement project starting at the intersection of Nevada and North Lake Streets and ending at an existing bluff overlook at the northwest edge of Fitzgerald Marine Preserve. For this component, the following actions are proposed (see attached project plans):

   Removal of:

   - Existing signage along the existing dirt path.
   - Bollards at the entrance to the dirt path.
   - Wooden split rail fencing along the dirt path and an unofficial footpath spur.
   - A trash receptacle, wood platform, bike rack, and bench.
   - Roto-till both the footpath and unofficial spur.
   - Existing log stairs on south side of beach overlook and adjacent large boulder riprap.

   Construction of:

   - A 0.25-mile long, 10.5-foot wide, ADA compliant asphalt path, with 3-foot wide aggregate shoulders on either side.
   - ADA compliant fence with handrail on either side of new trail.
   - A retaining wall, 1-6 feet tall as needed, along northwest side of the trail.
   - A main overlook, 35 ft. long by 40 ft. wide, with reinforced concrete grade beam surrounding it and a rock slope protection system composed of three layers of rocks at a 1.5 to 1 slope.

- A staircase on the south side of the overlook leading to the beach and a seasonal bridge at the base of the staircase which will cross San Vicente Creek.
- A 30-ft. by 20-ft. auxiliary overlook, approximately half way down the trail, on the creek side.
- Removable bollards, trash receptacle, benches, telescopes, and drainage improvements.

2. Improvements to an existing un-named trail for inclusion as part of the California Coastal Trail system. This area of work will extend from the Preserve boundary at Cypress Avenue to a point directly across from the Preserve parking lot on North Lake Street.

   Removal of:

   - An existing pedestrian bridge across San Vicente Creek.

   Construction of:

   - An ADA compliant trail (the Coastal Trail) in the approximate location of an existing trail. The proposed trail will have a 10-foot wide asphalt surface with 2-foot wide aggregate shoulders on either side of the trail.
   - A 60-ft. long by 12-ft. wide prefabricated fiberglass clear span bridge approximately 30 feet upstream of the removed bridge. The bridge is sized to allow the 100-year flood to flow under it, and the 100-year flood occurs at 33.6 feet above mean sea level.
   - Bridge abutments, which are 12 feet wide, spanning the width of the bridge. The abutments have wing walls, which extend approximately 10 feet. The wing walls on the north side of the bridge are at 45-degree angles from either side of the abutment base and the wing walls on the south side of the bridge are at 90-degree angles extending behind the bridge. The abutments are 9.5 feet in height and are mostly buried underground. A 3.5-inch diameter foundation pipe pile extends from the bottom of the abutments to a minimum of 37 feet in depth and will be embedded 10 feet into bedrock.
   - Two curb-cut ramps along the sidewalk off of North Lake Street near the trail entrance to allow wheelchair access to the trail.
   - Removable bollards at either end of the trail, and fixed bollards and a signpost will also be installed at the south entrance of the trail near Cypress Avenue.

## FINDINGS AND BASIS FOR A NEGATIVE DECLARATION

The Planning and Building Department has reviewed the initial study for the project and, based upon substantial evidence in the record, finds that:

1. The project will not adversely affect water or air quality or increase noise levels substantially.

2. The project will not have adverse impacts on the flora or fauna of the area.

3. The project will not degrade the aesthetic quality of the area.

4. The project will not have adverse impacts on traffic or land use.

5. In addition, the project will not:

   a. Create impacts which have the potential to degrade the quality of the environment.

   b. Create impacts which achieve short-term to the disadvantage of long-term environmental goals.

   c. Create impacts for a project which are individually limited, but cumulatively considerable.

   d. Create environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly.

The County of San Mateo has, therefore, determined that the environmental impact of the project is insignificant.

MITIGATION MEASURES included in the project to avoid potentially significant effects:

**Mitigation Measures are included in the Project Narrative and Answers to Questions Section.**

RESPONSIBLE AGENCY CONSULTATION

INITIAL STUDY

The San Mateo County Planning and Building Department has reviewed the Environmental Evaluation of this project and has found that the probable environmental impacts are insignificant. A copy of the initial study is attached.

REVIEW PERIOD: July 1, 2010 to July 30, 2010

All comments regarding the correctness, completeness, or adequacy of this Negative Declaration must be received by the County Planning and Building Department, 455 County Center, Second Floor, Redwood City, no later than **5:00 p.m.,** July 30 **, 2010.**

CONTACT PERSON

Michael J. Schaller
Project Planner, 650/363-1849

Michael J. Schaller

Michael J. Schaller, Project Planner

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County of San Mateo
Planning and Building Department

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

1. Project Title: *Fitzgerald Marine Preserve Improvement Project*

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

3. Contact Person and Phone Number: Mike Schaller, Senior Planner, 650/363-1849

4. Project Location: Fitzgerald Marine Preserve, Moss Beach

5. Assessor's Parcel Numbers: 037-103-110, 037-111-060, 037-200-130, and 037-101-250

6. Project Sponsor's Name and Address: San Mateo County Parks Department
455 County Center, Fourth Floor
Redwood City, CA 94063

7. General Plan Designation: General Open Space

8. Zoning: Resource Management-Coastal Zone (RM-CZ)

9. Description of the Project: The applicant is proposing to make public access improvements to the Preserve. This improvement plan is comprised of two components:

   a. A beach access improvement project starting at the intersection of Nevada and North Lake Streets and ending at an existing bluff overlook at the northwest edge of Fitzgerald Marine Preserve. For this component, the following actions are proposed (see attached project plans):

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- Removable bollards at either end of the trail, and fixed bollards and a signpost will also be installed at the south entrance of the trail near Cypress Avenue.

10. Surrounding Land Uses and Setting: The project sites are bordered by urban, single-family land uses to the north and northeast. The project site itself is utilized as a County park. The two components of this project cross through a number of different habitat types:

- Monterey Cypress Grove: A majority of the Coastal Trail component passes through a cypress grove with very little understory, along the eastern side of the

project site. There are some eucalyptus trees scattered throughout this grove. This area could provide potential habitat for various bat species known to inhabit the Coastal Zone. This area, as well as the riparian habitat, could provide potential habitat for the San Francisco dusky-footed woodrat.

- Central Coast Arroyo Willow Riparian Forest: This habitat type is characterized as a dense, low, closed canopy broadleaf and winter deciduous forest. This community is dominated by arroyo willow, which often grows as a large, tree-like shrub. This habitat type occurs along the banks of San Vicente Creek. The proposed clear-span bridge for the Coastal Trail will impact this habitat.
- Coastal Freshwater Marsh: This habitat type occurs within the lower reaches on San Vicente Creek, particularly near the outlet to the sea. The marsh habitat in this project setting is dominated by panicled bulrush and coast carex.
- California Wild Strawberry: Patches of wild strawberry are present along the existing observation deck access trail and throughout the Preserve.

In addition to the above habitat types, various wildlife species could use the project area and be potentially impacted by the proposed projects:

- Pacific Harbor Seal: This species is known to haul out offshore of the project area.
- Various nesting bird species, including special status species such as white-tailed kite, northern harrier, saltmarsh common yellowthroat, and yellow warbler.
- California Red-legged Frog and San Francisco Garter Snake: Both species could potentially use the project area for upland dispersal, foraging and estivation habitat.
- Monarch Butterfly: Suitable winter roost sites exist for this species in the tall eucalyptus and cypress trees in the project area.

11. Other Public Agencies Whose Approval is Required:

California Coastal Commission: Coastal Development Permit
U.S. Army Corps of Engineers: Section 404 Permit
Regional Water Quality Control Board: Section 401 Certification
California Department of Fish and Game: Section 1602 Permit
U.S. Fish and Wildlife Service: Biological Opinion

## II. ENVIRONMENTAL ANALYSIS

Any controversial answers or answers needing clarification are explained on an attached sheet. For source, refer to pages 13 and 14.

| | IMPACT | | | | | |
|---|---|---|---|---|---|---|
| | | YES | | | | |
| | NO | Not Significant | Significant Unless Mitigated | Significant | Cumulative | SOURCE |
| **1. LAND SUITABILITY AND GEOLOGY** Will (or could) this project: | | | | | | |
| a. Involve a unique landform or biological area, such as beaches, sand dunes, marshes, tidelands, or San Francisco Bay? | | X | | | | B,F,O |
| b. Involve construction on slope of 15% or greater? | | X | | | | E,I |
| c. Be located in an area of soil instability (subsidence, landslide or severe erosion)? | X | | | | | Bc,D |
| d. Be located on, or adjacent to a known earthquake fault? | | X | | | | Bc,D |
| e. Involve Class I or Class II Agriculture Soils and Class III Soils rated good or very good for artichokes or Brussels sprouts? | X | | | | | M |
| f. Cause erosion or siltation? | | | X | | | M,I |
| g. Result in damage to soil capability or loss of agricultural land? | X | | | | | A,M |
| h. Be located within a flood hazard area? | | X | | | | G |
| i. Be located in an area where a high water table may adversely affect land use? | X | | | | | D |
| j. Affect a natural drainage channel or streambed, or watercourse? | | | X | | | E |

| | IMPACT | | | | | |
|---|---|---|---|---|---|---|
| | | YES | | | | |
| | NO | Not Significant | Significant Unless Mitigated | Significant | Cumulative | SOURCE |
| **2. VEGETATION AND WILDLIFE**<br>Will (or could) this project: | | | | | | |
| a. Affect federal or state listed rare or endangered species of plant life in the project area? | X | | | | | F |
| b. Involve cutting of heritage or significant trees as defined in the County Heritage Tree and Significant Tree Ordinance? | X | | | | | I,A |
| c. Be adjacent to or include a habitat food source, water source, nesting place or breeding place for a federal or state listed rare or endangered wildlife species? | | | X | | | F |
| d. Significantly affect fish, wildlife, reptiles, or plant life? | | | X | | | I |
| e. Be located inside or within 200 feet of a marine or wildlife reserve? | | X | | | | E,F,O |
| f. Infringe on any sensitive habitats? | | | X | | | F |
| g. Involve clearing land that is 5,000 sq. ft. or greater (1,000 sq. ft. within a County Scenic Corridor), that has slopes greater than 20% or that is in a sensitive habitat or buffer zone? | | | X | | | I,F,Bb |
| **3. PHYSICAL RESOURCES**<br>Will (or could) this project: | | | | | | |
| a. Result in the removal of a natural resource for commercial purposes (including rock, sand, gravel, oil, trees, minerals or topsoil)? | X | | | | | I |

| | IMPACT | | | | | |
|---|---|---|---|---|---|---|
| | | YES | | | | |
| | NO | Not Significant | Significant Unless Mitigated | Significant | Cumulative | SOURCE |
| b. Involve grading in excess of 150 cubic yards? | | | X | | | I |
| c. Involve lands currently protected under the Williamson Act (agricultural preserve) or an Open Space Easement? | X | | | | | I |
| d. Affect any existing or potential agricultural uses? | X | | | | | A,K,M |
| **4. AIR QUALITY, WATER QUALITY, SONIC** | | | | | | |
| Will (or could) this project: | | | | | | |
| a. Generate pollutants (hydrocarbon, thermal odor, dust or smoke particulates, radiation, etc.) that will violate existing standards of air quality on-site or in the surrounding area? | | | X | | | I,N,R |
| b. Involve the burning of any material, including brush, trees and construction materials? | X | | | | | I |
| c. Be expected to result in the generation of noise levels in excess of those currently existing in the area, after construction? | X | | | | | Ba,I |
| d. Involve the application, use or disposal of potentially hazardous materials, including pesticides, herbicides, other toxic substances, or radioactive material? | X | | | | | I |
| e. Be subject to noise levels in excess of levels determined appropriate according to the County Noise Ordinance or other standard? | X | | | | | A,Ba,Bc |
| f. Generate noise levels in excess of levels determined appropriate according to the County Noise Ordinance standard? | | | X | | | I |

| | IMPACT | | | | | |
|---|---|---|---|---|---|---|
| | | YES | | | | |
| | NO | Not Significant | Significant Unless Mitigated | Significant | Cumulative | SOURCE |
| g. Generate polluted or increased surface water runoff or affect groundwater resources? | | | X | | | I |
| h. Require installation of a septic tank/leachfield sewage disposal system or require hookup to an existing collection system which is at or over capacity? | X | | | | | S |
| **5. <u>TRANSPORTATION</u>**<br>Will (or could) this project: | | | | | | |
| a. Affect access to commercial establishments, schools, parks, etc.? | | X | | | | A,I |
| b. Cause noticeable increase in pedestrian traffic or a change in pedestrian patterns? | | X | | | | A,I |
| c. Result in noticeable changes in vehicular traffic patterns or volumes (including bicycles)? | X | | | | | I |
| d. Involve the use of off-road vehicles of any kind (such as trail bikes)? | X | | | | | I |
| e. Result in or increase traffic hazards? | X | | | | | S |
| f. Provide for alternative transportation amenities such as bike racks? | X | | | | | I |
| g. Generate traffic which will adversely affect the traffic carrying capacity of any roadway? | X | | | | | S |

| | IMPACT | | | | | |
|---|---|---|---|---|---|---|
| | | YES | | | | |
| | NO | Not Significant | Significant Unless Mitigated | Significant | Cumulative | SOURCE |
| **6. LAND USE AND GENERAL PLANS**<br>Will (or could) this project: | | | | | | |
| a. Result in the congregating of more than 50 people on a regular basis? | X | | | | | I |
| b. Result in the introduction of activities not currently found within the community? | X | | | | | I |
| c. Employ equipment which could interfere with existing communication and/or defense systems? | X | | | | | I |
| d. Result in any changes in land use, either on or off the project site? | X | | | | | I |
| e. Serve to encourage off-site development of presently undeveloped areas or increase development intensity of already developed areas (examples include the introduction of new or expanded public utilities, new industry, commercial facilities or recreation activities)? | X | | | | | I,Q,S |
| f. Adversely affect the capacity of any public facilities (streets, highways, freeways, public transit, schools, parks, police, fire, hospitals), public utilities (electrical, water and gas supply lines, sewage and storm drain discharge lines, sanitary landfills) or public works serving the site? | X | | | | | I,S |
| g. Generate any demands that will cause a public facility or utility to reach or exceed its capacity? | X | | | | | I,S |
| h. Be adjacent to or within 500 feet of an existing or planned public facility? | X | | | | | A |

| | IMPACT | | | | | |
|---|---|---|---|---|---|---|
| | | YES | | | | |
| | NO | Not Significant | Significant Unless Mitigated | Significant | Cumulative | SOURCE |
| i. Create significant amounts of solid waste or litter? | X | | | | | I |
| j. Substantially increase fossil fuel consumption (electricity, oil, natural gas, coal, etc.)? | X | | | | | I |
| k. Require an amendment to or exception from adopted general plans, specific plans, or community policies or goals? | X | | | | | B |
| l. Involve a change of zoning? | X | | | | | C |
| m. Require the relocation of people or businesses? | X | | | | | I |
| n. Reduce the supply of low-income housing? | X | | | | | I |
| o. Result in possible interference with an emergency response plan or emergency evacuation plan? | X | | | | | S |
| p. Result in creation of or exposure to a potential health hazard? | X | | | | | S |
| **7. AESTHETIC, CULTURAL AND HISTORIC**<br>Will (or could) this project: | | | | | | |
| a. Be adjacent to a designated Scenic Highway or within a State or County Scenic Corridor? | X | | | | | A,Bb |
| b. Obstruct scenic views from existing residential areas, public lands, public water body, or roads? | | X | | | | A,I |
| c. Involve the construction of buildings or structures in excess of three stories or 36 feet in height? | X | | | | | I |

| | IMPACT | | | | | |
|---|---|---|---|---|---|---|
| | | YES | | | | |
| | NO | Not Significant | Significant Unless Mitigated | Significant | Cumulative | SOURCE |
| d. Directly or indirectly affect historical or archaeological resources on or near the site? | | | X | | | H |
| e. Visually intrude into an area having natural scenic qualities? | X | | | | | A,I |

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

| AGENCY | YES | NO | TYPE OF APPROVAL |
|---|---|---|---|
| U.S. Army Corps of Engineers (CE) | X | | Section 404 Permit |
| State Water Resources Control Board | | X | |
| Regional Water Quality Control Board | X | | Section 401 Certification |
| State Department of Public Health | | X | |
| San Francisco Bay Conservation and Development Commission (BCDC) | | X | |
| U.S. Environmental Protection Agency (EPA) | | X | |
| County Airport Land Use Commission (ALUC) | | X | |
| CalTrans | | X | |
| Bay Area Air Quality Management District | | X | |
| U.S. Fish and Wildlife Service | X | | Biological Opinion |
| Coastal Commission | X | | Coastal Development Permit |
| City | | X | |
| Sewer/Water District: | | X | |
| Other: California Department of Fish and Game | X | | Section 1602 Permit |

## IV. MITIGATION MEASURES

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

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

**Mitigation Measures are included in the Project Narrative and Answers to Questions Section.**

## V. MANDATORY FINDINGS OF SIGNIFICANCE

| | Yes | No |
|---|---|---|
| 1. 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, or eliminate important examples of the major periods of California history or prehistory? | | X |
| 2. Does the project have the potential to achieve short-term environmental goals to the disadvantage of long-term environmental goals? | | X |
| 3. Does the project have possible environmental effects which are individually limited, but cumulatively considerable? | | X |
| 4. Would the project cause substantial adverse effects on human beings, either directly or indirectly? | | X |

On the basis of this initial evaluation:

_____ I find the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared by the Planning and Building Department.

__X__ I find that although the proposed project could have a significant effect on the environment, there WILL NOT be a significant effect in this case because of the mitigation measures in the discussion have been included as part of the proposed project. A 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.

Michael Schaller
Michael Schaller

June 29, 2010
Date

Senior Planner
(Title)

## VI. SOURCE LIST

A. Field Inspection

B. County General Plan 1986

a. General Plan Chapters 1-16
b. Local Coastal Program (LCP) (Area Plan)
c. Skyline Area General Plan Amendment
d. Montara-Moss Beach-El Granada Community Plan
e. Emerald Lake Hills Community Plan

C. County Ordinance Code

D. Geotechnical Maps

1. USGS Basic Data Contributions

a. #43 Landslide Susceptibility
b. #44 Active Faults
c. #45 High Water Table

2. Geotechnical Hazards Synthesis Maps

E. USGS Quadrangle Maps, San Mateo County 1970 Series (See F. and H.)

F. San Mateo County Rare and Endangered Species Maps, or Sensitive Habitats Maps

G. Flood Insurance Rate Map – National Flood Insurance Program

H. County Archaeologic Resource Inventory (Prepared by S. Dietz, A.C.R.S.) Procedures for Protection of Historic and Cultural Properties – 36 CFR 800 (See R.)

I. Project Plans or EIF

J. Airport Land Use Committee Plans, San Mateo County Airports Plan

K. Aerial Photography or Real Estate Atlas – REDI

1. Aerial Photographs, 1941, 1953, 1956, 1960, 1963, 1970
2. Aerial Photographs, 1981
3. Coast Aerial Photos/Slides, San Francisco County Line to Año Nuevo Point, 1971
4. Historic Photos, 1928-1937

L. Williamson Act Maps

M. Soil Survey, San Mateo Area, U.S. Department of Agriculture, May 1961

N. Air Pollution Isopleth Maps – Bay Area Air Pollution Control District

O. California Natural Areas Coordinating Council Maps (See F. and H.)

P. Forest Resources Study (1971)

Q. Experience with Other Projects of this Size and Nature

R. Environmental Regulations and Standards:

| | | | |
|---|---|---|---|
| Federal | – | Review Procedures for CDBG Programs | 24 CFR Part 58 |
| | – | NEPA 24 CFR 1500-1508 | |
| | – | Protection of Historic and Cultural Properties | 36 CFR Part 800 |
| | – | National Register of Historic Places | |
| | – | Floodplain Management | Executive Order 11988 |
| | – | Protection of Wetlands | Executive Order 11990 |
| | – | Endangered and Threatened Species | |
| | – | Noise Abatement and Control | 24 CFR Part 51B |
| | – | Explosive and Flammable Operations | 24 CFR 51C |
| | – | Toxic Chemicals/Radioactive Materials | HUD 79-33 |
| | – | Airport Clear Zones and APZ | 24 CFR 51D |
| State | – | Ambient Air Quality Standards | Article 4, Section 1092 |
| | – | Noise Insulation Standards | |

S. Consultation with Departments and Agencies:

a. County Health Department
b. City Fire Department
c. California Department of Forestry
d. Department of Public Works
e. Disaster Preparedness Office
f. Other

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**COUNTY OF SAN MATEO**
Planning and Building Department

**Initial Study Pursuant to CEQA**
**Project Narrative and Answers to Questions for the Negative Declaration**
**File Number: PLN 2010-00093**
**Fitzgerald Marine Preserve Improvement Project**

## ANSWERS TO QUESTIONS

### 1. LAND SUITABILITY AND GEOLOGY

**a. Will (or could) this project involve a unique landform or biological area, such as beaches, sand dunes, marshes, tidelands, or San Francisco Bay?**

Yes, Not Significant. Rip-rap is present below the High Tide Line (HTL) along the western perimeter of the existing observation deck at the northwestern corner of the project area. As part of the improvements proposed for the observation deck, existing rip-rap (0.02 acre) will be removed from below the HTL and new rip-rap will be installed to minimize erosion between the observation deck and the beach. To increase the stability and durability of the observation deck, approximately 0.003 acre of additional rip-rap will be placed below the HTL. Given the small size of additional rip-rap and the public nature of the intended use, staff has determined that this is a less than significant impact.

**b. Will (or could) this project involve construction on slope of 15% or greater?**

Yes, Not Significant. Portions of the rock slope shore protection will exceed 15% slope. However, the project has been designed to accommodate this slope. This is not a significant impact.

**d. Will (or could) this project be located on, or adjacent to a known earthquake fault?**

Yes, Not Significant. The Seal Cove fault line runs directly through the project site. However, given the non-habitable nature of the proposed project, there is no evidence to suggest that the proposed project will increase the level of risk that park visitors are currently exposed to on an on-going basis.

**f. Will (or could) this project cause erosion or siltation?**

Yes, Significant Unless Mitigated. The project will involve grading within and adjacent to identified riparian corridors. To address the potentially significant impact of erosion, the following mitigation measure is required:

Mitigation Measure 1: Prior to the beginning of grading and construction activities, the applicant shall submit to the Planning Department for review and approval, an

erosion and drainage control plan which shows how the transport and discharge of soil and pollutants from the project site will be minimized. The goal is to prevent sediment and other pollutants from leaving the project site and to protect all exposed earth surfaces from erosive forces. Said plan shall adhere to the San Mateo County Wide Stormwater Pollution Prevention Program "General Construction and Site Supervision Guidelines", including:

a. Stabilizing all denuded areas and maintaining erosion control measures continuously between October 15 and April 15.

b. Removing spoils promptly, and avoiding stockpiling of fill materials when rain is forecast. If rain threatens, stockpiled soils and other materials shall be covered with a tarp or other waterproof material.

c. Storing, handling, and disposing of construction materials and wastes so as to avoid their entry to a local storm drain system or water body.

d. Avoiding cleaning, fueling or maintaining vehicles on-site, except in an area designated to contain and treat runoff.

The approved erosion and drainage control plan shall be implemented prior to the beginning of grading activities.

**h. Will (or could) this project be located within a flood hazard area?**

**Yes, Not Significant.** The FEMA flood maps indicate that San Vicente Creek is within a Zone A-2 (Areas of 100-year flood, base flood elevations and flood hazard factors determined) as it traverses the project site from east to west. Additionally, the coastal bluff portions of the project site are within Zone V (Areas of 100-year coastal flood with velocity (wave action)). The proposed bridge (Component B) has been sized by the applicant to allow the 100-year flood to flow under it. The bridge abutments will be constructed near the top of the creek banks. No habitable structures are proposed as part of this project. In the case of flooding or tsunami, impacts to the bridge and other infrastructure would be temporary in nature and pose an inconvenience rather than a health and safety impact.

**j. Will (or could) this project affect a natural drainage channel or streambed, or watercourse?**

**Yes, Significant Unless Mitigated.** As discussed above, the proposed bridge will not reduce the carrying capacity of the stream nor require any alteration of the streambed alignment. Construction of the bridge will permanently impact approximately 175 sq. ft. of riparian vegetation. This impact to biotic resources will be discussed in the next section.

## 2. VEGETATION AND WILDLIFE

**a. Will (or could) this project affect federal or state listed rare or endangered species of plant life in the project area?**

**No.** The following is excerpted from the applicant's biological report:

"Of the 50 special status plant species known to occur in the vicinity of the Study Area, 24 were determined to have a moderate potential to occur in the Study Area. Protocol-level rare plant surveys were conducted on April 28 and July 30, 2009. These surveys followed the protocol for plant surveys as described in Nelson (1987), which are in compliance with CNPS, CDFG, and USFWS guidelines and focused on those species with a moderate potential to occur in the Study Area. No special status plant species were observed during the 2008 reconnaissance site visit or the 2009 protocol-level rare plant surveys."

**c. Will (or could) this project be adjacent to or include a habitat food source, water source, nesting place or breeding place for a federal or state listed rare or endangered wildlife species?**

**Yes, Significant Unless Mitigated.** The applicant's biological report has identified the following listed wildlife species as having a high or moderate potential to occur on-site, or were observed on-site:

| SPECIES | POTENTIAL FOR OCCURRENCE |
|---|---|
| Long-eared Myotis<br>*Myotis evotis* | **Moderate.** Trees in the project area may provide suitable roost habitat for this species. |
| Fringed Myotis<br>*Myotis thysanodes* | **Moderate.** Trees in the project area may provide suitable roost habitat for this species. |
| Long-legged Myotis<br>*Myotis volans* | **Moderate.** Trees in the project area may provide suitable roost habitat for this species. |
| Pallid Bat<br>*Antrozous pallidus* | **Moderate.** Trees in the project area may provide suitable roost habitat for this species. |
| Western Red Bat<br>*Lasiurus blossevillii* | **Moderate.** Trees in the project area may provide suitable roost habitat for this species. |
| San Francisco Dusky-Footed Woodrat<br>*Neotoma fuscipes annectens* | **High.** The forested, riparian and scrub habitat in the project area provide suitable nesting habitat for this species. |
| Southern Sea Otter<br>Enhydra lutris nereis | **Present.** Preserve rangers have observed this species foraging off shore of the project area. |
| *Pacific Harbor Seal*<br>*Phoca vitulina richardsi* | **Present.** This species has a known haul out off shore of the project area. |

| SPECIES | POTENTIAL FOR OCCURRENCE |
|---|---|
| *White-tailed Kite*<br>*Elanus leucurus* | **Moderate.** The project area contains suitable breeding and foraging habitat for this species. This species winters in the area. |
| Northern Harrier<br>*Circus cyaneus* | **Moderate.** The project area contains suitable breeding and foraging habitat for this species. |
| Black Oystercatcher<br>*Haematopus bachmani* | **Present.** This species forages off shore of the project area and may breed in the rocky, undisturbed portions of the shoreline. |
| Olive-sided Flycatcher<br>*Contopus cooperi* | **Moderate.** The project area contains suitable breeding and foraging habitat fro this species. |
| Purple Martin<br>*Progne subis* | **Moderate.** The project area contains suitable breeding and foraging habitat fro this species. |
| Loggerhead Shrike<br>*Lanius ludovicianus* | **Moderate.** The project area contains suitable breeding and foraging habitat for this species. |
| San Francisco (Saltmarsh) Common Yellowthroat<br>*Geothlypis trichas sinuosa* | **High.** The project area contains suitable breeding and foraging habitat for this species. |
| Yellow Warbler<br>*Dendroica petechia* | **Moderate.** The project area contains suitable breeding and foraging habitat for this species. |
| Bryant's Savannah Sparrow<br>*Passerculus sandwichensis alaudinus* | **Moderate.** The project area contains suitable breeding and foraging habitat for this species. |
| San Francisco Garter Snake<br>*Thamnophis sirtalis tetrataenia* | **Moderate.** The creek and temporary pond adjacent to the project area may provide suitable foraging habitat for this species. The uplands in the project area may provide suitable estivation habitat. |
| *California Red-legged Frog*<br>*Rana aurora draytonii* | **Moderate.** The creek and temporary pond adjacent to the project area may provide suitable non-breeding aquatic habitat for this species. The uplands in the project area may provide suitable estivation habitat. |
| Black Abalone<br>*Haliotis cracherodii* | **Present.** This species is known to occur in the intertidal areas off shore of the project area. |
| Monarch butterfly<br>*Danaus plexippus* | **Moderate.** The mature trees in the project area may provide a suitable winter roost site. |

The biological report (included as Attachment A of this initial study) identified the following potential impacts (with recommended mitigation measures) to the above listed species as a result of this project:

- Bats, including some special status bats, may be impacted by construction activity during critical life stages from November through August if disturbance occurs near potential bat roosts (trees, snags).

  **Mitigation Measure 2:** If construction will occur during the bats maternity roosting season (defined as: April 1 through August 31), then the applicant shall perform pre-construction surveys for bats. Surveys shall be conducted by

a qualified biologist no less than 14 days prior to removal of trees, snags or buildings within the Study Area. Ultrasonic acoustic surveys and/or other site appropriate survey methods shall be performed to determine the presence or absence of bats utilizing the Study Area as roosting or foraging habitat. If special status bat species are detected during surveys, appropriate species and roost specific mitigation measures shall be developed. Such measures may include postponing removal of trees, snags or structures until the end of the maternity roosting season or construction of species appropriate roosting habitat within, or adjacent to the Study Area.

Trees, snags and buildings may be removed outside of the maternity roosting season without performing pre-construction bat surveys. However, if buildings are to be demolished, internal entrance surveys shall be performed by a qualified bat biologist no less than 14 days prior to demolition to determine if buildings currently or previously support roosting bats. If bats are determined to be present, appropriate methods shall be used to exclude bats from the building. Such methods may include installation of one way "valves" to allow bats to exit, but not allow them to re-enter the building. Species and roost appropriate mitigation measures shall be developed based on the results of the survey in consultation with the California Department of Fish and Game (CDFG).

- Construction activities have the potential to impact the San Francisco dusky-footed woodrat if the stick houses of this species are observed within or near areas where disturbance is to take place.

  **Mitigation Measure 3:** If stick houses are observed, they shall be avoided if possible. If avoidance is not feasible, the houses shall be dismantled by hand under the supervision of a biologist. If young are encountered during the dismantling process, the material shall be placed back on the house and the house will remain unmolested for two to three weeks in order to give the young enough time to mature and leave the house. After two to three weeks, the nest dismantling process may begin again. Nest material will be moved to suitable adjacent areas (riparian, woodland, scrub) that will not be impacted.

- The Pacific Harbor Seal is known to haul out off shore of the Study Area. Construction activities in the Study Area may have the potential to impact this species through acoustic or visual disturbance.

  **Mitigation Measure 4:** Visual and acoustic disturbance during construction may affect the behavior of the Pacific Harbor Seal. Construction noise levels shall be kept lower than 160 decibels - the limit recommended by the National Marine Fisheries Service (NMFS) for the protection of marine mammals. The applicant shall coordinate with NMFS for the issuance of a marine mammal

Incidental Harassment Authorization Permit or Letter of Concurrence for potential disturbances to the seals, if NMFS determines that one is necessary.

- Nesting birds, including a number of special status birds, may be impacted if construction activities occur in or near potential breeding habitat (aquatic and upland vegetation) during the breeding season from February through August.

  **Mitigation Measure 5:** If possible, the clearing of vegetation and the initiation of construction shall be done in the non-breeding season between September and January. If these activities cannot be done in the non-breeding season, a qualified biologist shall perform pre-construction breeding bird surveys within 14 days of the onset of construction or clearing of vegetation. If nesting birds are discovered in the vicinity of planned construction, a buffer area around the nest will be established until the nest is vacated. The size of the buffer would be dependent on the habitat, level of disturbance and the particular species of nesting bird.

- Upland dispersal, foraging and estivation habitat for California red-legged frog (CRLF) and San Francisco garter snake (SFGS) may be impacted by the proposed project.

  **Mitigation Measure 6:** At least 10 days prior to the onset of activities, the applicant or project proponent shall submit the name(s) and credentials of biologists who would conduct activities specified in the following measures. No project activities shall begin until project proponents have received written approval from the United States Fish and Wildlife Service (USFWS) that the biologist(s) is qualified to conduct the work.

  **Mitigation Measure 7:** A USFWS-approved biologist shall survey the work site immediately before the onset of construction activities. If CRLF, tadpoles, or eggs are found, the approved biologist shall contact the USFWS to determine if moving any of these life-stages is appropriate. In making this determination, the USFWS will consider if an appropriate relocation site exists. If the USFWS approves moving animals, the approved biologist will be allowed sufficient time to move them from the work site before work activities begin. Only USFWS-approved biologists shall participate in activities associated with the capture, handling, and monitoring of CRLF. Any SFGS shall be allowed to leave the work area of their own accord, and shall be monitored as practical by the biologist to ensure they do not re-enter the work area.

  **Mitigation Measure 8:** Prior to the start of groundbreaking activities, all construction personnel will receive training on listed species and their habitats by a USFWS-approved biologist. The importance of these species and their habitat will be described to all employees as well as the minimization and

avoidance measures that are to be implemented as part of the project. An educational brochure containing color photographs of all listed species in the work area(s) will be distributed to all employees working within the project site(s). The original list of employees who attend the training sessions will be maintained by the applicant and be made available for review by the USFWS upon request.

**Mitigation Measure 9:** Wildlife exclusion fencing will be erected and maintained around the perimeter of the project and project staging areas to prevent SFGS and CRLF from entering the site. Installation of the fence will be performed under the supervision of a USFWS-approved biologist. Once the fencing is installed, workers will clear all vegetation within this area with belt driven weed whackers or other hand tools to a height of 4-6 inches. Following the removal of vegetation, pre-construction surveys will be performed prior to the start of any groundbreaking activities by a USFWS-approved biologist. Fencing will be equipped with one-way escape funnels. Fencing will extend a minimum of 36 inches above ground level and will be buried 4-6 inches into the ground. Exclusion fencing will be checked a minimum of one time per week by biological monitors for the duration of the project to identify problems or weaknesses in fence integrity and function. All compromised portions will be repaired and/or replaced immediately. Upon completion of the project, all fencing material will be removed from the site and disposed of properly.

**Mitigation Measure 10:** A USFWS-approved biologist shall be present at the work site until such time as all removal of CRLF and/or SFGS, instruction of workers, and habitat disturbance have been completed. After this time, the contractor or permittee shall designate a person to monitor on-site compliance with all minimization measures. The USFWS-approved biologist shall ensure that this individual (on-site biological monitor) receives training outlined in Mitigation Measure 3 (above) and in the identification of CRLF and SFGS. The on-site biological monitor and the USFWS-approved biologist shall have the authority to halt any action that might result in impacts that exceed the levels anticipated by the Corps and USFWS during review of the proposed action. If work is stopped, the Corps and USFWS shall be notified immediately by the USFWS-approved biologist or on-site biological monitor.

**Mitigation Measure 11:** The on-site biological monitor(s) will remain on-site for the duration of the proposed project, including vegetation removal, grading and cleanup activities. If a CRLF or SFGS is observed at any time, the on-site biological monitor will have the authority to halt work on the project site until these animals are no longer within the work area. If construction activities are occurring at more than one location at a time, each area must have a minimum

of one on-site biological monitor present to increase the likelihood that listed species are detected.

**Mitigation Measure 12:** All Best management practices prescribed by the San Mateo County Planning Department for work within sensitive habitat areas will be implemented to the full extent.

**Mitigation Measure 13:** Designated construction staging areas will be utilized as the staging areas for the trail and bridge construction activities. All vehicles associated with project activities will be clustered within these areas at the end of each workday or when not in use to minimize habitat disturbance and water quality degradation. Before vehicles move from the staging areas at the start of each workday or before they return to this location at the end of each workday, the on-site biological monitor will check under the vehicles and their tires to ensure no listed species are utilizing the equipment as temporary shelter.

**Mitigation Measure 14:** Tightly woven fiber netting or similar material shall be used for erosion control or other purposes at the project to ensure that the CRLF and SFGS do not get trapped. This limitation will be communicated to the contractor. Plastic mono-filament netting (erosion control matting), rolled erosion control products or similar material shall not be used at the project site because red-legged frog, garter snake, and other species may become entangled or trapped in it.

**Mitigation Measure 15:** No lighting will be incorporated at any location into the project design.

**Mitigation Measure 16:** To discourage recreational users from leaving designated trails, interpretive signs describing the sensitivity of the habitat and how to utilize the property in an ecologically sensitive manner will be placed at trailheads and wetlands adjacent to enhanced trails. If rehabilitated trails show continued signs of usage, the applicant will implement additional preventative measures, such as the installation of additional signage or fencing. Trailhead signs will also describe the importance of prohibitions on unrestrained domestic pets and the associated fines for violating these laws.

**Mitigation Measure 17:** No trash shall be deposited on the site during construction activities. All trash shall be placed in trash receptacles with secure lids or stored in vehicles.

**Mitigation Measure 18:** Fueling and maintenance of equipment will be conducted off-site and at least 50 feet from any wetland.

**Mitigation Measure 19:** Because CRLF and SFGS may take refuge in cavity-like and den-like structures such as pipes and may enter stored pipes and become trapped, all construction pipes, culverts, or similar structures that are stored at a construction site for one or more overnight periods will be either securely capped prior to storage or thoroughly inspected by the on-site biologist and/or the construction foreman/manager for these animals before the pipe is subsequently buried, capped, or otherwise used or moved in any way. If a red-legged frog is discovered inside a pipe by the on-site biologist or anyone else, the on-site biologist shall move the animal to a safe nearby location and monitor it until it is determined that it is not imperiled by predators or other dangers. If a SFGS is found, it should be allowed to passively leave the work area on its own, as determined by the on-site biologist, or moved by a SFGS permitted biologist with permission from USFWS and CDFG.

**Mitigation Measure 20:** To prevent inadvertent entrapment of CRLF and SFGS during construction, the on-site biologist and/or construction foreman/ manager shall ensure that all excavated, steep-walled holes or trenches more than 1-foot deep are completely covered at the close of each working day by plywood or similar materials, or provided with one or more escape ramps constructed of earth fill or wooden planks and inspected by the on-site biologist. Before such holes or trenches are filled, they will be thoroughly inspected for trapped animals by the on-site biologist and/or construction foreman/manager. If at any time a trapped CRLF or SFGS is discovered by the on-site biologist or anyone else, it should be allowed to passively leave the work area on its own, as determined by the on-site biologist, or moved by a SFGS permitted biologist with permission from USFWS and CDFG.

**Mitigation Measure 21:** Permanent and temporary disturbances and other types of project-related disturbance to the habitats of the garter snake shall be minimized to the maximum extent practicable. To minimize temporary disturbances, all project-related vehicle traffic shall be restricted to established roads, construction areas, and other designated areas. These areas should be established in locations disturbed by previous activities to prevent further adverse effects.

*California Red-legged Frog Specific Measures*

**Mitigation Measure 22:** Pre-construction surveys for the CRLF will be performed by USFWS-approved biologists throughout the action area immediately prior to groundbreaking activities. If a CRLF is observed, a USFWS-approved biologist will remove these individuals to locations outside of the work area but within the greater property boundary. Red-legged frogs will not be removed from the vicinity or remain in captivity over night unless in the care of a certified wildlife veterinarian.

**Mitigation Measure 23:** Under no circumstances will mosquito fish (Gambusia affinis) be introduced at any location within the Study Area. If pesticide application for mosquito abatement becomes necessary, the applicant will contact the USFWS and the San Mateo Mosquito Abatement District for further guidance.

**Mitigation Measure 24:** Upon completion of the construction and rehabilitation phases of the proposed project, the applicant will monitor the property regularly and according to a USFWS-approved monitoring plan to ensure the successful establishment of native plants in all restored areas. Any plant species observed in these areas determined to be invasive will be removed.

**Mitigation Measure 25:** Because dusk and dawn are often the times when CRLF are most actively foraging and dispersing, all construction activities should cease one-half hour before sunset and should not begin prior to one-half hour before sunrise.

*San Francisco Garter Snake Specific Measures*

**Mitigation Measure 26:** Pre-construction surveys for the SFGS will be performed by USFWS-approved biologists throughout the action area immediately prior to groundbreaking activities. If at any time during the survey, vegetation removal, or construction phases of the proposed project a SFGS is observed within the action area, the animal will be allowed to passively leave the work area unless in circumstances where the animal is determined to be trapped as discussed above.

**Mitigation Measure 27:** All vegetation removed during trail construction activities will remain on-site upon completion of trail development. A portion of this vegetation will be utilized to facilitate the rehabilitation of the existing unofficial trails. The remainder of the removed vegetation will be bundled into small piles and placed near on-site aquatic areas to provide cover for local SFGS.

- The monarch butterfly may be impacted if construction activities disturb occupied over wintering roost habitat in the Study Area.

**Mitigation Measure 28:** If possible, any necessary tree removal for this project shall be scheduled between March and September. If construction activities or vegetation removal must occur during the winter, from October through February, then a monarch winter roost survey shall be required. Detection of a roost will require consultation with CDFG.

- The black abalone is known to occur off shore of the Study Area. This species may be impacted if construction activities negatively affect the water quality off shore of the Study Area.

  **Mitigation Measure 29:** Construction Best Management Practices (BMPs) should off set any potential negative impacts to water quality during construction activities. Techniques may include dry season work windows and the use of silt fencing and straw waddles to prevent sediment and construction debris from entering the intertidal area. Work conducted within the rip-rap at the observation area shall be performed at low tide. Fueling and maintenance of equipment (or other work tasks that may spill contaminants) will be conducted at least 50 feet away from the high tide line.

Implementation of the above mitigation measures will reduce potential impacts to these listed species to a less than significant level.

**d. Will (or could) this project significantly affect fish, wildlife, reptiles, or plant life?**

See question 2.c above.

**e. Will (or could) this project be located inside or within 200 feet of a marine or wildlife reserve?**

**Yes, Not Significant.** The project is located within the Fitzgerald Marine Preserve. The project proponent is the County Parks Department. The purpose of the project is to provide ADA accessible facilities in compliance with the County Parks Plan, County General Plan and State and Federal law. Measures to protect natural resources have been incorporated by the applicant into their plans. This is not a significant impact.

**f. Will (or could) this project infringe on any sensitive habitats?**

**Yes, Significant Unless Mitigated.** As discussed previously, the project site includes wetlands, riparian areas, creeks, and patches of California strawberry, all of which qualify as sensitive habitat. The following table and discussion summarizes the habitat types and amounts of impact that will occur as a result of this project:

| HABITAT | JURISDICTION | TEMPORARY IMPACTS | PERMANENT IMPACTS |
|---|---|---|---|
| San Vicente Creek | Corps, RWQCB, CCC | 0.01 acre | N/A |

| HABITAT | JURISDICTION | TEMPORARY IMPACTS | PERMANENT IMPACTS |
|---|---|---|---|
| Ocean (below the HTL) | Corps, RWQCB, CCC | 0.02 acre | 0.003 acre |
| Non-wetland Riparian | CDFG, RWQCB, CCC | N/A | 0.004 acre |
| Native Strawberry | CCC | 0.03 acre | 0.03 acre |

San Vicente Creek (ESHA)

San Vicente Creek is a perennial stream that runs along and near the northern border of the project area, crossing the property to the Pacific Ocean. Sediment from up-stream has accrued in the lower portion of San Vicente Creek, resulting in increased vegetation and wetland habitats near the mouth of the creek. Hydrology within the creek is primarily driven by direct precipitation, runoff from surrounding areas, and flow from watershed associated with San Vicente Creek. The drainage supports dense riparian vegetation dominated by arroyo willow (Salix lasiolepis). A clear span bridge will be installed across San Vicente Creek at the western end of the proposed portion of the California Coastal Trail; installation of the bridge will permanently impact 0.004 acre of riparian habitat. As part of project activities, existing rip-rap will be removed at the mouth of San Vicente Creek, resulting in a gain of approximately 0.002 acre of beach habitat. In addition, the rip-rap foundation of the observation area will undergo maintenance to improve stability: the existing coastal access stairway and surrounding rip-rap will be removed and replaced, resulting in a approximately 0.01 acre of temporary impacts below the OHWM.

Ocean

Rip-rap is present below the HTL along the western perimeter of the existing observation deck at the northwestern corner of the project area. As part of the improvements proposed for the observation deck, existing rip-rap (0.02 acre) will be removed from below the HTL and new rip-rap will be installed to minimize erosion between the observation deck and the beach. To increase the stability and durability of the observation deck, approximately 0.003 acre of additional rip-rap will be placed below the HTL.

Non-wetland Riparian (ESHA)

Central Coast Arroyo Willow Riparian Forest occurs along the banks of San Vicente Creek. This community grows as a dense, low, closed canopy forest dominated by arroyo willow. The clear span bridge proposed for placement across San Vicente Creek will require the removal of riparian vegetation, thus permanently impacting 0.004 acre of non-wetland riparian habitat.

Native Strawberry (ESHA)

Patches of California wild strawberry are present along the existing observation deck access road and throughout the Study Area. California wild strawberry is protected under the San Mateo LCP within one-half mile of the coast. Improvements to the trail leading to the observation deck and California Coastal Trail improvements proposed by this project will temporarily impact 0.03 acre and permanently impact 0.03 acre of California wild strawberry.

The applicant's biological report has proposed the following mitigation measures to address these potentially significant impacts:

**Mitigation Measure 30:** The applicant shall compensate for impacts to the Central Coast arroyo willow riparian habitat by replacing non-native vegetation with riparian plantings at a 2:1 ratio of restored riparian to impacted area. To mitigate for impacts to riparian habitat at the location of the proposed clear span bridge across San Vicente Creek, an adjacent area on the north side of the creek will be planted with willow cuttings, and nearby areas colonized by invasive species will be replanted with riparian plant species. Planting activities will take place concurrently with trail improvements and bridge installation. To ensure optimal survival and establishment, plantings will be installed in the fall before the onset of the rainy season. This compensation shall be documented through the submittal of a mitigation planting plan, which shall include final success criteria, implementation measures, maintenance and monitoring plan.

**Mitigation Measure 31:** The applicant shall compensate for impacts to California wild strawberry by replacing ice plant with native strawberry at a 1:1 ratio of planted strawberry habitat to impacted area. California wild strawberry will be planted in areas currently dominated by ice plant that are adjacent to those locations where impacts to existing strawberry are proposed. Temporary impacted areas of California strawberry as a result of project activities will be replanted and returned to pre-construction conditions. California wild strawberry planting activities will take place concurrently with trail improvements. To ensure optimal survival and establishment, plantings will be installed in the fall before the onset of the rainy season. This compensation shall be documented through the submittal of a mitigation planting plan, which shall include final success criteria, implementation measures, maintenance and monitoring plan.

g. **Will (or could) this project involve clearing land that is 5,000 sq. ft. or greater (1,000 sq. ft. within a County Scenic Corridor), that has slopes greater than 20% or that is in a sensitive habitat or buffer zone?**

See question 2.f above.

## 3. PHYSICAL RESOURCES

**b. Will (or could) this project involve grading in excess of 150 cubic yards?**

See question 1.f above.

## 4. AIR QUALITY, WATER QUALITY, SONIC

**a. Will (or could) this project generate pollutants (hydrocarbon, thermal odor, dust or smoke particulates, radiation, etc.) that will violate existing standards of air quality on-site or in the surrounding area?**

**Yes, Significant Unless Mitigated.** The project could generate significant amounts of dust as a result of the proposed grading work, and vehicle travel on paved and/or unpaved surfaces to the point where air quality standards are violated. To reduce this potential, the following mitigation measure is proposed:

**Mitigation Measure 32:** The applicant shall implement the following dust control measures during grading and construction activities:

a. Water all active construction and grading areas at least twice daily.

b. Cover all trucks hauling soil, sand, and other loose materials or require all trucks to maintain at least two feet of freeboard.

c. Pave, apply water two times daily, or apply (non-toxic) soil stabilizers on all unpaved access roads, parking areas and staging areas at the project site.

d. Sweep streets daily (with water sweepers) if visible soil material is carried onto adjacent public streets.

e. Enclose, cover, water twice daily or apply (non-toxic) soil binders to exposed stockpiles (dirt, sand, etc.)

**f. Will (or could) this project generate noise levels in excess of levels determined appropriate according to the County Noise Ordinance standard?**

**Yes, Significant Unless Mitigated.** The construction of this project could temporarily generate noise levels that are greater than the ambient noise levels in the project areas. There are residences immediately adjacent to the project site, and these residents could be affected by the anticipated noise increase. To mitigate this potential impact, the following mitigation measure is proposed:

**Mitigation Measure 33:** Noise levels produced by proposed construction activities shall not exceed the 80-dBA level at any one moment. Construction activities shall be limited to the hours from 7:00 a.m. to 6:00 p.m., Monday through Friday, and 9:00 a.m. to 5:00 p.m. on Saturday. Construction operations shall be prohibited on Sunday and any national holiday.

g. **Will (or could) this project generate polluted or increased surface water runoff or affect groundwater resources?**

**Yes, Significant Unless Mitigated.** Please see Question 1.c above.

## 5. TRANSPORTATION

a. **Will (or could) this project affect access to commercial establishments, schools, parks, etc.?**

**Yes, Not Significant.** There will be a temporary reduction in coastal access while the path and overlook are modified/re-constructed. However, the applicant is currently repairing/re-constructing a secondary shoreline access stairway at the south end of the Preserve, which should be completed by the time this project is ready to begin. This alternate access will still allow the public to reach the beach while the current project is under construction. Once this proposed project is completed, access to the northern portion of the Preserve will be re-established and will be ADA compliant as required by Federal, State and County plans and regulations.

b. **Will (or could) this project cause noticeable increase in pedestrian traffic or a change in pedestrian patterns?**

**Yes, Not Significant.** Currently, pedestrians use an informal dirt path adjacent to San Vicente Creek, in addition to the formal dirt path that leads down to the bluff top overlook. The applicant is proposing to retire the old dirt path and restore it as habitat. The new ADA compliant trail will occupy the same alignment as the current official trail to the overlook. The proposed project will result in NO change to public access.

## 7. AESTHETIC, CULTURAL AND HISTORIC

a. **Will (or could) this project obstruct scenic views from existing residential areas, public lands, public water body, or roads?**

**Yes, Not Significant.** Construction of the ADA trail and overlook will temporarily obstruct, at least partially, views of the shoreline from North Lake Street, a public street, as well as from within the Preserve. However, the obstruction will be temporary in nature, approximately 4 months.

d. **Will (or could) this project directly or indirectly affect historical or archaeological resources on or near the site?**

**Yes, Significant Unless Mitigated.** As part of their project design process, the applicant contracted with an archeological resources consultant to perform a reconnaissance of the project site. The consultant found no listed or potentially eligible resources in or adjacent to the area of the beach access component. However, the area of the Coastal Trail does contain an identified archeological site. To protect these resources, the consultant has recommended the following measures:

**Mitigation Measure 34:** The proposed pedestrian bridge shall be supported by a concrete abutment that will be constructed at or above existing grade on the south bank of Vicente Creek. The abutment shall be supported by three 3-inch diameter metal pilings, which shall be installed to a depth (> 37 feet) that will contact bedrock.

- Pilings shall be installed using a small vibratory hammer mounted on small rubber tired or tracked Bobcat or equivalent equipment.
- Heavy equipment shall be rubber tired or rubber tracked and of the smallest size necessary to complete any earthwork.
- Pilings shall be placed within the smallest area possible subject to ground disturbance near the creek edge.
- Any area, within the archeological site or immediately adjacent to the recorded site boundary, subject to disturbance by workers or equipment, shall be protected by installing straw layer/wood mats on the surface prior to work. The straw layer/wood mats shall be placed by hand and removed by hand to avoid surface disturbance.

**Mitigation Measure 35:** A segment of the California Coastal Trail is present within the archaeological resource. The segment shall be installed above the existing grade in order to minimize disturbances to the ground surface.

- Engineered fill shall be placed over the ground surface in the locations of the trail in order to protect the archaeological site. The fill shall have a minimum depth of 12 inches and may increase in thickness to approximately 24 inches at the south bridge abutment.
- A permeable geo-textile fabric will be installed on top of the undisturbed ground surface and underneath the engineered fill to mark the location of the undisturbed ground surface. Standard installation methods for the trail within the archeological site shall:

  (a.) omit compaction of sub-grade;

  (b.) place fill soils for the protective cap in 4-inch lifts; and,

  (c.) compact with static smooth drum roller instead of vibratory compaction.

- Any area, within the archeological site or immediately adjacent to the recorded site boundary, subject to disturbance by workers or equipment, shall be protected by installing straw layer/wood mats on the surface prior to work. The straw layer/wood mats shall be placed by hand and removed by hand to avoid surface disturbance.

- Heavy equipment shall be rubber tired or rubber tracked and of the smallest size necessary to complete any earthwork.

- Hand construction of the trail within the archaeological site boundary shall be utilized wherever practical to minimize mechanical damage.

- Fill material shall be brought to the project area via the existing unimproved trail that is accessed from Cypress Street. No improvements shall be made to the trail.

- Heavy equipment and temporary fill stockpiles shall be prohibited within or adjacent to the recorded archaeological site boundary. The "no-go" zones along trail alignment within site boundary shall be marked during construction. Install barrier fencing to confine equipment and construction traffic to trail within site boundary.

- Temporary fill stockpiles may be placed along the existing trail if they are more than 25 feet from the recorded site boundary.

- Fill shall be transferred from stockpile areas to areas within the archaeological site by hand whenever possible or using equipment if the pressure applied by the combined weight of the equipment and fill shall not cause compaction of the ground surface within the site (Note: Applied pressure shall not exceed 15lbs per square inch). Only rubber tire or rubber track equipment shall be used. All ground disturbing construction or construction with the potential for native soil ground disturbance within or within 50 feet of the recorded site boundary of CA-SMA-133 shall be monitored by a professional archaeologist meeting the Secretary of the Interior's standards.

- Archaeological monitor shall have the authority to temporarily halt any ground disturbing construction to identify and evaluate any archaeological materials inadvertently exposed during construction. The exposure of significant resources could result in the development of a treatment program including scientific removal, analysis and reporting. The exposure of any Native American burials shall be handled in accordance with state law.

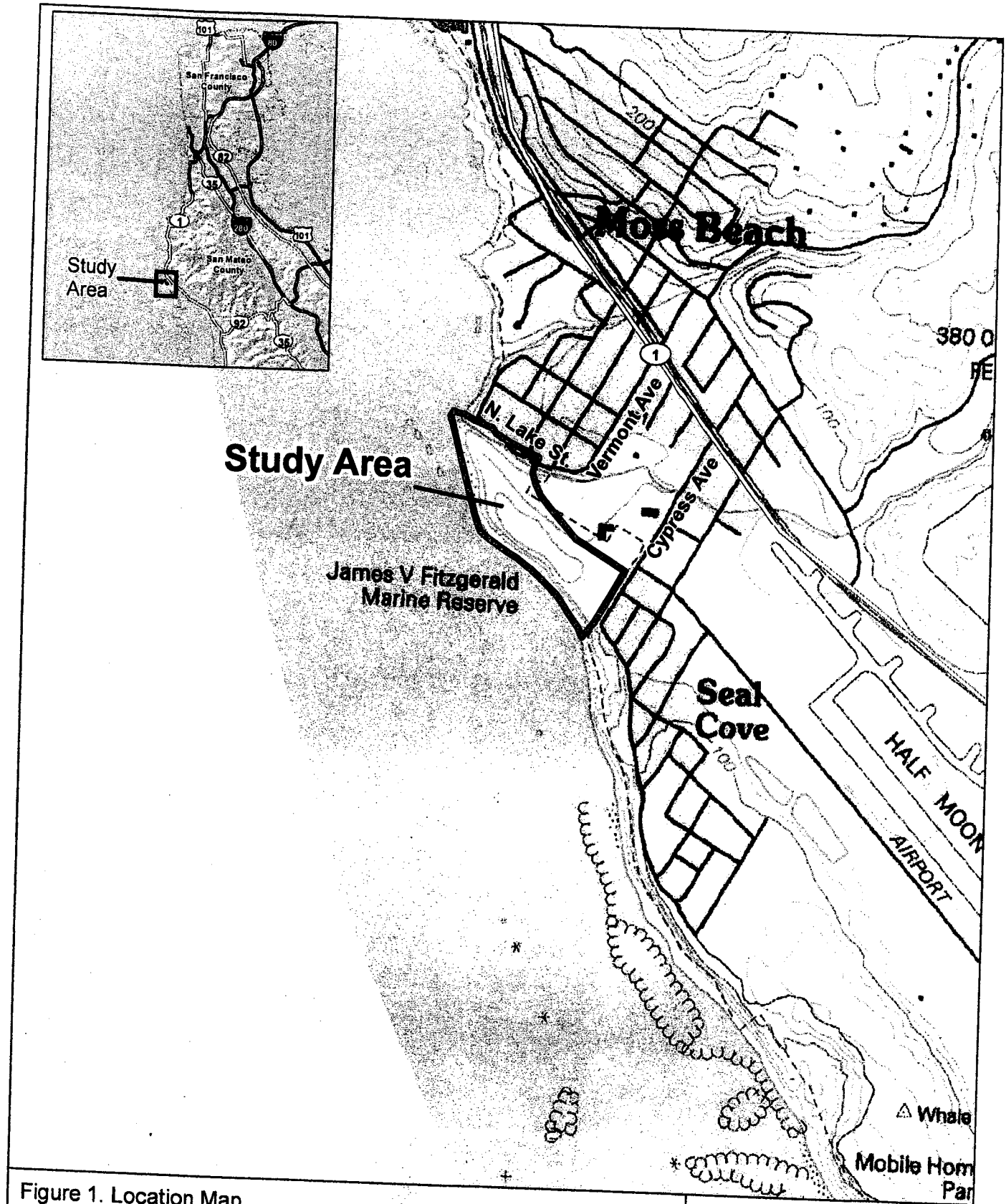


Figure 1. Location Map

Fitzgerald Marine Reserve
Half Moon Bay, CA

N
W E
S

0 0.1 0.2 0.4 Miles

wra
ENVIRONMENTAL CONSULTANTS

Date: October 2009
Map By: Sundaran Gillespie
Filepath:I:/Acad2000/18000/18054/gis/Arcmap/Location Map.mxd

# FITZGERALD MARINE RESERVE
## BEACH ACCESS
### MOSS BEACH, CALIFORNIA

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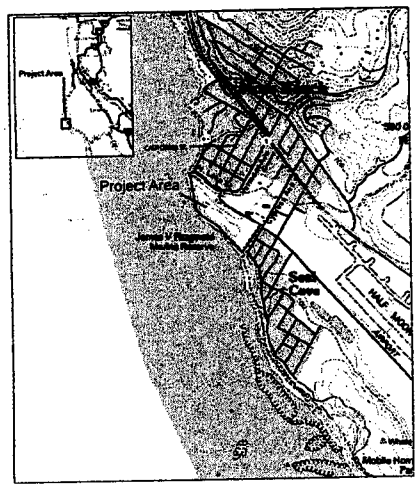
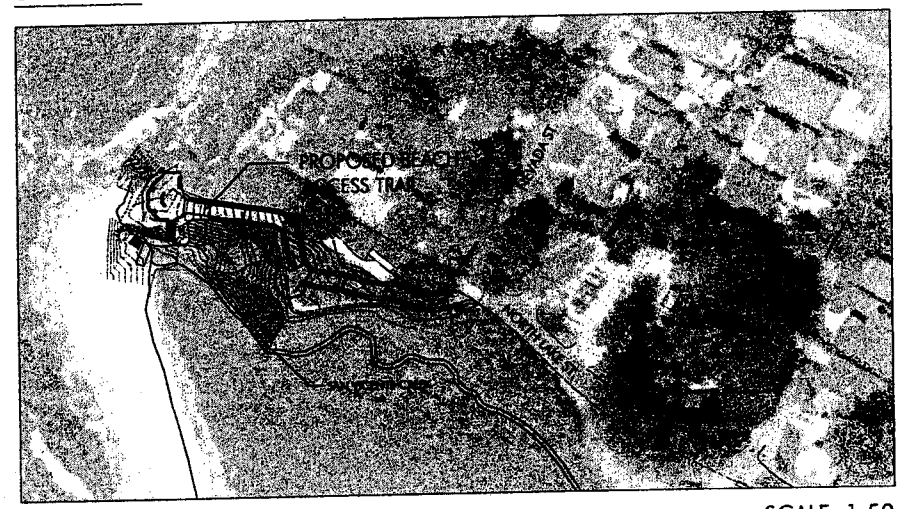
San Rafael, CA 94901
(415) 454-8868 Phone
(415) 454-0129 Fax

FITZGERALD
MARINE RESERVE
BEACH ACCESS
MOSS BEACH, CALIFORNIA

LOCATION MAP




SITE MAP




SCALE: 1:50

01/15/10 60% DRAFT CONSTRUCTION SET
Date Issues And Revisions

PROJECT #18054
DRAWN BY: ICM
CHECKED BY: GJS
ORIGINAL DRAWING SIZE: 24 X 36

SCALE: AS INDICATED

N

SHEET INDEX

Sheet

L-1

## SHEET INDEX

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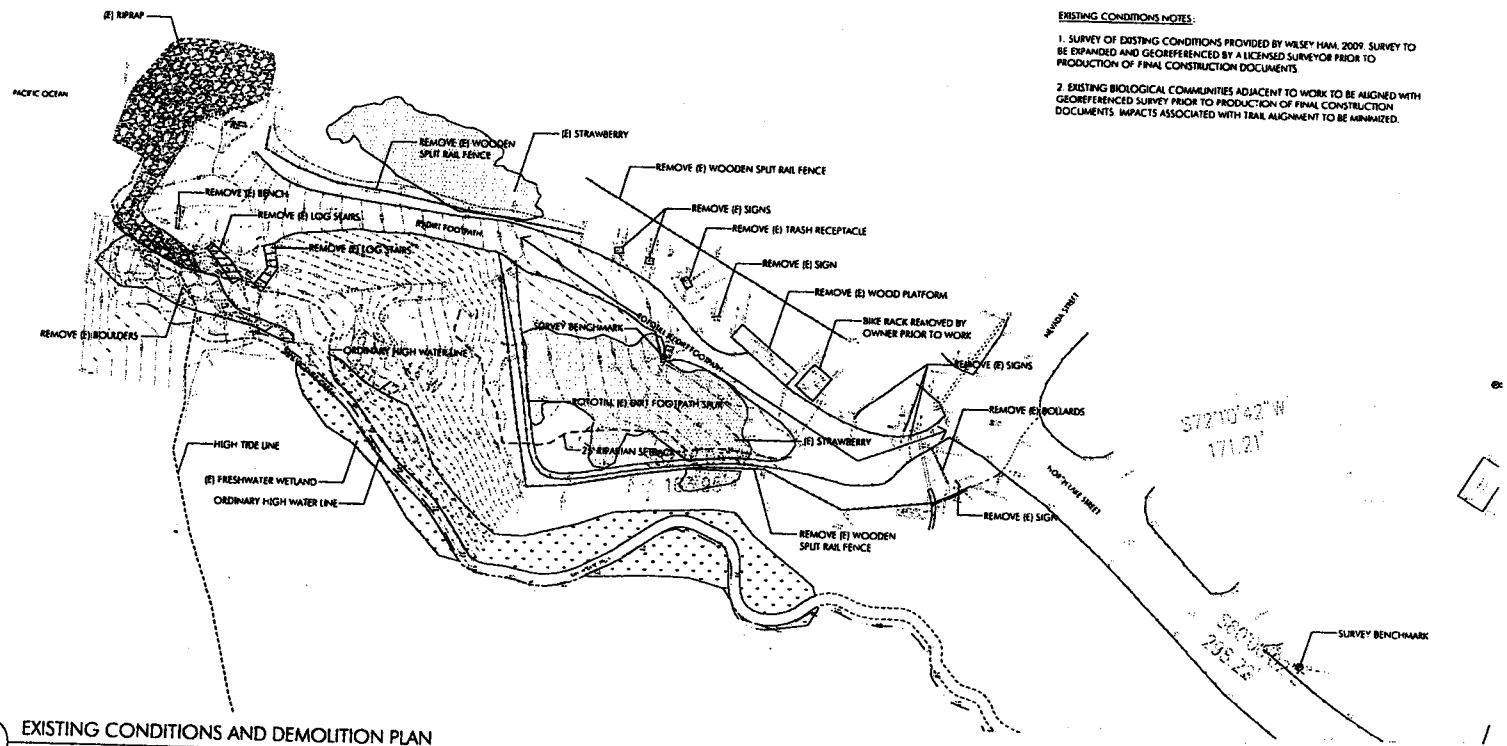
# FITZGERALD MARINE RESERVE

BEACH ACCESS

MOSS BEACH, CALIFORNIA




1 EXISTING CONDITIONS AND DEMOLITION PLAN

SCALE: 1" = 20'

EXISTING CONDITIONS NOTES:

1. SURVEY OF EXISTING CONDITIONS PROVIDED BY WILSEY HAM, 2009. SURVEY TO BE EXPANDED AND GEOREFERENCED BY A LICENSED SURVEYOR PRIOR TO PRODUCTION OF FINAL CONSTRUCTION DOCUMENTS.

2. EXISTING BIOLOGICAL COMMUNITIES ADJACENT TO WORK TO BE ALIGNED WITH GEOREFERENCED SURVEY PRIOR TO PRODUCTION OF FINAL CONSTRUCTION DOCUMENTS. IMPACTS ASSOCIATED WITH TRAIL ALIGNMENT TO BE MINIMIZED.

| Date | Issues And Revisions | No |
|---|---|---|
| 01/15/10 | 60% DRAFT CONSTRUCTION SET | |

PROJECT #18054
DRAWN BY: ICM
CHECKED BY: GJS
ORIGINAL DRAWING SIZE: 24 X 36

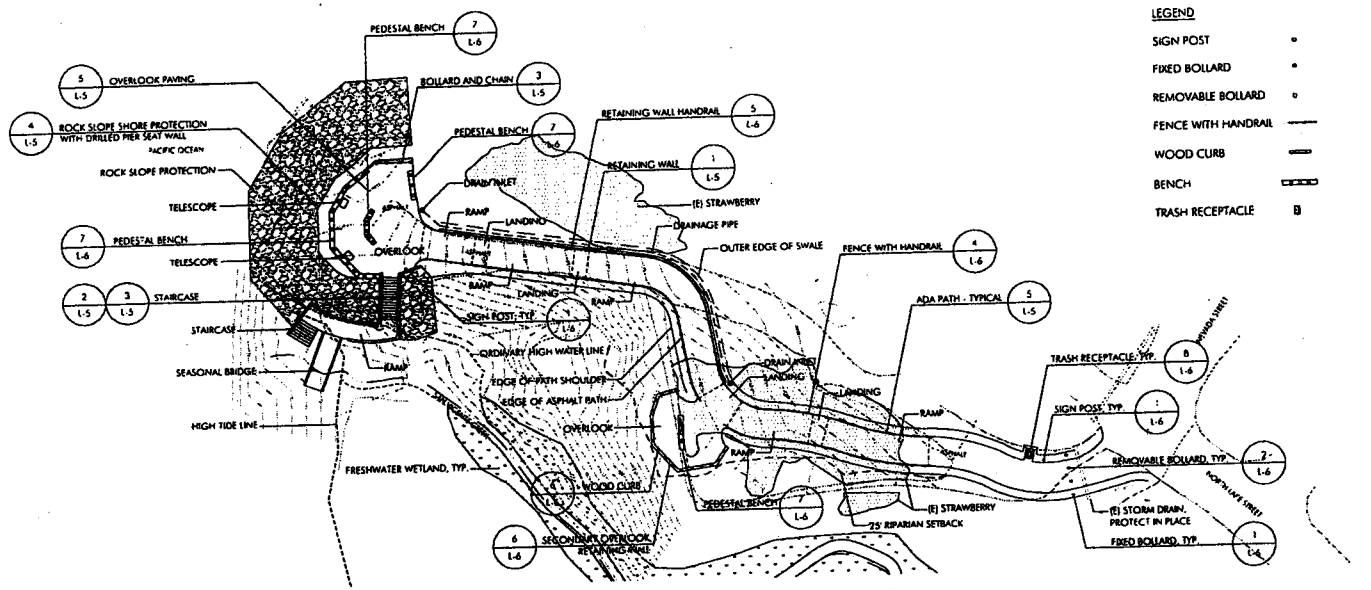
SCALE: 1" = 20'

N

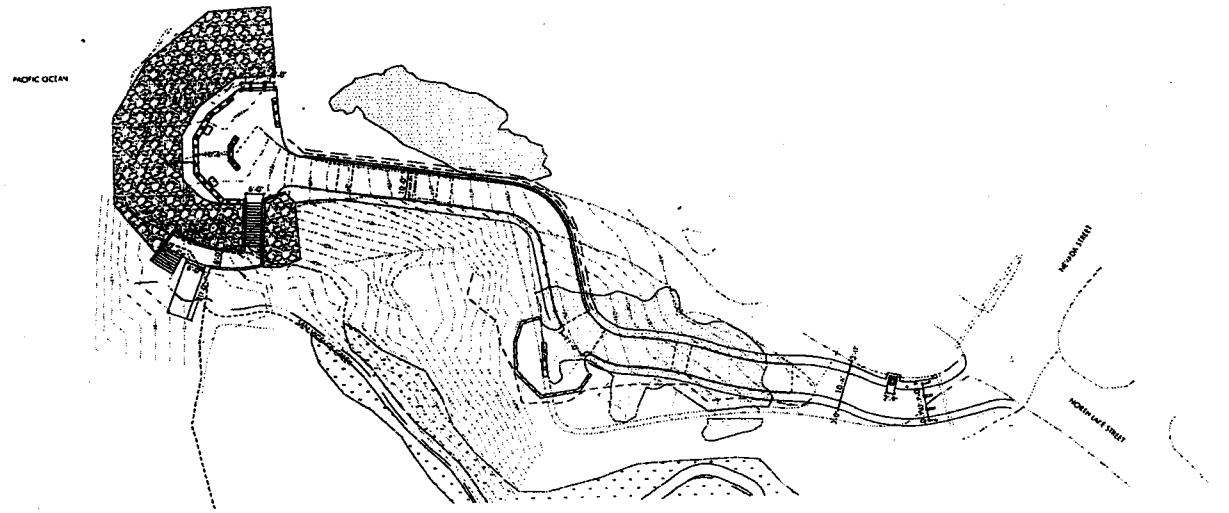
EXISTING CONDITIONS AND DEMOLITION PLAN

Sheet

L-2




1 SITE PLAN
SCALE: 1" = 20'




2 LAYOUT PLAN
SCALE 1" = 20'

LEGEND

| | | | |
|---|---|---|---|
| SIGN POST | ○ | 25' RIPARIAN SETBACK LINE | - - - - |
| FIXED BOLLARD | ● | HIGH TIDE LINE | ------ |
| REMOVABLE BOLLARD | ○ | ORDINARY HIGH WATER LINE | ------ |
| FENCE WITH HANDRAIL | —— | (E) FRESHWATER WETLAND | |
| WOOD CURB | ▬ | (E) STRAWBERRY | |
| BENCH | | | |
| TRASH RECEPTACLE | B | | |

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# FITZGERALD MARINE RESERVE

BEACH ACCESS
MOSS BEACH, CALIFORNIA

01/15/10 60% DRAFT CONSTRUCTION SET
Date Issues And Revisions

PROJECT #18054
DRAWN BY: ICM
CHECKED BY: GJS
ORIGINAL DRAWING SIZE: 24 X 36

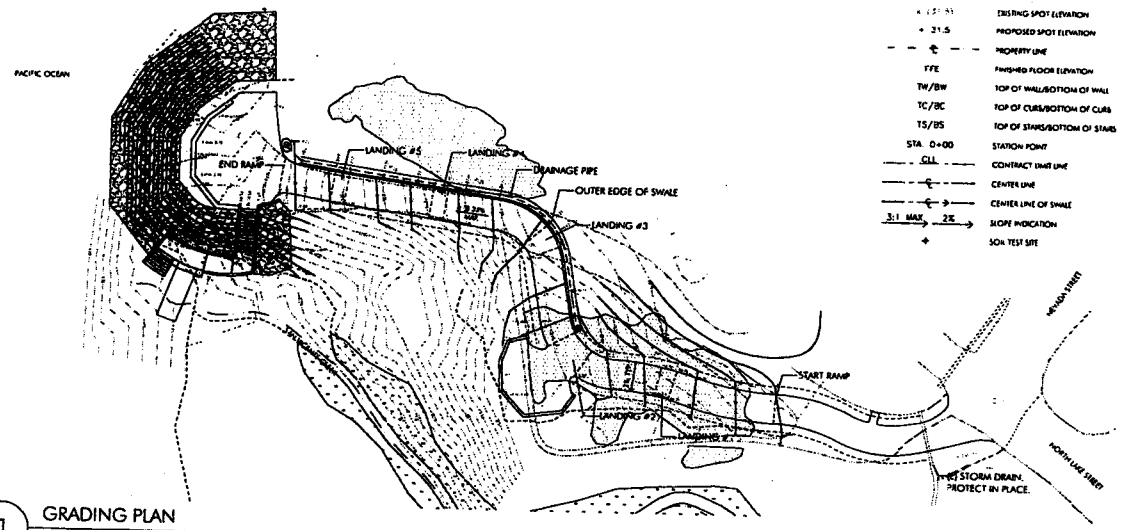
SCALE: 1" = 20'

N

SITE & LAYOUT PLAN

Sheet

L-3




1 GRADING PLAN
SCALE: 1" = 20'

**GRADING LEGEND**

| SYMBOL | DESCRIPTION |
|---|---|
| 31 | EXISTING CONTOUR LINE |
| 31 | PROPOSED CONTOUR LINE |
| 31.5 | GRADE BREAK |
| + 31.5 | EXISTING SPOT ELEVATION |
| + 31.5 | PROPOSED SPOT ELEVATION |
| | PROPERTY LINE |
| FFE | FINISHED FLOOR ELEVATION |
| TW/BW | TOP OF WALL/BOTTOM OF WALL |
| TC/BC | TOP OF CURB/BOTTOM OF CURB |
| TS/BS | TOP OF STAIRS/BOTTOM OF STAIRS |
| STA. 0+00 | STATION POINT |
| CLL | CONTRACT LIMIT LINE |
| | CENTER LINE |
| | CENTER LINE OF SWALE |
| 3:1 MAX 2% | SLOPE INDICATION |
| + | SOIL TEST SITE |

**DRAINAGE LEGEND**

| SYMBOL | DESCRIPTION |
|---|---|
| HPS | HIGH POINT OF SWALE |
| HP/LP | HIGH POINT/LOW POINT |
| TF/RE | TOP OF FRAME OR RIM ELEVATION |
| INV | INVERT ELEVATION |
| | PROPOSED CATCH BASIN |
| | PROPOSED DRAIN INLET |
| | PROPOSED MANHOLE |
| | PROPOSED AREA DRAIN |

**GENERAL LEGEND**

| SYMBOL | DESCRIPTION |
|---|---|
| | 25' RIPARIAN SETBACK LINE |
| | HIGH TIDE LINE |
| | ORDINARY HIGH WATER LINE |
| | (E) FRESHWATER WETLAND |
| | (E) STRAWBERRY |

**GRADING NOTES**

1. THE GRADING PLANS INDICATE FINISHED GRADE ELEVATIONS. REFER TO THE GRADING DETAILS FOR SUBGRADE SPECIFICATIONS.
2. SALVAGE TOPSOIL FROM ENTIRE AREA WITHIN THE LIMIT OF GRADING.
3. LOCATIONS OF STOCKPILE AREAS FOR TOPSOIL STORAGE AND HAUL ROADS SHALL BE DETERMINED BY THE WETLAND CONSULTANT.
4. NO GRADING SHALL OCCUR WITHIN THE DRIPLINE OF EXISTING TREES TO REMAIN. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR ANY DAMAGE TO EXISTING TREES.

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# FITZGERALD MARINE RESERVE
BEACH ACCESS
MOSS BEACH, CALIFORNIA

EROSION CONTROL PLAN WILL BE PROVIDED IN 90% SUBMITTAL

2 EROSION CONTROL PLAN
SCALE 1" = 20'

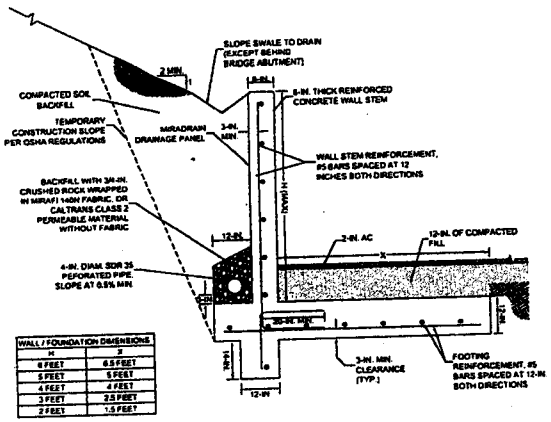
01/15/10 60% DRAFT CONSTRUCTION SET
Date — Issues And Revisions — No.

PROJECT #18054
DRAWN BY: ICM
CHECKED BY: GJS
ORIGINAL DRAWING SIZE: 24 X 36

SCALE 1" = 20'
N

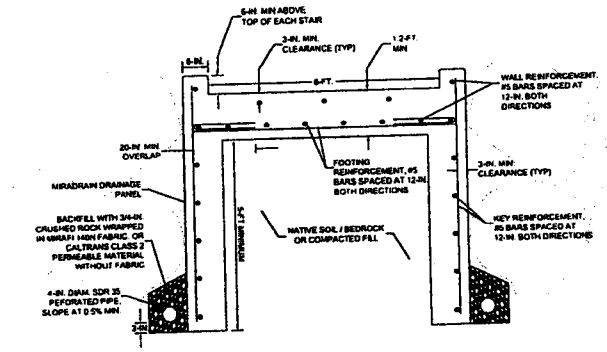
GRADING & EROSION CONTROL PLAN

Sheet
L-4

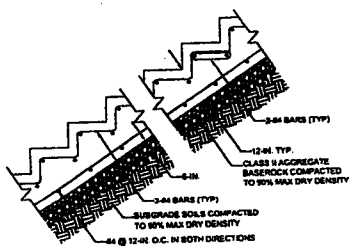



| WALL / FOUNDATION DIMENSIONS | |
|---|---|
| H | X |
| 6 FEET | 6.5 FEET |
| 5 FEET | 5 FEET |
| 4 FEET | 4 FEET |
| 3 FEET | 2.5 FEET |
| 2 FEET | 1.5 FEET |

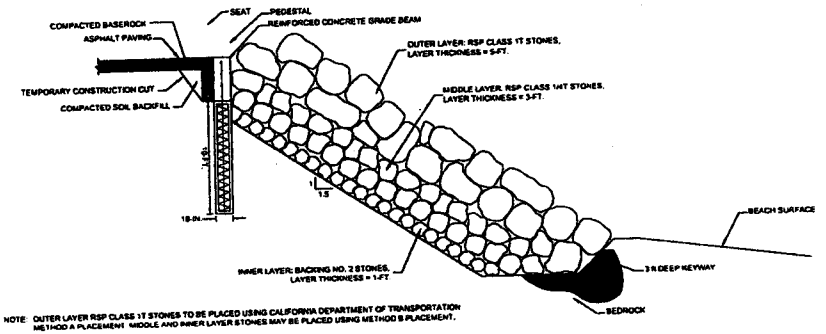
1 ADA PATH WALL DETAIL
NOT-TO-SCALE




2 STAIRCASE WALL DETAIL
NOT-TO-SCALE

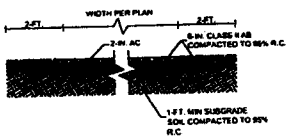



3 TYPICAL STAIRCASE SECTION
NOT-TO-SCALE

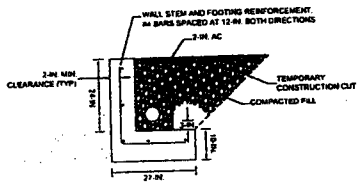



NOTE: OUTER LAYER RSP CLASS 1T STONES TO BE PLACED USING CALIFORNIA DEPARTMENT OF TRANSPORTATION METHOD A PLACEMENT. MIDDLE AND INNER LAYER STONES MAY BE PLACED USING METHOD B PLACEMENT.

4 ROCK SLOPE SHORE PROTECTION SYSTEM WITH DRILLED PIER SEAT WALL
NOT-TO-SCALE




5 ADA PATH / OVERLOOK PAVING DETAIL
NOT-TO-SCALE




6 SECONDARY OVERLOOK RETAINING WALL
NOT-TO-SCALE

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Miller Pacific

FITZGERALD MARINE RESERVE
BEACH ACCESS
MOSS BEACH, CALIFORNIA

01/15/10 60% DRAFT CONSTRUCTION S
Date Issues And Revisions

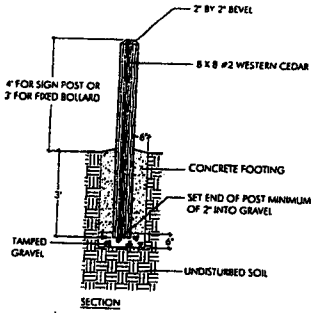
PROJECT #18054
DRAWN BY:
CHECKED BY:
ORIGINAL DRAWING SIZE: 24 X 36

SCALE: AS INDICATE

SITE & STRUCTUR DETAILS

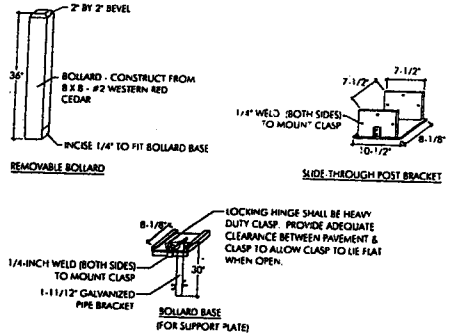
Sheet

L-5



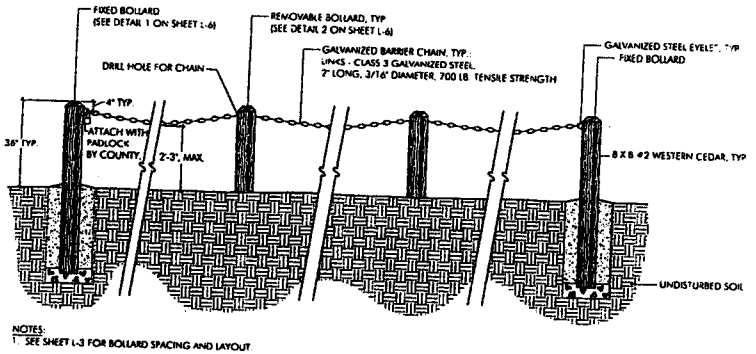

NOTE: SIGN PROVIDED AND INSTALLED BY COUNTY.

## 1 SIGN POST / FIXED BOLLARD
NOT TO SCALE



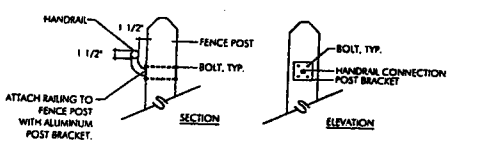

NOTES:
1. ALL PLATE MATERIALS SHALL BE 3/8" GALVANIZED STEEL.
2. BASE INSTALLATION: SET PIPE BASES IN A 12-INCH DIAMETER HOLE, 32-INCHES DEEP AND BACKFILL WITH CONCRETE. LOCK CLASP FACES THE STREET.
3. FOR SLIDE THROUGH POST BRACKET, USE THREE 7/16-INCH HOLES FOR 7/16-INCH X 1 1/2 INCH STAINLESS STEEL MACHINE SCREWS AS SHOWN.

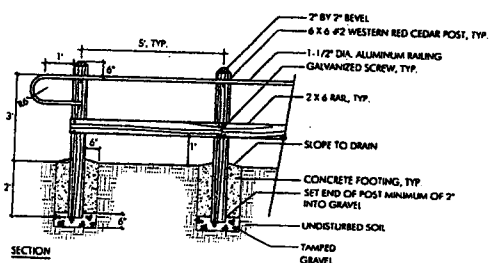
## 2 REMOVABLE BOLLARD
NOT TO SCALE



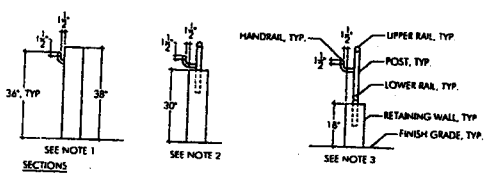

NOTES:
1. SEE SHEET L-3 FOR BOLLARD SPACING AND LAYOUT

## 3 BOLLARDS AND CHAIN
NOT TO SCALE



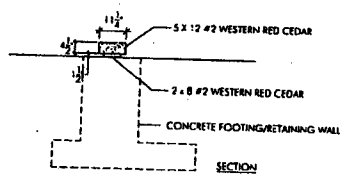




## 4 FENCE WITH HANDRAIL
NOT TO SCALE

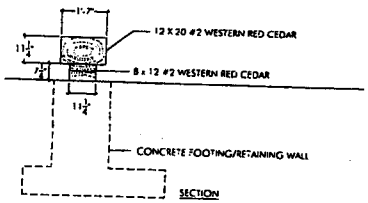



NOTES:
1. ATTACH HANDRAIL TO WALL WHEN WALL IS 38" IN HEIGHT OR GREATER ABOVE FINISH GRADE.
2. INSTALL HANDRAIL ON TOP OF WALL WHEN WALL IS 18" TO 30" IN HEIGHT.
3. INSTALL LOWER RAIL WHEN WALL HEIGHT IS 18" OR LESS.

## 5 RETAINING WALL HANDRAIL
NOT TO SCALE




## 6 WOOD CURB
NOT TO SCALE




## 7 PEDESTAL BENCH
NOT TO SCALE

DETAIL TO BE INCLUDED IN 90% SUBMITTAL

MAKE: BEARSAVER
MODEL: HB1G-P

## 8 TRASH RECEPTACLE
NOT TO SCALE

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# FITZGERALD MARINE RESERVE
BEACH ACCESS
MOSS BEACH, CALIFORNIA

| Date | Issues And Revisions | No |
|---|---|---|
| 01/15/10 | 60% DRAFT CONSTRUCTION SET | |

PROJECT #18054
DRAWN BY: ICM
CHECKED BY: GJS
ORIGINAL DRAWING SIZE: 24 X 36

SCALE: AS INDICATED

SITE DETAILS

Sheet

L-6

# FITZGERALD MARINE RESERVE
## COASTAL TRAIL
**MOSS BEACH, CALIFORNIA**

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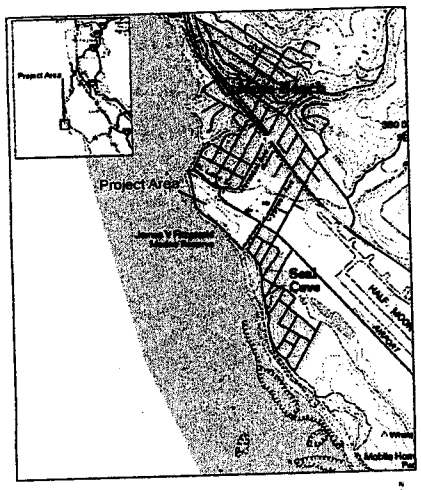
FITZGERALD
MARINE RESERVE
COASTAL TRAIL
MOSS BEACH, CALIFORNIA

LOCATION MAP




SITE MAP

SCALE: 1:100

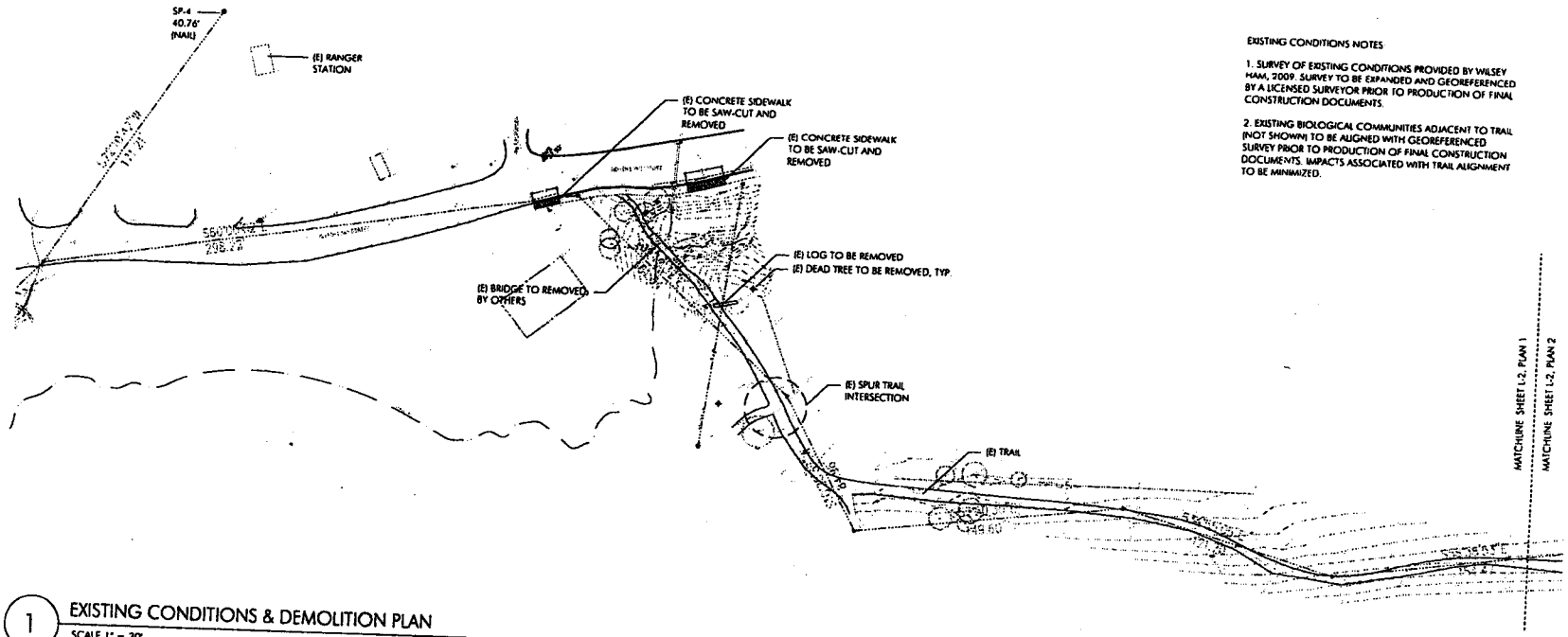
01/15/10 60% DRAFT CONSTRUCTION SET
Date Issues And Revisions No

PROJECT # 18054
DRAWN BY: MCB
CHECKED BY: GJS
ORIGINAL DRAWING SIZE: 24 X 36
SCALE: AS INDICATED

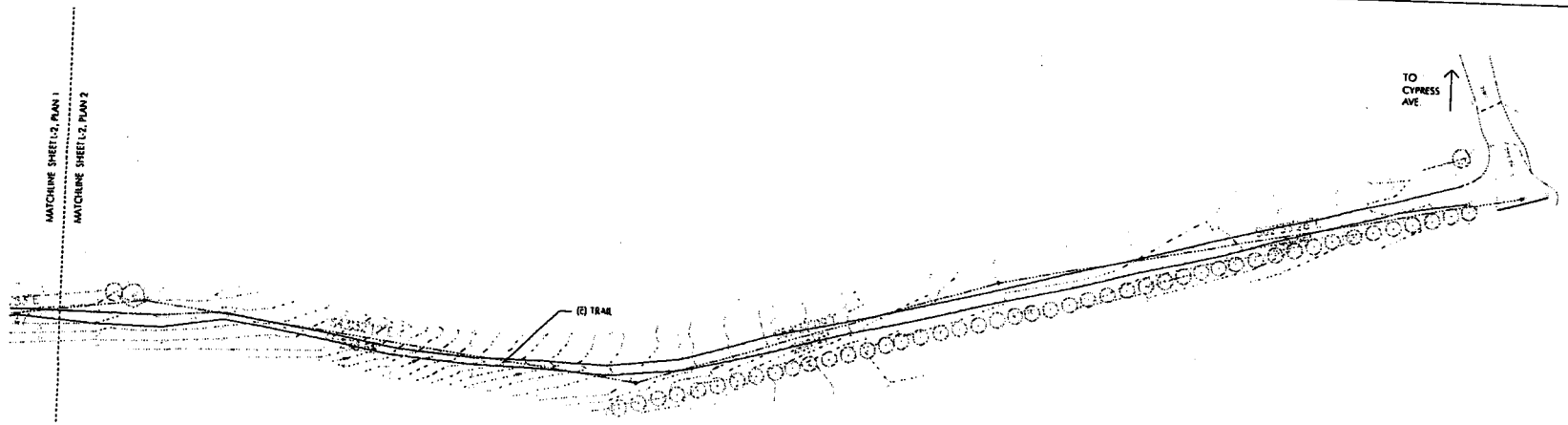
SHEET INDEX



SHEET INDEX
Sheet
L-1




1 EXISTING CONDITIONS & DEMOLITION PLAN
SCALE 1" = 30'




2 EXISTING CONDITIONS & DEMOLITION PLAN
SCALE 1" = 30'

EXISTING CONDITIONS NOTES

1. SURVEY OF EXISTING CONDITIONS PROVIDED BY WILSEY HAM, 2009. SURVEY TO BE EXPANDED AND GEOREFERENCED BY A LICENSED SURVEYOR PRIOR TO PRODUCTION OF FINAL CONSTRUCTION DOCUMENTS.

2. EXISTING BIOLOGICAL COMMUNITIES ADJACENT TO TRAIL (NOT SHOWN) TO BE ALIGNED WITH GEOREFERENCED SURVEY PRIOR TO PRODUCTION OF FINAL CONSTRUCTION DOCUMENTS. IMPACTS ASSOCIATED WITH TRAIL ALIGNMENT TO BE MINIMIZED.

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FITZGERALD MARINE RESERVE
COASTAL TRAIL
MOSS BEACH, CALIFORNIA

01/15/10 60% DRAFT CONSTRUCTION SET
Date Issues And Revisions No

PROJECT #18056
DRAWN BY: AMCB
CHECKED BY: GJS
ORIGINAL DRAWING SIZE 24 X 36

SCALE: AS INDICATED

EXISTING CONDITIONS & DEMOLITION PLAN

Sheet

L-2

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# FITZGERALD MARINE RESERVE

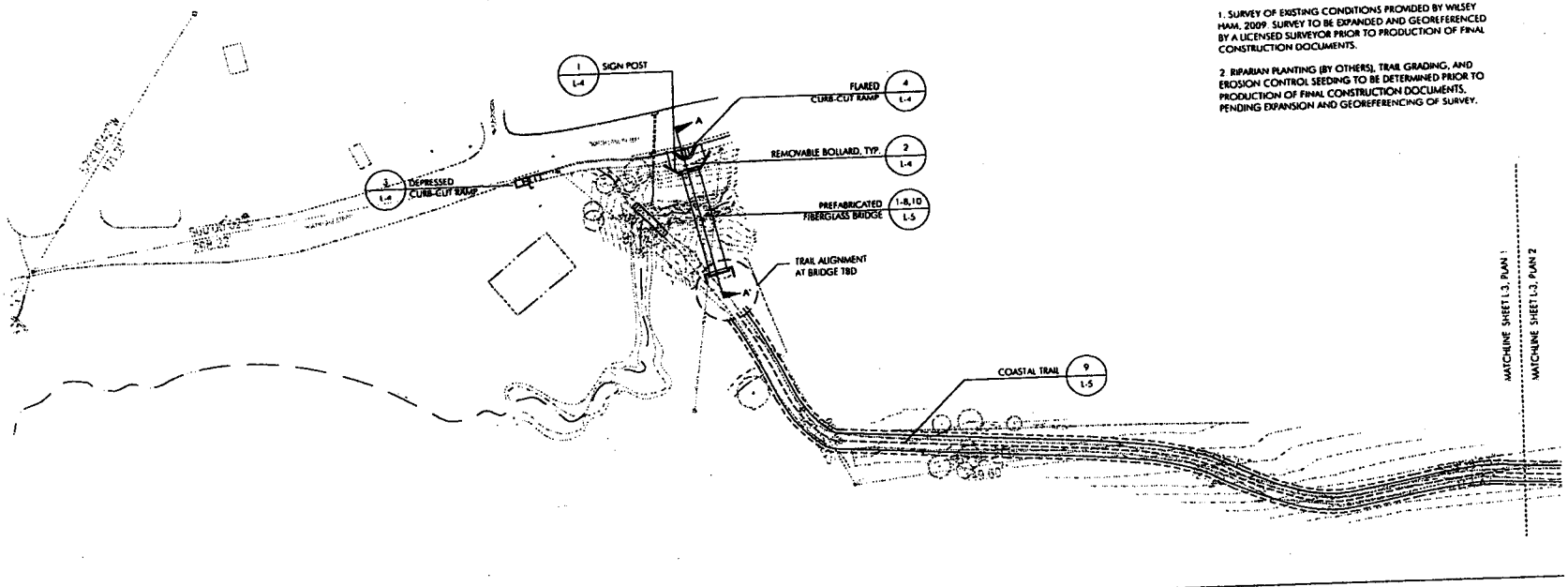
COASTAL TRAIL

MOSS BEACH, CALIFORNIA

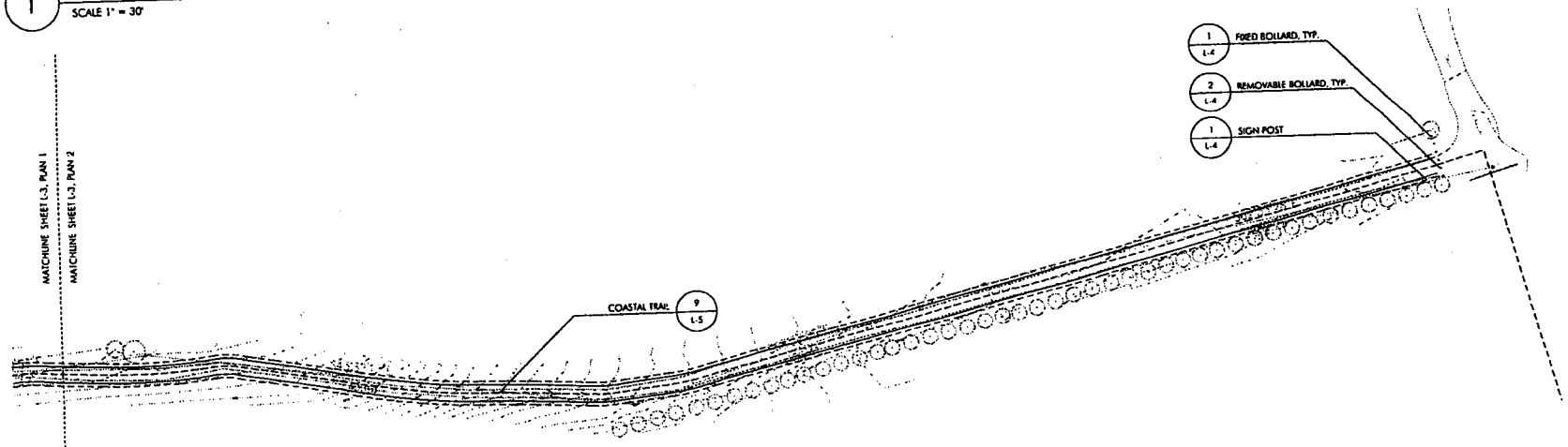
SITE NOTES:

1. SURVEY OF EXISTING CONDITIONS PROVIDED BY WILSEY HAM, 2009. SURVEY TO BE EXPANDED AND GEOREFERENCED BY A LICENSED SURVEYOR PRIOR TO PRODUCTION OF FINAL CONSTRUCTION DOCUMENTS.

2. RIPARIAN PLANTING (BY OTHERS), TRAIL GRADING, AND EROSION CONTROL SEEDING TO BE DETERMINED PRIOR TO PRODUCTION OF FINAL CONSTRUCTION DOCUMENTS, PENDING EXPANSION AND GEOREFERENCING OF SURVEY.




1 SITE PLAN
SCALE 1" = 30'




2 SITE PLAN
SCALE 1" = 30'

01/15/10 60% DRAFT CONSTRUCTION SET
Date Issues And Revisions

PROJECT #18054
DRAWN BY: MCB
CHECKED BY: GJS
ORIGINAL DRAWING SIZE: 24 X 36

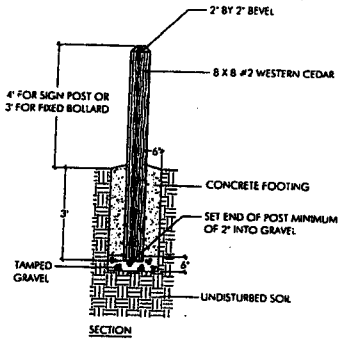
SCALE: AS INDICATED

N

SITE PLAN

Sheet

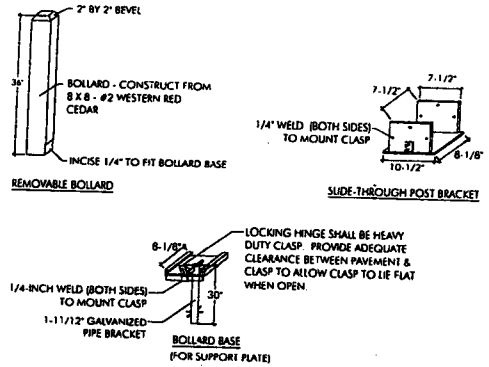
L-3




NOTE: SIGN PROVIDED AND INSTALLED BY COUNTY.

## 1 SIGN POST / FIXED BOLLARD

NOT TO SCALE



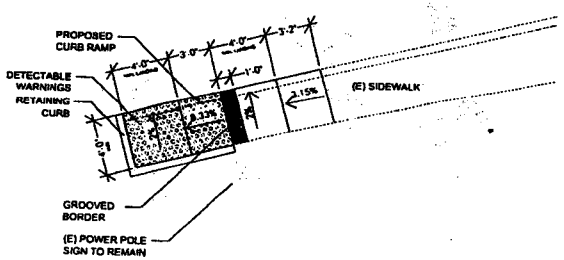

NOTES:
1. ALL PLATE MATERIALS SHALL BE 3/8" GALVANIZED STEEL.

2. BASE INSTALLATION: SET PIPE BASES IN A 12-INCH DIAMETER HOLE, 32-INCHES DEEP AND BACKFILL WITH CONCRETE. LOCK CLASP FACES THE STREET.

3. FOR SLIDE THROUGH POST BRACKET, USE THREE 7/16-INCH HOLES FOR 7/16-INCH X 1 1/2 INCH STAINLESS STEEL MACHINE SCREWS AS SHOWN.

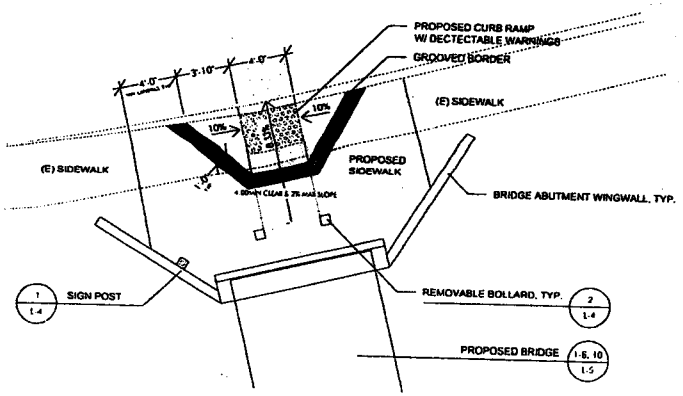
## 2 REMOVABLE BOLLARD

NOT TO SCALE




## 3 DEPRESSED CURB-CUT RAMP

SCALE: 1/4" = 1'-0"




## 4 FLARED CURB-CUT RAMP

SCALE: 1/4" = 1'-0"

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San Rafael, CA 94901
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(415) 454-0129 Fax

# FITZGERALD MARINE RESERVE

COASTAL TRAIL

MOSS BEACH, CALIFORNIA

| Date | Issues And Revisions | No. |
|---|---|---|
| 01/15/10 | 60% DRAFT CONSTRUCTION SET | |

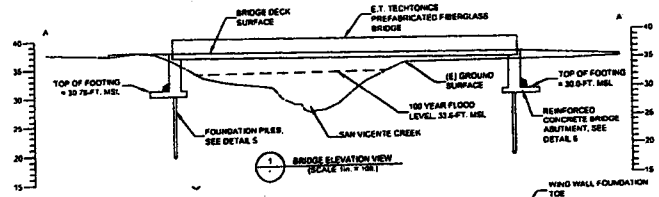
PROJECT #: 8054
DRAWN BY: MCB
CHECKED BY: GJS
ORIGINAL DRAWING SIZE: 24 X 36

SCALE: AS INDICATED

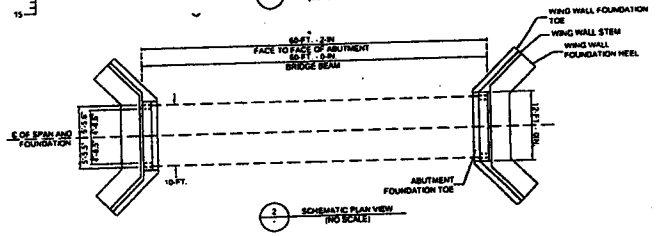
SITE DETAILS

Sheet

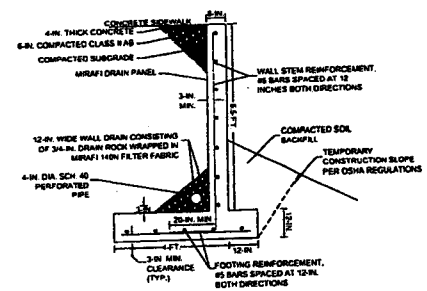
L-4



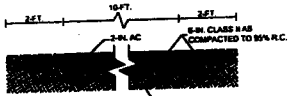

1 BRIDGE ELEVATION VIEW (SCALE 1in. = 10ft.)



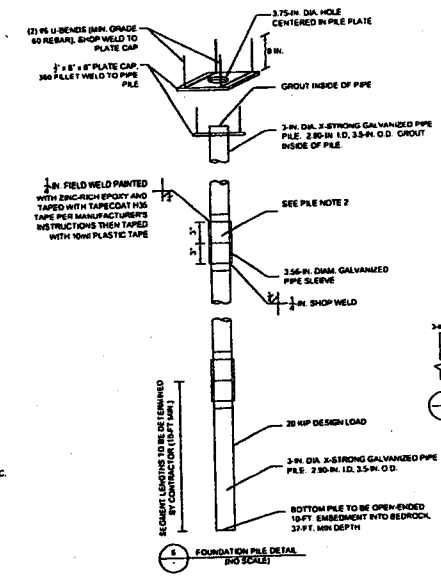

2 SCHEMATIC PLAN VIEW (NO SCALE)



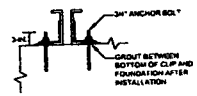

8 WING WALL DETAIL (NO SCALE)



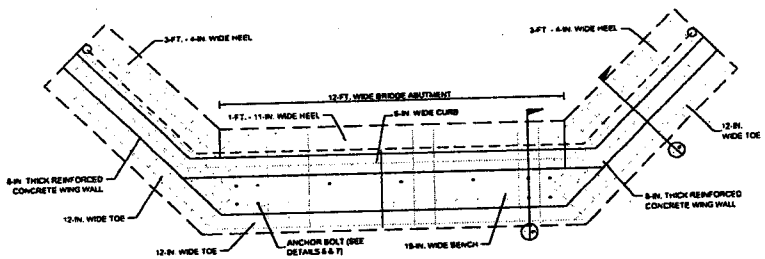

9 COAST TRAIL DETAIL (NO SCALE)



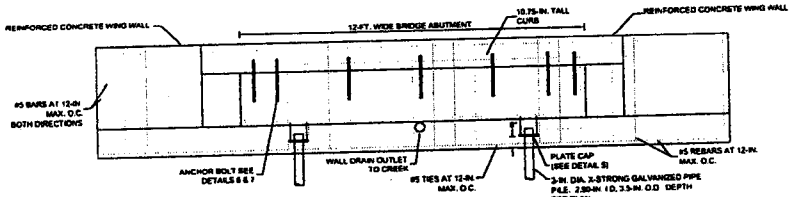

6 FOUNDATION PILE DETAIL (NO SCALE)



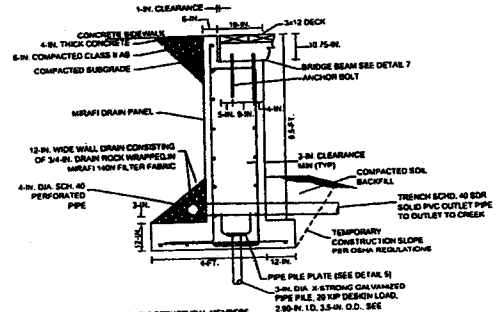

7 BRIDGE ANCHOR DETAIL (NO SCALE)




3 TYPICAL ABUTMENT PLAN (NO SCALE)

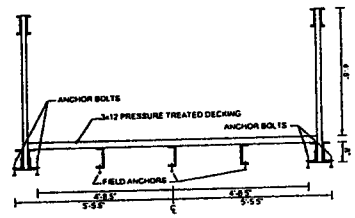



4 TYPICAL ABUTMENT ELEVATION VIEW (NO SCALE)




NOTE: BRIDGE AND ADJOINING STRUCTURAL MEMBERS NOT SHOWN, SEE DETAIL 7, THIS SHEET

8 ABUTMENT DETAIL (NO SCALE)




10 TYPICAL BRIDGE SECTION AT FOUNDATION (NO SCALE)

**GENERAL NOTES:**

1. The Contractor shall notify the Engineer, Miller Pacific Engineering Group (MPEG), 504 Redwood Boulevard, Suite 220, 415/382-3444, a minimum of 48 hours prior to commencing any aspect of the work.
2. The Contractor shall contact USA (Underground Service Alert) at least 48 hours in advance of work 800/227-2600.
3. The Contractor shall possess a Class "A" License.
4. Technical Specification 3310 Cast-in-Place Reinforced Concrete are part of the plans.
5. The Contractor shall restore access routes to their original conditions. Damage caused to visible or known improvements such as structures or pavements shall be repaired by the Contractor at no cost to the owners.
6. All excess excavated debris and material shall be hauled from the site legally disposed of by the Contractor.
7. All materials and workmanship shall be in accordance with the latest edition of the State of California, Department of Transportation (Caltrans) Standard Plans and Specifications.
8. Improvement layouts may need to be modified in the field per the direction of the Engineer.
9. See Section 3315 for concrete and steel requirements.

**PIPE PILE NOTES:**

1. Piles shall be 3.5 inch O.D. and 2.9 inch I.D. 36 ksi steel pipe piles conforming to ASTM A501.
2. All materials for pipe piles, including piles, couplers, and caps shall be hot-dip galvanized. Repair welds and any removal of galvanization with paint-on zinc rich epoxy.
3. All pipe piles shall be driven to the minimum depths specified on the plans and driven at a rate to provide at least 20 kips of vertical capacity.
4. The pile Subcontractor shall supply shop drawings describing the details of the pile system and installation criteria for review by the Engineer. The Subcontractor shall not order or fabricate any material until the shop drawings are reviewed and accepted.

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Miller Pacific

FITZGERALD MARINE RESERVE
COASTAL TRAIL
MOSS BEACH, CALIFORNIA

01/15/10 60% DRAFT CONSTRUCTION SET
Date Issues And Revisions

PROJECT #18054
DRAWN BY: DFS
CHECKED BY: SAS
ORIGINAL DRAWING SIZE: 24 X 36

SCALE: AS INDICATED

STRUCTURAL DETAILS

Sheet

L-5

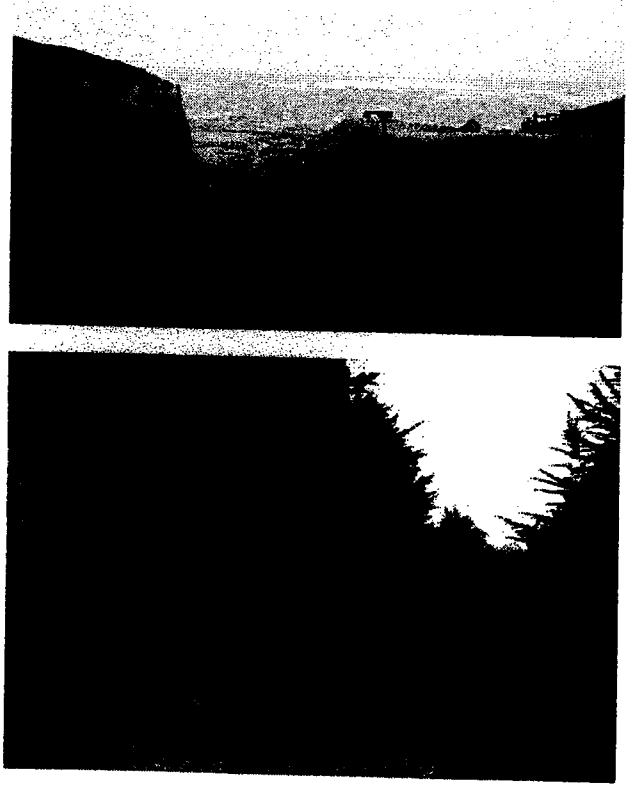
# Biological Resources Assessment

## Fitzgerald Marine Reserve
## San Mateo County, California

**Prepared For:**
Sam Herzberg
San Mateo County Parks Department
455 County Center, 4th Floor
Redwood City, CA 94063
650-363-1823

**Prepared By:**
Tim DeGraff, PWS
degraff@wra-ca.com

**Date:**
February 2010



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## LIST OF APPENDICES



## LIST OF ACRONYMS AND ABBREVIATIONS

| | |
|---|---|
| ADA | Americans with Disabilities Act |
| CCR | California Code of Regulations |
| CDFG | California Department of Fish and Game |
| CEQA | California Environmental Quality Act |
| CESA | California Endangered Species Act |
| CFR | Code of Federal Regulations |
| CNDDB | California Natural Diversity Database |
| CNPS | California Native Plant Society |
| Corps | U.S. Army Corps of Engineers |
| EPA | U.S. Environmental Protection Agency |
| FAC | Facultative species (equal in wetland or non-wetlands) |
| FACW | Facultative wetland species (usually found in wetlands) |
| FESA | Federal Endangered Species Act |
| MBTA | Migratory Bird Treaty Act |
| NPDES | National Pollutant Discharge Elimination System |
| OBL | Obligate wetland species (almost always found in wetlands) |
| PRC | Public Resources Code |
| RWQCB | Regional Water Quality Control Board |
| USDA | U.S. Department of Agriculture |
| USFWS | U.S. Fish and Wildlife Service |
| USGS | U.S. Geological Survey |
| WRA | WRA, Inc. |

# 1.0 INTRODUCTION

On August 13 and September 17, 2008, WRA, Inc. conducted a biological resource assessment of the 402-acre Fitzgerald Marine Reserve located in Moss Beach in San Mateo County (Figure 1).

The purpose of the assessment and report is to identify, describe, and analyze any environmentally sensitive habitat area (ESHA), and "rare, threatened, or endangered" species with may occur in the Study Area. WRA performed the biological assessment in accordance with the San Mateo County Local Coastal Program (LCP). This assessment is based on the site conditions observed on the site visit dates and related information available at the time of the study. A biological assessment provides general information on the potential presence of sensitive species and habitats. The biological assessment is not an official protocol-level survey for listed species that may be required for project approval by local, state, or federal agencies. However, specific findings on the occurrence of any species or the presence of sensitive habitats may require that protocol surveys be conducted.

## 1.1 Description of the Study Area

The James V. Fitzgerald Marine Reserve is a 402-acre natural resources area on the northern coast of San Mateo County. The Reserve includes 370 acres of intertidal and sub tidal marine habitat and 32 acres of upland habitat bluffs, with elevations up to 100 feet. The northern uplands area of the Reserve is distinguished by a 90-year old grove of Monterey cypress originally planted as a windbreak. To the north and south of this grove, the Reserve is a broad band of shoreline with intermittent beaches and coastal bluffs. A small visitor center/office and a parking area are located on North Lake Street within the Moss Beach neighborhood, adjacent to the Moss Beach Reef and San Vicente Creek.

Designated as a reserve in 1969, approximately 130,000 people visit annually, the main draws being the local tidepools and marine life. Offshore of the reserve is the James V. Fitzgerald State Marine Park, which lies within the Monterey Bay National Marine Sanctuary. The Pacific Ocean borders the Study Area to the west, private residences border it to the north ands south and a hotel, plant nursery and residence border it to the east. The Half Moon Bay Airport lies approximately 1/4 mile to the southeast, Pillar Point Harbor marina lies just to the south of the airport.

The proposed project includes the design of two trails at Fitzgerald Marine Reserve: 1) where the Coastal Trail meets the Visitor Center, an approximately one mile section of the California Coastal Trail running the length of the Reserve, and 2) an Americans with Disabilities Act (ADA) accessible new ramp and small pedestrian bridge to improve visitor access to the Moss Beach Reef. In addition, a bridge will be constructed for the section of the Coastal Trail that crosses over San Vicente Creek. Together, the three projects will greatly improve public access through the entire Reserve. The focus of this report is the 22.5 acres of habitat (Study Area) adjacent to the proposed project.

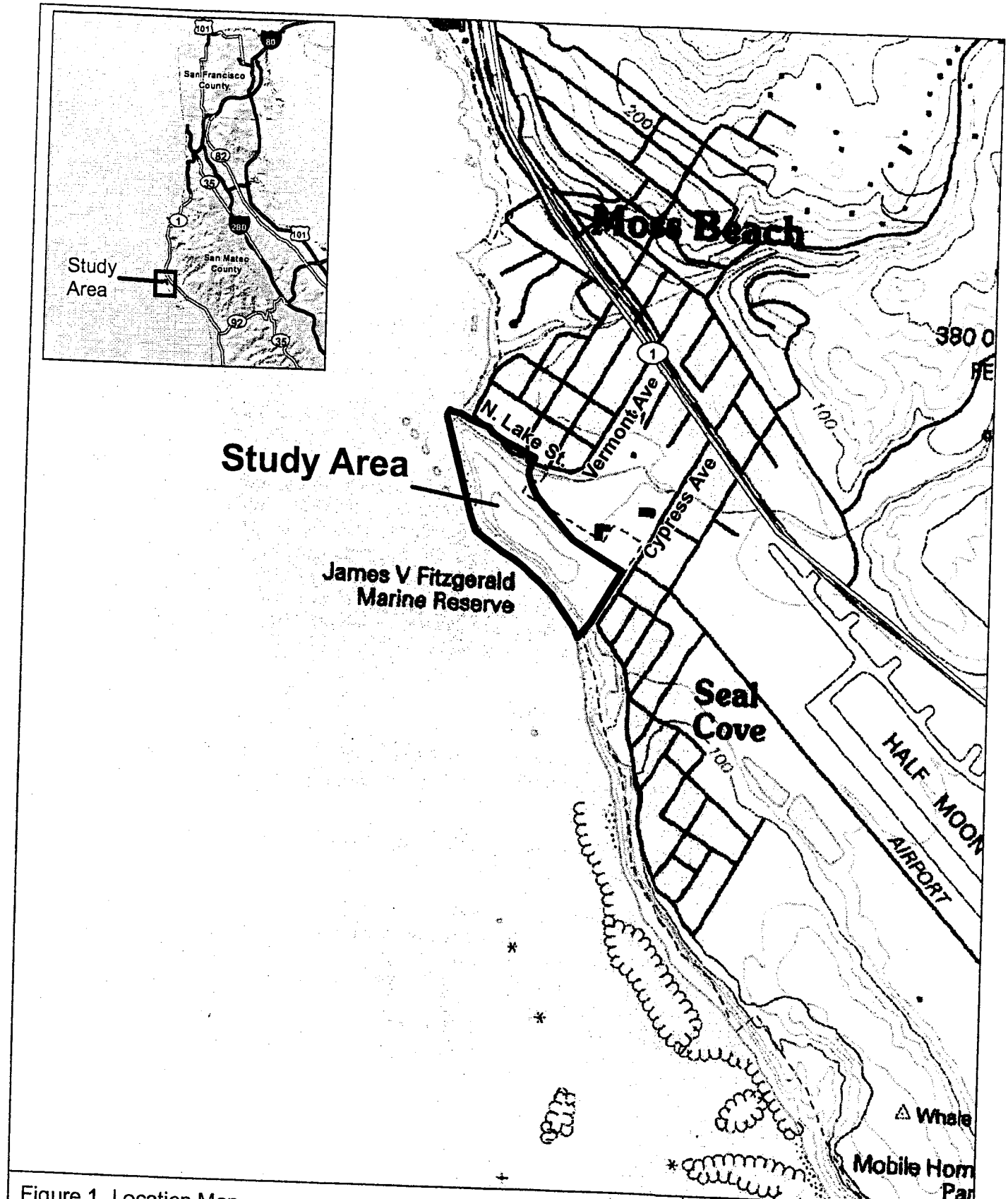


Figure 1. Location Map

Fitzgerald Marine Reserve
Half Moon Bay, CA

0 0.1 0.2 0.4 Miles

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Date: October 2009
Map By: Sundaran Gillespie
Filepath:I:/Acad2000/18000/18054/gis/Arcmap/Location Map.mxd

# 2.0 REGULATORY BACKGROUND

The following sections explain the regulatory context of the biological assessment, including applicable laws and regulations that were applied to the field investigations and analysis of potential project impacts.

## 2.1 Special Status Species

Special status species include those plants and wildlife species that have been formally listed, are proposed as endangered or threatened, or are candidates for such listing under the federal Endangered Species Act (ESA) or California Endangered Species Act (CESA). These Acts afford protection to both listed and proposed species. In addition, California Department of Fish and Game (CDFG) Species of Special Concern and the National Marine Fisheries Service (NMFS) Species of Concern, which are species that face extirpation if current population and habitat trends continue, U.S. Fish and Wildlife Service (USFWS) Birds of Conservation Concern, sensitive species included in USFWS Recovery Plans, and CDFG special status invertebrates are all considered special status species. Although CDFG Species of Special Concern generally have no special legal status, they are given special consideration under the California Environmental Quality Act (CEQA). In addition to regulations for special status species, most birds in the United States, including non-status species, are protected by the Migratory Bird Treaty Act of 1918. Under this legislation, destroying active nests, eggs, and young is illegal. Plant species on California Native Plant Society (CNPS) Lists 1 and 2 are also considered special status plant species. Impacts to these species are considered significant according to CEQA. CNPS List 3 plants have little or no protection under CEQA, but are included in this analysis for completeness.

San Mateo County Local Coastal Program (LCP)

The San Mateo County LCP includes a Sensitive Habitat Component. It specifically calls out two sensitive species known to occur near the Study Area: San Francisco Garter Snake (SFGS) and Sea Otter. The LCP says the County will:

"Prevent any development where there is known to be a riparian or wetland location for the San Francisco Garter Snake with the following exceptions:

(1) existing manmade impoundments smaller than one-half acre in surface, and (2) existing manmade impoundments greater than one-half acre in surface providing mitigation measures are taken to prevent disruption of no more than one half of the snake's known habitat in that location in accordance with recommendations from the State Department of Fish and Game. Require developers to make sufficiently detailed analyses of any construction which could impair the potential or existing migration routes of the San Francisco Garter Snake. Such analyses will determine appropriate mitigation measures to be taken to provide for appropriate migration corridors."

For the Sea Otter the County will:

"Encourage the appropriate agency to protect, monitor, and enhance sea otter habitats. In the development of mariculture facilities, encourage appropriate State and federal agencies to seek measures to protect them from predation by the sea otter."

Critical Habitat

Critical habitat is a term defined and used in the Federal Endangered Species Act (FESA) as a specific geographic area that contains features essential for the conservation of a threatened or endangered species and that may require special management and protection. The FESA requires federal agencies to consult with the USFWS to conserve listed species on their lands and to ensure that any activities or projects they fund, authorize, or carry out will not jeopardize the survival of a threatened or endangered species. In consultation for those species with critical habitat, federal agencies must also ensure that their activities or projects do not adversely modify critical habitat to the point that it will no longer aid in the species' recovery. In many cases, this level of protection is similar to that already provided to species by the FESA "jeopardy standard." However, areas that are currently unoccupied by the species but which are needed for the species' recovery, are protected by the prohibition against adverse modification of critical habitat.

## 2.2 Sensitive Biological Communities

Sensitive biological communities include habitats that fulfill special functions or have special values, such as wetlands, streams, and riparian habitat. These habitats are regulated under federal regulations (such as the Clean Water Act), state regulations (such as the Porter-Cologne Act, the CDFG Streambed Alteration Program, and CEQA), or local ordinances or policies (City or County Tree Ordinances, Special Habitat Management Areas, and General Plan Elements). Mitigation measures for impacts to these communities are discussed in Section 5 of this report.

Waters of the United States

The U.S. Army Corps of Engineers (Corps) regulates "Waters of the United States" under Section 404 of the Clean Water Act. "Waters of the U.S." are defined broadly as waters susceptible to use in commerce, including interstate waters and wetlands, all other waters (intrastate waterbodies, including wetlands), and their tributaries (33 CFR 328.3). Potential wetland areas, according to the three criteria used to delineate wetlands stated in the *Corps of Engineers Wetlands Delineation Manual* (1987), are identified by the presence of (1) hydrophytic vegetation, (2) hydric soils, and (3) wetland hydrology. Areas that are inundated for sufficient duration and depth to exclude growth of hydrophytic vegetation are subject to Section 404 jurisdiction as "other waters" and are often characterized by an ordinary high water line (OHW). Other waters, for example, generally include lakes, rivers, and streams. The placement of fill material into "Waters of the U.S." (including wetlands) generally requires an individual or nationwide permit from the Corps under Section 404 of the Clean Water Act.

Rapanos Guidance

The Corps and Environmental Protection Agency issued joint guidance on implementing the June 19, 2006 U.S. Supreme Court opinions resulting from *Rapanos v. United States* and *Carabell v. United States* (Rapanos) cases. Under this guidance, the Corps will maintain jurisdiction over traditionally navigable waters (TNW), relatively permanent water (RPW), and non-relatively permanent waters that have a significant nexus to the biological, chemical, and physical characteristics of a RPW or TNW.

The first standard of the guidance evaluates jurisdiction over a water body that is a RPW (i.e., it flows year-round, or at least "seasonally") and over wetlands adjacent to such water bodies if the wetlands directly "abut" the water body (i.e., if the wetlands are not separated from the water body by an upland feature such as a berm, dike, or road). In order for the Corps to make a jurisdictional determination of Section 404 wetlands and waters, field staff must determine

whether there is a significant hydrologic connection between a non-perennial RPW and a TNW. The second standard, for tributaries that are not RPWs, requires a case-by-case "significant nexus" evaluation to determine the extent of Section 404 jurisdiction.

Waters of the State

The term "Waters of the State" is defined by the Porter-Cologne Act as "any surface water or groundwater, including saline waters, within the boundaries of the state." The Regional Water Quality Control Board (RWQCB) protects all waters in its regulatory scope, but has special responsibility for wetlands, riparian areas, and headwaters. These waterbodies have high resource value, are vulnerable to filling, and are not systematically protected by other programs. RWQCB jurisdiction includes "isolated" wetlands and waters that may not be regulated by the Corps under Section 404. "Waters of the State" are regulated by the RWQCB under the State Water Quality Certification Program which regulates discharges of fill and dredged material under Section 401 of the Clean Water Act and the Porter-Cologne Water Quality Control Act. Projects that require a Corps permit, or fall under other federal jurisdiction, and have the potential to impact "Waters of the State," are required to comply with the terms of the Water Quality Certification determination. If a proposed project does not require a federal permit, but does involve dredge or fill activities that may result in a discharge to "Waters of the State," the RWQCB has the option to regulate the dredge and fill activities under its state authority in the form of Waste Discharge Requirements.

Streams, Lakes, and Riparian Habitat

Streams and lakes, as habitat for fish and wildlife species, are subject to jurisdiction by CDFG under Sections 1600-1616 of the State Fish and Game Code. Alterations to or work within or adjacent to streambeds or lakes generally require a 1602 Lake and Streambed Alteration Agreement. The term stream, which includes creeks and rivers, is defined in the California Code of Regulations (CCR) as follows: "a body of water that flows at least periodically or intermittently through a bed or channel having banks and supports fish or other aquatic life. This includes watercourses having a surface or subsurface flow that supports or has supported riparian vegetation" (14 CCR 1.72). In addition, the term stream can include ephemeral streams, dry washes, watercourses with subsurface flows, canals, aqueducts, irrigation ditches, and other means of water conveyance if they support aquatic life, riparian vegetation, or stream dependent terrestrial wildlife (CDFG ESD 1994). Riparian is defined as, "on, or pertaining to, the banks of a stream;" therefore, riparian vegetation is defined as, "vegetation which occurs in and/or adjacent to a stream and is dependent on, and occurs because of, the stream itself" (CDFG ESD 1994). Removal of riparian vegetation also requires a Section 1602 Lake and Streambed Alteration Agreement from CDFG.

Other Sensitive Biological Communities

Other sensitive biological communities not discussed above include habitats that fulfill special functions or have special values. Natural communities considered sensitive are those identified in local or regional plans, policies, regulations, or by the CDFG. CDFG ranks sensitive communities as "threatened" or "very threatened" and keeps records of their occurrences in its Natural Diversity Database. Sensitive plant communities are also identified by CDFG on their *List of California Natural Communities Recognized by the CNDDB*. Impacts to sensitive natural communities identified in local or regional plans, policies, regulations or by the CDFG or USFWS must be considered and evaluated under CEQA (California Code of Regulations: Title 14, Div. 6, Chap. 3, Appendix G). Specific habitats may also be identified as sensitive in City or County General Plans or ordinances.

California Critical Coastal Area

This reserve is within the California Critical Coastal Area (CCA) and an Area of Special Biological Significance (ASBS), now called a State Water Quality Protection Area.

The CCA Program..."is an innovative program to foster collaboration among local stakeholders and government agencies, to better coordinate resources and focus efforts on coastal watersheds in critical need of protection from polluted runoff. A multi-agency statewide CCA Committee has identified an initial list of 101 CCAs along the coast and in San Francisco Bay.

The CCA Program, part of the state's NPS Plan, is a non-regulatory planning tool to coordinate the efforts of multiple agencies and stakeholders, and direct resources to CCAs. The program's goal is to ensure that effective NPS management measures are implemented to protect or restore coastal water quality in CCAs. CCA identification supports the acquisition of grant funding by prioritizing protection efforts."

"Since 1983, the California Ocean Plan (Ocean Plan) has prohibited the discharge of both point and nonpoint source waste to Areas of Special Biological Significance, unless the State Water Resources Control Board (State Water Board) grants an exception. The Ocean Plan allows the State Water Board to grant exceptions to plan requirements where the State Water Board determines that the exception "will not compromise protection of ocean waters for beneficial uses, and, the public interest will be served." Prior to granting an exception, the State Water Board must hold a public hearing and comply with the California Environmental Quality Act, Public Resources Code §21000 et seq. (CEQA). In addition, the United States Environmental Protection Agency must concur. ASBS are also accorded special protection under the Marine Managed Areas Improvement Act (Act), Public Resources Code §36600 et seq. Under the Act, ASBS are a subset of state water quality protection areas and, as such, "require special protection as determined by the [State Water Board]" pursuant to the Ocean Plan. (Pub. Resources Code §36700(f).) In all state water quality protection areas, waste discharges must be prohibited or limited by special conditions, in accordance with state water quality law, including the Ocean Plan (Id. §36710(f).)"

The California Coastal Commission ESHA Definition

The California Coastal Commission defines an ESHA as follows:

> *"Environmentally sensitive habitat area" means any area in which plant or animal life or their habitats are either rare or especially valuable because of their special nature or role in an ecosystem and which could be easily disturbed or degraded by human activities and developments. "*

California Coastal Commission (CCC) Guidelines contain definitions for specific types of ESHAs, including: wetlands, estuaries, streams and rivers, lakes, open coastal waters and coastal waters, riparian habitats, other resource areas, and special status species and their habitats. For the purposes of this report, WRA has taken into consideration any areas that may meet the definition of any ESHA defined by the CCC guidelines, or the San Mateo County LCP.

The Fitzgerald Marine Reserve Master Plan

The Fitzgerald Marine Reserve Master Plan (Plan, Brady/LSA 2002) was designed to promote the recovery of degraded areas and to protect sensitive areas within the Reserve. The Plan includes recommendations for trail specifications, and requires permit applicants to demonstrate

no significant impacts on sensitive resources. In addition, the Plan provides guidance for regulating visitor activity within the Reserve and moderating education program activities.

## 3.0 METHODS

On August 13, 2008 the Study Area was traversed on foot to determine (1) plant communities present within the Study Area, (2) if existing conditions provide suitable habitat for any special status plant or wildlife species, and (3) if sensitive habitats are present. In addition, on April 30 and July 28, 2009, a protocol level rare plant survey was conducted within the Study Area. All plant and wildlife species encountered were recorded, and are summarized in Appendix A.

### 3.1 Biological Communities

Prior to the site visit, the Soil Survey of San Mateo County, California [U.S. Department of Agriculture (USDA) 1977] was examined to determine if any unique soil types that could support sensitive plant communities and/or aquatic features were present in the Study Area. Biological communities present in the Study Area were classified based on existing plant community descriptions described in the *Preliminary Descriptions of the Terrestrial Natural Communities of California* (Holland 1986). However, in some cases it is necessary to identify variants of community types or to describe non-vegetated areas that are not described in the literature. Biological communities were classified as sensitive or non-sensitive as defined by CEQA and other applicable laws and regulations.

#### *3.1.1 Non-sensitive Biological Communities*

Non-sensitive biological communities are those communities that are not afforded special protection under CEQA, and other state, federal, and local laws, regulations and ordinances. These communities may, however, provide suitable habitat for some special status plant or wildlife species and are identified or described in Section 4.1.1 below.

#### *3.1.2 Sensitive Biological Communities*

Sensitive biological communities are defined as those communities that are given special protection under CEQA and other applicable federal, state, and local laws, regulations and ordinances. Applicable laws and ordinances are discussed above in Section 2.0. Special methods used to identify sensitive biological communities are discussed below.

Wetlands and Waters

The Study Area was surveyed to determine if any wetlands and waters potentially subject to jurisdiction by the Corps, RWQCB, or CDFG were present. The assessment was based primarily on the presence of wetland plant indicators, but may also include any observed indicators of wetland hydrology or wetland soils as defined by the Corps Manual (Environmental Laboratory 1987) and the *Interim Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region* (Corps 2008). Any potential wetland areas were identified as areas dominated by plant species with a wetland indicator status of OBL, FACW, or FAC as given on the USFWS *List of Plant Species that Occur in Wetlands* (Reed 1988). Evidence of wetland hydrology can include evidence such as visible inundation or saturation, surface sediment deposits, algal mats and drift lines, and oxidized root channels. Some indicators of wetland soils include dark colored soils, soils with a sulfidic odor, and soils that contain

redoximorphic features as defined in *Field Indicators of Hydric Soils in the United States* (NRCS 2006).

The preliminary waters determination was based primarily on the presence of unvegetated, ponded areas or flowing water, or evidence indicating their presence such as a high water mark or a defined drainage course.

Other Sensitive Biological Communities

The Study Area was evaluated for the presence of other sensitive biological communities, including riparian areas, sensitive plant communities recognized by CDFG, and other significant areas of native plants. These sensitive biological communities were mapped and are described in Section 4.1.2 below.

## 3.2 Special Status Species

### *3.2.1 Literature Review*

Potential occurrence of special status species in the Study Area was evaluated by first determining which special status species occur in the vicinity of the Study Area through a literature and database search. Database searches for known occurrences of special status species focused on the Montara Mountain 7.5 minute USGS quadrangle and the eight surrounding USGS quadrangles. The following sources were reviewed to determine which special status plant and wildlife species have been documented to occur in the vicinity of the Study Area:

- California Natural Diversity Database records (CNDDB) (CDFG 2008)
- USFWS quadrangle species lists (USFWS 2008)
- CNPS Electronic Inventory records (CNPS 2008)
- CDFG publication "California's Wildlife, Volumes I-III" (Zeiner et al. 1990)
- CDFG publication "Amphibians and Reptile Species of Special Concern in California" (Jennings 1994)
- A Field Guide to Western Reptiles and Amphibians (Stebbins, R.C. 2003)
- Fairy Shrimps of California's Puddles, Pools and Playas (Eriksen and Belk 1999)
- National Marine Fisheries Service Distribution Maps for California Salmonid Species (2008)

### *3.2.2 Site Assessment*

A site visit was made to the Study Area to search for suitable habitats for species identified in the literature review as occurring in the vicinity. The potential for each special status species to occur in the Study Area was then evaluated according to the following criteria:

- o No Potential. Habitat on and adjacent to the site is clearly unsuitable for the species requirements (foraging, breeding, cover, substrate, elevation, hydrology, plant community, site history, disturbance regime).

- o Unlikely. Few of the habitat components meeting the species requirements are present, and/or the majority of habitat on and adjacent to the site is unsuitable or of very poor quality. The species is not likely to be found on the site.

- o Moderate Potential. Some of the habitat components meeting the species requirements are present, and/or only some of the habitat on or adjacent to the site is unsuitable. The species has a moderate probability of being found on the site.

- o High Potential. All of the habitat components meeting the species requirements are present and/or most of the habitat on or adjacent to the site is highly suitable. The species has a high probability of being found on the site.

- o Present. Species is observed on the site or has been recorded (i.e. CNDDB, other reports) on the site recently.

The site assessment is intended to identify the presence or absence of suitable habitat for each special status species known to occur in the vicinity in order to determine its potential to occur in the Study Area. The site visit does not constitute a protocol-level survey and is not intended to determine the actual presence or absence of a species; however, if a special status species is observed during the site visit, its presence will be recorded and discussed. Appendix B presents the evaluation of potential for occurrence of each special status plant and wildlife species known to occur in the vicinity of the Study Area with their habitat requirements, potential for occurrence, and rationale for the classification based on criteria listed above. Recommendations for further surveys are made in Section 5.0 below for species with a moderate or high potential to occur in the Study Area.

## 4.0 RESULTS

The following sections present the results and discussion of the biological assessment within the Study Area.

### 4.1 Biological Communities

Non-sensitive biological communities in the Study Area include non-native annual grassland, northern coastal scrub, cypress grove and areas dominated by invasive plant species. Seven sensitive biological community types are found in the Study Area: riparian forest, seasonal and freshwater wetlands, waters, beach, sea cliffs, and native strawberry patches (Figure 3). Descriptions for each biological community are contained in the following sections. Acreage summations for biological communities are detailed in Table 1.

Table 1. Biological Community Acreages

| Biological Community | Acreage |
|---|---|
| Non-native Grassland | 0.21 |
| Northern Coastal Scrub | 1.63 |

| | |
|---|---|
| Monterey Cypress Grove | 14.09 |
| Invasive plant communities | 0.36 |
| Eucalyptus/Monterey Cypress | 0.38 |
| Developed/Landscaped | 1.30 |
| Disturbed Perennial Herbaceous | 1.88 |
| San Vicente Creek ( Waters, ESHA) | 0.11 |
| Seasonal Wetland (ESHA) | 0.003 |
| Coastal Freshwater Marsh (ESHA) | 0.09 |
| Central Coast Arroyo Willow Riparian Forest (ESHA) | 0.72 |
| Beach (ESHA) | 0.49 |
| California Wild Strawberry (ESHA) | 0.11 |
| Sea Cliffs (ESHA) | 1.19 |
| **Total** | 22.5 |

### *4.1.1 Non-sensitive Biological Communities*

Non-native grassland

Holland describes non-native grassland as a dense to sparse cover of non-native annual grasses with flowering culms 0.2-1 meter high, and often associated with numerous species of showy-flowered annual forbs. This community often occurs on fine-textured, usually clay soils, that are moist, or even water-logged during the winter rainy season and very dry during the summer and fall. Within the Study Area, this community occurs in the southern portion of the site, within a large opening in the Cypress grove. The non-native annual grassland is dominated by wild oats (*Avena* spp.), and other common invasive grasses such as ripgut (*Bromus diandrus*) and Italian ryegrass (*Lolium multiflorum*). In addition, a number of ruderal species are present, including curlydock (*Rumex crispus*).

Northern Coastal Scrub

Holland describes Northern Coastal Scrub as low, dense shrubs with scattered grassy openings, usually on windy, exposed sites with shallow, rocky soils. Overall, most growth and flowering occur in this community in late spring and early summer. Northern coastal scrub has three cover types based on dominant species. The northern coastal scrub habitat along the cliffs of the Study Area is dominated by coyote bush (*Baccharis pilularis*), California sage (*Artemisia californica*), poison oak (*Toxicodendron diversilobum)* and California blackberry (*Rubus ursinus*, FAC).

Cypress Grove

Although not described in the literature, a Monterey cypress (*Cupressus macrocarpa*) grove is dominated by Monterey cypress and often has very little understory. A cypress grove covers the majority of the property. The tree canopy is predominantly composed of Monterey cypress with some eucalyptus (*Eucalyptus globulus*) scattered throughout. The understory of the grove is bare and has a thick layer of leaf litter.

Invasive Plant Communities

Areas of non-native and invasive plant species occur within the Study Area. Iceplant (*Carpobrotus edulis*) covers the northern bank near the mouth of San Vicente Creek, adjacent to the observation deck access path. The California Invasive Plant Council (Cal-IPC) lists plants that cause serious problems in native ecosystems. In the 2006 list, Cal-IPC classifies the statewide impact of iceplant as high. In addition, scattered populations of thick-leaved pittosporum (*Pittosporum crassifolium*) are present adjacent to the road way and near the existing footbridge and riparian area. These trees were originally planted for landscape purposes and have grown in numbers.

Developed and Landscaped Areas

Outbuildings and a parking lot are located in the northern portion of the Study Area. Additional development within the Study Area includes the observation area and the associated path to the beach. Landscaped areas, dominated by planted cypress and thick leaved pittosporum are located in the vicinity of the parking lot and trail to the observation area..

Disturbed Perennial Herbaceous

Perennial herbaceous areas occur along the eastern boundary of the Study Area, in a portion of the site that has experienced low level disturbance. These areas are dominated by California blackberry, common yarrow (*Achillea millefolium*), and vinca (*Vinca major*).

*4.1.2 Sensitive Biological Communities*

Waters (ESHA)

San Vicente Creek runs along and near the northern border of the Study Area, crossing the property to the Pacific Ocean. Sediment from upstream has accrued in the lower portion of San Vicente Creek, resulting in increased vegetation and wetland habitats near the mouth of the creek. The channel had flowing water at the time of the site visits and hydrology within the creek is primarily driven by direct precipitation, runoff from surrounding areas, and flow from watershed associated with San Vicente Creek. The drainage supports dense riparian vegetation dominated by arroyo willow (*Salix lasiolepis*).

Seasonal Wetland (ESHA)

Seasonal wetland is not described by Sawyer and Keeler-Wolf as a distinct series because it is not characterized by a single dominant plant species, or a typical group of plant species. Within the Study Area, a seasonal wetland occurred on a vegetated terrace adjacent to San Vicente Creek and was dominated by vinca. The geomorphic position of this wetland area and presence of water stained vegetation suggests that during periods of rain or high flow in the creek, water collects in this area. The area is dominated by invasive species and, based on surrounding vegetation and a topographic location in a floodplain terrace, could experience a shift to hydrophytic species during wetter periods.

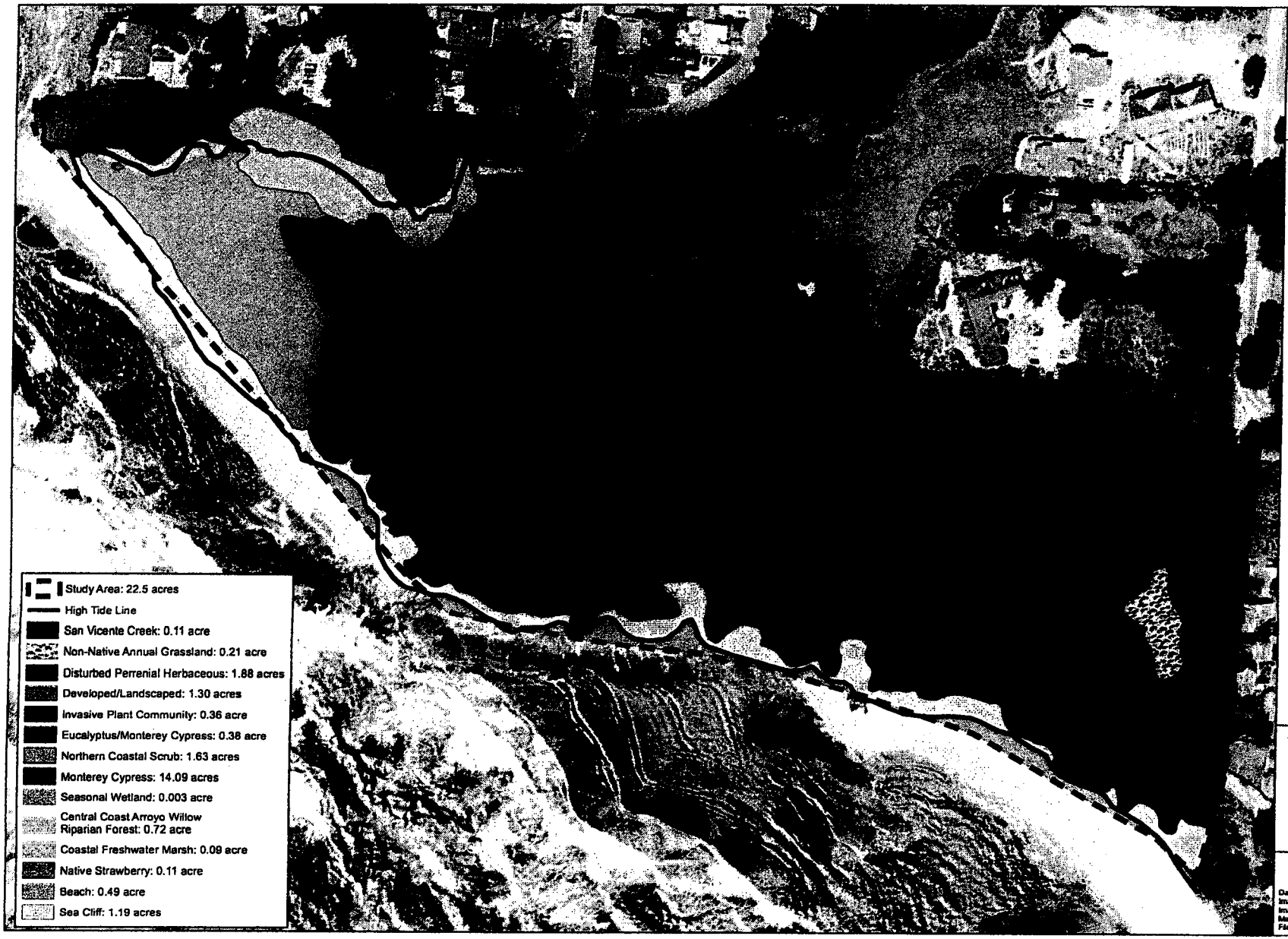


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Figure 2. Biological Communities Map

0 50 100 200 Feet

Date: December 2008
Image Date: 04-01-07
Image Source: Terraserver
Map By: Sundaran Gillespie
Filepath: I:\ACAD2000\18054\GIS\ArcMap*.mxd

Coastal Freshwater Marsh (ESHA)

Holland describes Coastal Freshwater Marsh as dominated by perennial, emergent monocots, often forming closed canopy, and occurring in quiet sites with permanent flooding or prolonged saturation. Characteristic species include woolly sedge (*Carex lanuginosa*), spikerush sedge (*Eleocharis* sp.), tule (*Scirpus* sp.), and cattail (*Typha* sp.). Coastal freshwater marsh within the Study Area is dominated by panicled bulrush (*Scripus microcarpus,* OBL) and coast carex (*Carex obnupta,* OBL). This vegetation type occurs within San Vicente Creek.

Central Coast Arroyo Willow Riparian Forest (ESHA)

Holland describes Central Coast Arroyo Willow Riparian Forest as a dense, low, closed canopy, broadleaf and winter deciduous forest. This community is dominated by arroyo willow *(Salix lasiolepis)*, which often grows as a large, tree-like shrub. In addition, this community occurs on moist to saturated soils, especially on bottomlands or around dune slack ponds within the coastal fog incursion zone. Additional characteristic species include white alder (*Alnus rhombifolia*), California wax-myrtle (*Myrica californica*), and other willow species. The central coast arroyo willow riparian forest within the Study Area is dominated by arroyo willow (*Salix lasiolepis,* FACW). This vegetation type occurs along the banks of San Vicente Creek.

Beach (ESHA)

As defined by the CCC, a beach is the expanse of sand, gravel, cobble or other loose material that extends landward from the low water line to the place where there is distinguishable change in physiographic form, or to the line of permanent vegetation. The seaward limit of a beach (unless specified otherwise) is the mean low water line. Beach community occurs along the western edge of the Study Area where terrestrial habitat meets the Pacific Ocean.

California Wild Strawberry (ESHA)

California wild strawberry (*Fragaria vesca*) grows along the coast of California. Patches of California wild strawberry are present along the observation deck access road and throughout the Study Area.

Sea Cliffs (ESHA)

As defined by the CCC, a sea cliff is a cliff whose toe is or may be subject to marine erosion. In addition, a sea cliff is a scarp or steep face of rock, weathered rock, sediment or soil resulting from erosion, faulting, folding or excavation of the land mass. The cliff or bluff may be simple planar or curved surface or it may be step like in section. Sea cliffs occur within the Study Area along the westernmost boundary, where the cypress grove ends and elevation drops to the beach.

## 4.2 Special Status Species

### *4.2.1 Plants*

Based upon a review of the resources and databases given in Section 3.2.1, 50 special status plant species have been documented in the vicinity of the Study Area. Plant species occurrences documented in the CNDDB within five miles of the Study Area are shown in Figure 4. Appendix B summarizes the potential for occurrence for each special status plant species occurring in the Montara Mountain USGS 7.5 minute quadrangle and eight surrounding quadrangles. No special status plant species were observed in the Study Area during the assessment site visit, nor are any known to have been observed in previous studies. Fifteen special status plant species have a high

potential to occur in the Study Area. Nine special status plant species have a moderate potential to occur in the Study Area. In addition, four shrub species also have potential to occur in the Study Area, but were not observed during site surveys, and are therefore considered absent. The remaining species documented to occur in the vicinity of the Study Area are unlikely or have no potential to occur.

The site assessment occurred during the blooming period of eight of the 24 special status plant species with potential to occur in the Study Area; none of the potentially blooming species were observed. In addition, protocol level rare plant surveys were conducted on April 28 and July 30, 2009. No special status plant species were observed with the Study Area during these surveys. The plants observed during the site visits are listed in Appendix A.

4.2.2 *Wildlife*

A total of 88 other special status species of wildlife have been recorded in the vicinity of the Study Area (Appendix B). Those occurring within five miles of the Study Area are shown in Figure 5. Appendix B summarizes the potential for each of these species to occur in the Study Area. Species may have been omitted due to lack of or distance from suitable habitat, such as old growth forest. Species observed or having a high or moderate potential to occur on site are discussed below.

Mammals

**Long-eared Myotis (*Myotis evotis*), WBWG High Priority**. This species is primarily a forest and woodland associated species. Day roosts are found in hollow trees, under exfoliating bark, rock outcrop crevices and buildings. Other roosts include caves, mines and under bridges. Mature trees and snags may provide suitable roost habitat for this species in the Study Area.

**Fringed Myotis (*Myotis thysanodes*), WBWG High Priority.** This species is associated with a wide variety of habitats including mixed coniferous-deciduous forest and redwood/sequoia groves. Buildings, mines and large snags are important day and night roosts. Mature trees and snags may provide suitable roost habitat for this species in the Study Area.

**Long-legged Myotis (*Myotis volans*), WBWG High Priority.** The Long-legged Myotis is generally associated with woodlands and forested habitats. Large hollow trees, rock crevices and buildings are important day roosts. Other roosts include caves, mines and buildings. Mature trees and snags may provide suitable roost habitat for this species in the Study Area.

**Pallid Bat (*Antrozous pallidus*), CDFG Species of Special Concern, WBWG High Priority.** The Pallid Bat is found in a variety of low elevation habitats throughout California. It selects a variety of day roosts including rock outcrops, mines, caves, hollow trees, buildings, and bridges. Night roosts are usually found under bridges, but also in caves, mines, and buildings. Pallid Bat are sensitive to roost disturbance. Unlike most bats, Pallid Bat primarily feed on large ground-dwelling arthropods, and many prey are taken on the ground (Zeiner, et al. 1990). Mature trees and snags may provide suitable roost habitat for this species in the Study Area.

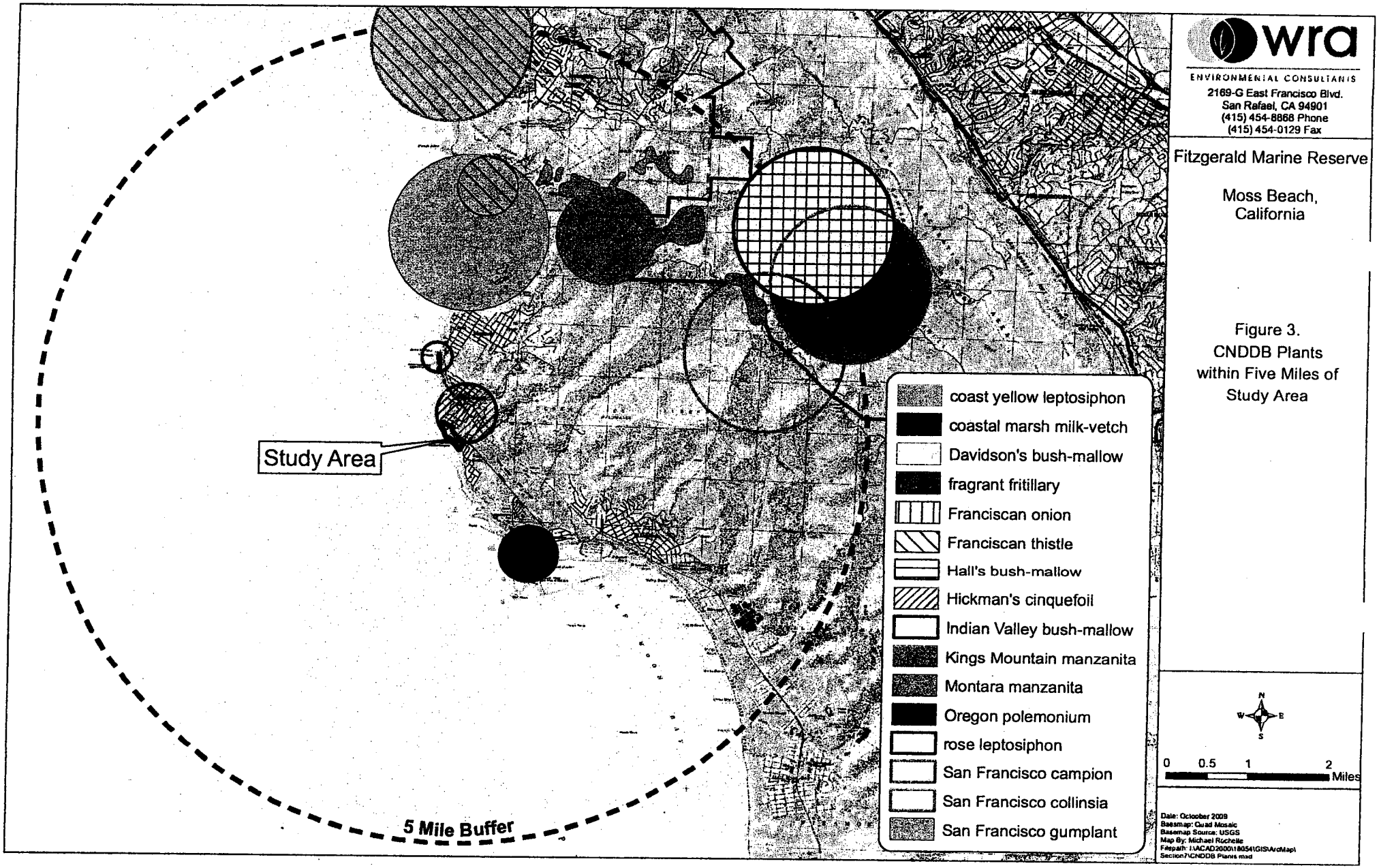


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Figure 3.
CNDDB Plants within Five Miles of Study Area

Date: October 2009
Basemap: Quad Mosaic
Basemap Source: USGS
Map By: Michael Rochelle
Filepath: I:\ACAD2000\180541\GIS\ArcMap\Section7\CNDDB Plants.mxd

**Western Red Bat (*Lasiurus blossevillii*), WBWG High Priority.** This species is considered highly migratory, and broadly distributed, reaching from southern Canada, through much of the western United States. They are typically solitary, roosting primarily in the foliage of trees or shrubs. Day roosts are commonly in edge habitats adjacent to streams or open fields, in orchards, and sometimes in urban areas possibly an association with riparian habitat (particularly willows, cottonwoods, and sycamores). Mature trees and snags may provide suitable roost habitat for this species in the Study Area.

**San Francisco Dusky-footed Woodrat (*Neotoma fuscipes annectens*), CDFG Species of Special Concern.** This species inhabits hardwood forests of moderate canopy with a moderate to dense understory. The subspecies occurs in Coast Ranges between San Francisco Bay and the Salinas River (Matocq, 2003). It prefers brushy riparian habitats, coast live oak woodland, and dense scrub communities. Prominent stick houses provided evidence of its presence. Nests are constructed out of leaves, shredded grass, and other material. Habitat for this species exists in the woodland, shrub and riparian communities of the Study Area.

**Pacific Harbor Seal (*Phoca vitulina richardsi*). Marine Mammal Protection Act.** The harbor seal is protected by the Marine Mammal Protection Act (MMPA) of 1972. Harbor seal use the open ocean for feeding and travel. A haul-out site used for pupping, or rookery, must be protected from human and domestic animal disturbance. A haul-out site is generally considered a rookery if there are pups present at the site. This species has a known rookery off shore of the Study Area that is used predominantly at lower tides.

**Southern Sea Otter (*Enhydra lutris nereis*). Federal Threatened.** The Half Moon Bay area is at the northern extent of the range for this subspecies. It requires canopies of giant kelp and bull kelp for rafting and feeding and prefers rocky substrates with abundant invertebrates, such as abalone. Sea Otter may spend the majority of their lives in the ocean, but may occasionally rest on land when the population density is high enough. In addition, Southern Sea Otter are less likely to haul out on land than Northern Sea Otter (Davis, Lidicker, 1975). Reserve rangers have observed this species foraging off shore of the Study Area.

Birds

**White-tailed Kite (*Elanus leucurus*), CDFG Fully Protected Species.** Kite occur in low elevation grassland, agricultural, wetland, oak woodland, and savannah habitats. Riparian zones adjacent to open areas are also used. Vegetative structure and prey availability seem to be more important than specific associations with plant species or vegetative communities. Lightly grazed or ungrazed fields generally support large prey populations and are often preferred to other habitats. Kite primarily feed on small mammals, although, birds, reptiles, amphibians, and insects are also taken. Nest trees range from single isolated trees to trees within large contiguous forests. Preferred nest trees are extremely variable, ranging from small shrubs (less than 10 ft. tall), to large trees (greater than 150 ft. tall) (Dunk 1995). Suitable foraging habitat is present and suitable nesting habitat may be present in the trees and shrubs in the Study Area.

**Northern Harrier (*Circus cyaneus*), CDFG Species of Special Concern.** The Northern Harrier occurs in California from annual grassland up to lodgepole pine and alpine meadow habitats. Harrier prefer foraging habitat consisting of tidal salt, brackish, and freshwater marshes, diked seasonal and freshwater wetlands (including vernal pools), salt ponds, grasslands, and agricultural lands (USFWS 1992). These hawks nest in the dense grass and brush vegetation often at the water's edge. This species has been observed foraging in the Study Area. The Study Area contains suitable foraging habitat and marginal breeding habitat may be present in the grass and brush habitat in the Study Area.

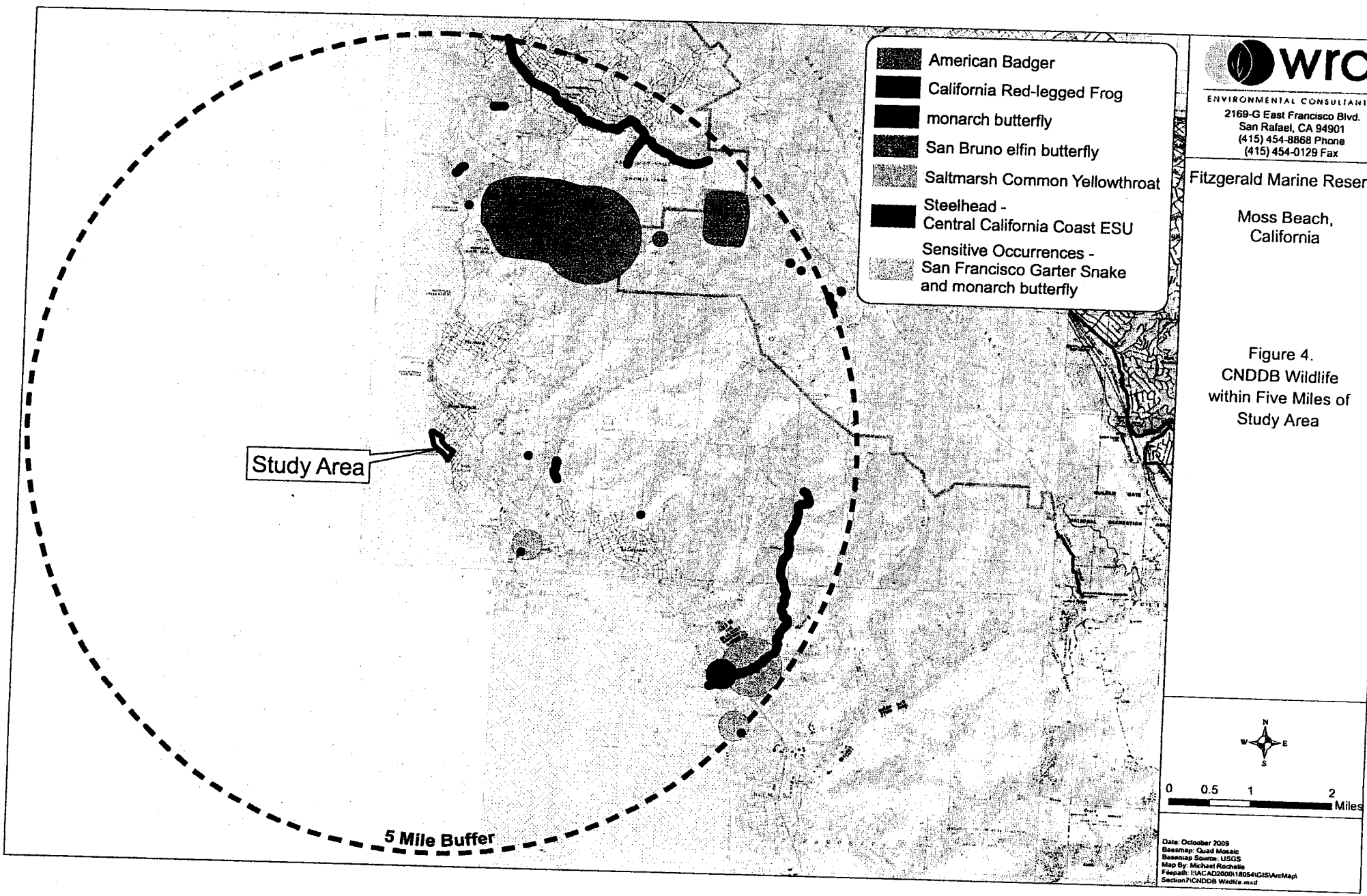


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Figure 4.
CNDDB Wildlife within Five Miles of Study Area

**Black Oystercatcher (*Haematopus bachmani*), USFWS Bird of Conservation Concern.** This species is a resident of rocky coastal California. It feeds mostly on mussels and other marine organisms at low tide, resting during high tide. It nests almost exclusively on islands. This species has been observed foraging along the rocky shoreline of the Study Area and may nest on the offshore islands.

**Olive-sided Flycatcher (*Contopus cooperi*), CDFG Species of Special Concern, USFWS Bird of Conservation Concern.** Within the coniferous forest biome, this species is most often associated with forest openings, forest edges near natural openings (e.g., meadows, canyons, rivers) or human-made openings (e.g., harvest units), or open to semi-open forest stands (Altman, 2000). Suitable nesting and foraging habitat occur in the Study Area. Suitable foraging habitat is present and suitable nesting habitat may be present in the trees within the Study Area.

**Purple Martin (*Progne subis*), CDFG Species of Special Concern.** Purple Martin is an uncommon summer resident in California, occurring in woodlands and low-elevation hardwood and coniferous forest. It usually feeds on insects captured in flight approximately 100-200 feet above ground. Purple Martin nest in cavities often located in a tall, old, isolated trees or snags in open forest or woodland. Suitable foraging habitat is present and suitable nesting habitat may be present in the trees within the Study Area.

**Loggerhead Shrike (*Lanius ludovicianus*). CDFG Species of Special Concern, USFWS Bird of Conservation Concern.** Loggerhead Shrike is a common resident and winter visitor in lowlands and foothills throughout California. It prefers open habitats with scattered trees, shrubs, posts, fences, utility lines or other perches. Nests are usually built on a stable branch in a densely-foliaged shrub or small tree and are usually well-concealed. The highest densities occur in open-canopied valley foothill hardwood, valley foothill hardwood-conifer, valley foothill, riparian, pinyon-juniper, juniper, and desert riparian habitats. While this species eats mostly Arthropods, they also take amphibians, small to medium-sized reptiles, small mammals and birds. They are also known to scavenge on carrion. Suitable foraging habitat is present and suitable nesting habitat may be present in the trees and shrubs within the Study Area.

**Saltmarsh Common Yellowthroat (*Geothlypis trichas sinuosa*), USFWS Bird of Conservation Concern, CDFG Species of Special Concern.** This subspecies of the Common Yellowthroat is found in freshwater marshes, coastal swales, riparian thickets, brackish marshes, and saltwater marshes. Their breeding range extends from Tomales Bay in the north, Carquinez Strait to the east, and Santa Cruz County to the south. This species requires thick, continuous cover such as tall grasses, tule patches, or riparian vegetation down to the water surface for foraging and prefers willows for nesting. Suitable foraging habitat is present and suitable nesting habitat may be present in the riparian habitat within the Study Area.

**Yellow Warbler (*Dendroica petechia*), CDFG Species of Special Concern.** Yellow Warbler are a summer resident of Northern California and breed in deciduous riparian habitats. Suitable foraging habitat is present and suitable nesting habitat may be present in the riparian habitat within the Study Area.

**Bryant's Savannah Sparrow (*Passerculus sandwichensis alaudinus*), CDFG Species of Special Concern.** The Bryant's is a Savannah Sparrow subspecies and California endemic whose range extends along the fog belt from Monterey County north to Del Norte County. It is most often associated with salt marsh habitat, but will also use grasslands. Suitable foraging habitat is present and suitable nesting habitat may be present in the grassland habitat within the Study Area.

Herpetofauna

**San Francisco Garter Snake (*Thamnophis sirtalis tetrataenia*), Federal Endangered, State Endangered, CDFG Fully Protected.** Historically, SFGS occurred in scattered wetland areas on the San Francisco Peninsula from approximately the San Francisco County line south along the eastern and western bases of the Santa Cruz Mountains, at least to the Upper Crystal Springs Reservoir, and along the coast south to Año Nuevo Point, San Mateo County, and Waddell Creek, Santa Cruz County. The preferred habitat of the SFGS is a densely vegetated pond near an open hillside where they can sun themselves, feed, and find cover in rodent burrows; however, considerably less ideal habitats can be successfully occupied. Temporary ponds and other seasonal freshwater bodies are also used. Emergent and bankside vegetation such as cattails (*Typha* spp.), bulrushes (*Scirpus* spp.) and spike rushes (*Juncus* spp.and *Eleocharis* spp.) apparently are preferred and used for cover. The area between stream and pond habitats and grasslands or bank sides is used for basking; while nearby dense vegetation or water often provide escape cover. Snakes also use floating algal or rush mats, if available.

There are two significant components to SFGS habitat: 1) ponds that support California Red-legged Frog (*Rana draytonii,* CRLF), American Bullfrog (*Rana catesbeiana*), or the Sierran Treefrog (*Pseudacris sierran*) and 2) surrounding upland that supports the Botta's Pocket Gopher *(Thomomys bottae)* and the California Meadow Vole *(Microtus californicus)* (USFWS 2006). Ranid frogs are an obligate component of the SFGS's diet (USFWS 2006).

Specific information on the home range/territory of the SFGS is unknown. In Manitoba, Canada the same subspecies moved an average of 10.7 km (USFWS 1985). The SFGS's home range would probably be less and determined by site conditions (food availability, cover, etc.) (USFWS 1985). Studies at Ano Nuevo State Reserve found the mean distance of female hibernacula to the Visitor Center Pond was 459 feet, with a maximum distance of 637 feet. Distances of greater than 637 feet have been reported, including an unconfirmed distance of approximately 1000 feet (McGinnis et al. 1987).

The nearest SFGS occurrence is approximately 1.3 miles to the east (Figure 5). San Vicente Creek, the temporary pond adjacent to the Study Area, and a majority of the uplands within the Study Area provide suitable dispersal and foraging habitat for this species. More details regarding nearby aquatic features and dispersal potential for SFGS are discussed in the following species summary.

**California Red-legged Frog (*Rana draytonii*), Federal Threatened, CDFG Species of Concern.** CRLF is dependent on suitable aquatic, estivation, and upland habitat. During periods of wet weather, starting with the first rainfall in late fall, CRLF disperse away from their estivation sites to seek suitable breeding habitat. Aquatic and breeding habitat is characterized by dense, shrubby, riparian vegetation and deep, still or slow-moving water. Breeding occurs between late November and late April. CRLF may estivate (period of inactivity) during the dry months in small mammal burrows, moist leaf litter, incised stream channels, and large cracks in the bottom of dried ponds.

Dispersal distances are typically less than 0.5 mile, with a few individuals moving up to 1-2 miles (Fellers 2005). Movements are typically along riparian corridors, but some individuals, especially on rainy nights, move directly from one site to another through normally inhospitable habitats, such as heavily grazed pastures or oak-grassland savannas (Fellers 2005). Dispersing frogs in northern Santa Cruz County traveled distances from 0.25 mile to more than 2 miles without apparent regard to topography, vegetation type, or riparian corridors (Bulger *et al.* 2003*)*. At any time of the year, adult CRLF may move from breeding sites. They can be encountered living within streams at distances exceeding 1.8 miles from the breeding site and have been found greater than 1,640 feet from water, but are typically within 328 feet of water (Bulger *et al.* 2003).

The nearest CRLF occurrence is approximately one mile to the east of the Study Area (Figure 5). In addition, another occurrence is located approximately 1.5 miles to the southeast. The Study Area is within the dispersal capabilities of the frog from both occurrences. Both occurrence locations were visited during the initial site visit and CRLF presence was confirmed.

Highway 1 may be a dispersal barrier due to traffic during commute hours, but there is no physical, stationary barrier such as "K-rail" or a fixed center divide. Aside from the traffic patterns of Highway 1, the population of CRLF and SFGS on the east side of Highway 1 do not have significant barriers to western dispersal. Both water features associated with the nearest occurrences are surrounded by agricultural fields and open space. In addition, the culvert that carries San Vicente Creek underneath Highway 1 is passable and may help facilitate terrestrial movement under the highway.

The Airport Street population of CRLF has relatively few barriers between it and the Study Area, and no barriers if a route is taken along Airport Street. In addition, a large basin exists halfway in between the two locations which may facilitate dispersal or even provide potential aquatic foraging and breeding habitat in the rainy season, dependent on the degree of ponding. This feature was dry during the initial site visit but may hold water long enough to facilitate dispersal, foraging and possibly breeding during the winter months. Historic photo analysis indicates that this feature may have been a permanent water body in the past, showing open water in 1946, 1956, 1968, 1980 and 1987. No water was observed in photos of this feature from 1991, 1992, 1993, 2002 or 2005. It is assumed that this feature may have provided suitable CRLF foraging and breeding habitat, and subsequently suitable SFGS foraging habitat, for at least 40 years. With the hydrology of this habitat altered in the last twenty years, the nearest available perennial habitat is in San Vicente Creek in the Study Area. Thus, the Study Area is considered potential habitat for both of these species because it is within their dispersal capabilities and may also contain a remnant, albeit somewhat isolated, population. High winter water flows in San Vicente Creek may preclude CRLF breeding attempts but this feature does provide year round non-breeding aquatic habitat.

The water feature on the Seal Cove Inn property adjacent to the Study Area is suitable dispersal and foraging habitat for both SFGS and CRLF, however, it is unknown whether this feature has the proper hydrology for CRLF breeding habitat. Dozens of Sierran Treefrog metamorphs were observed adjacent to the pond during the site visit. It is assumed that these frogs bred in this water feature. Treefrog eggs generally hatch in one to five weeks, and tadpoles require standing water for periods long enough to complete their aquatic development, which varies from a month at warmer localities, to three or more months at high elevations in the Sierra (Zeiner, 1990). This would indicate a minimum ponding duration of at least five weeks for this water feature. A ponding duration of five months and a depth of two feet is typically associated with CRLF breeding habitat (Jennings et al. 1993).

Invertebrates

**Black Abalone (*Haliotis cracherodii*), NMFS Species of Concern, Federal Candidate Species.** The black abalone ranges from Cabo San Lucas to Mendocino County. It is found in intertidal and shallow subtidal areas feeding predominantly on kelp and drift algae. This species exhibits separate sexes and individuals spawn primarily during the summer months (Hamm and Burton, 2000). This species is known to occur in the intertidal area adjacent to the Study Area.

**Monarch Butterfly (*Danaus plexippus*). CDFG Roost Protected.** Winter roost sites extend along the coast from northern Mendocino to Baja California, Mexico. Roosts are located in wind protected tree groves, with nectar and water sources nearby. Suitable winter roost sites exist for this species in the tall eucalyptus and cypress trees in the Study Area.

# 5.0 SUMMARY AND RECOMMENDATIONS

The following sections present recommendations for future studies and/or measures to avoid or reduce impacts to special status species and sensitive habitats.

## 5.1 Biological Communities

The CCC and LCP prohibit any land use or development which would have significant adverse impact on sensitive habitat areas. The LCP defines specific criteria for allowable development areas in ESHAs, requires ESHA impacts to be minimized to the maximum extent feasible through siting and design, requires that alternative analyses be conducted and mitigation measures implemented where impacts to ESHAs may occur. Permitted uses allowed within ESHAs include the following: education and research, trails and scenic overlooks on public lands, necessary water supply projects, and fish and wildlife management. As aforementioned, ESHAs within the Study Area include wetlands, riparian areas, creeks, and patches of California strawberry. Below, avoidance measures to reduce impacts to sensitive habitats and specific performance criteria for ESHAs are described.

### *5.1.1 ESHAs*

As a result of project activities, impacts may occur within Study Area ESHAs. Potential impacts include the following:

- Near the mouth of San Vicente Creek, footings for a seasonal pedestrian bridge may be placed below the OHWM and on the bank of the stream;
- A clear span bridge crossing upstream will potentially impact the creek and associated riparian areas; and
- Improving the access ramp to the Fitzgerald Marine Reserve observation area may disturb small populations of California strawberry.

The following mitigation measures should be implemented to reduce potential impacts to sensitive habitats to less than significant:

- Site grading should be restricted between approximately May 1 and December 31. Site grading during these dryer months will reduce the possibility of soil erosion and sediments flowing into natural habitats.
- Install temporary silt fencing along the southern boundary of the potential ESHAs.
- Soil disturbance in the buffer zone around the wetland, waters, and riparian areas should be minimized as much as possible. This will reduce the impact to existing soils and vegetation that will remain as natural habitat within the buffer zone and reduce the potential for soil erosion. Silt fencing should be installed within the buffer zone area as an extra precaution to reduce the possibility of sediments entering the adjacent potential ESHAs.
- Solid materials, including wood, masonry/rock, glass, paper, or other materials should not be stored or placed in the ESHA buffer zone. Solid waste materials should be properly disposed of off-site. Fluid materials, including concrete, wash water, fuels, lubricants, or other fluid materials used during construction should not be disposed of on-site and should be stored or confined as necessary to prevent spillage into natural habitats. If a spill of such materials

occurs, the area should be cleaned and contaminated materials disposed of properly. The affected area should be restored to its natural condition.

### 5.1.2 *Wetlands and Waters*

Permitted development in wetlands must be designed to minimize adverse impacts during and after construction. To minimize adverse effects, the following is required:

- All paths be elevated so as not to impede movement of water
- All construction take place during daylight hours
- All outdoor lighting be kept at a distance away from the wetland sufficient not to affect wildlife
- Motorized machinery be kept to less than 45 dBA at the wetland boundary except for farm machinery.
- All construction which alters wetland vegetation be required to replace the vegetation
- No herbicides be used in wetlands unless specifically approved by the County Agricultural Commissioner and CDFG
- All projects be reviewed by the CDFG and RWQCB to determine appropriate mitigation measures.

### 5.2.3 *Riparian Corridor*

Permitted development in the riparian corridor must be designed to minimize adverse impacts during and after construction. To minimize adverse effects, the following is required:

- Minimize removal of vegetation
- Conform to natural topography to minimize erosion potential
- Make provisions to keep runoff and sedimentation from exceeding pre-development levels
- Replant where appropriate with native and non-invasive exotics
- Prevent discharge of toxic substances, such as fertilizers and pesticides, into the riparian corridor
- Remove vegetation in or adjacent to manmade agricultural ponds if the life of the pond is endangered
- Motorized machinery to be kept to less than 45 dBA at any wetland boundary except for farm machinery and motorboats.

### *5.1.4 California Wild Strawberry*

Any development occurring within one-half mile of the coast must mitigate against any impacts to California wild strawberry. Impacts to habitat can be mitigated by preventing any development, trampling, or other destructive activity which would destroy the plant, transplanting plants, or performing on-site plantings.

## 5.2 Special Status Plant Species

Of the 50 special status plant species known to occur in the vicinity of the Study Area, 24 were determined to have a moderate potential to occur in the Study Area. Protocol-level rare plant surveys were conducted on April 28 and July 30, 2009. These surveys followed the protocol for plant surveys as described in Nelson (1987), which are in compliance with CNPS, CDFG, and USFWS guidelines and focused on those species with a moderate potential to occur in the Study Area. No special status plant species were observed during the 2008 reconnaissance site visit or the 2009 protocol-level rare plant surveys.

## 5.3 Special Status Wildlife Species

Potential impacts to special status wildlife species, if present, could occur as a result of development within the Study Area and can be summarized as follows:

- Bats, including some special status bats, may be impacted by construction activity during critical life stages from November through August if disturbance occurs near potential bat roosts (trees, snags).
- Construction activities have the potential to impact the San Francisco Dusky-footed Woodrat if the stick houses of this species are observed within or near areas where disturbance is to take place.
- The Pacific Harbor Seal is known to haul out off shore of the Study Area. Construction activities in the Study Area may have the potential to impact this species through acoustic or visual disturbance.
- Nesting birds, including a number of special status birds, may be impacted if construction activities occur in or near potential breeding habitat (aquatic and upland vegetation) during the breeding season from February through August.
- Upland dispersal, foraging and estivation habitat for CRLF and SFGS may be impacted by the proposed project.
- The monarch butterfly may be impacted if construction activities disturb occupied over wintering roost habitat in the Study Area.
- The black abalone is known to occur off shore of the Study Area. This species may be impacted if construction activities negatively affect the water quality off shore of the Study Area.

### *5.3.1 Bats*

Habitats that support large, mature trees, abandoned buildings and rocky outcrops have the potential to support roosting or special status bats. WRA recommends the following measures be implemented to avoid take of roosting or special status bats.

Preconstruction surveys for bats should take place during the maternity roosting season (defined as: April 1 through August 31). Surveys should be conducted by a qualified biologist no less than 14 days prior to removal of trees, snags or buildings within the Study Area. Ultrasonic acoustic surveys and/or

other site appropriate survey method should be performed to determine the presence or absence of bats utilizing the Study Area as roosting or foraging habitat. If special status bat species are detected during surveys, appropriate, species and roost specific mitigation measures will be developed. Such measures may include postponing removal of trees, snags or structures until the end of the maternity roosting season or construction of species appropriate roosting habitat within, or adjacent to the Study Area.

Trees, snags and buildings may be removed outside of the maternity roosting season without performing preconstruction bat surveys. However, if buildings are to be demolished, internal entrance surveys should be performed by a qualified bat biologist no less than 14 days prior to demolition to determine if buildings currently or previously support roosting bats. If bats are determined to be present, appropriate methods should be used to exclude bats from the building. Such methods may include installation of one way "valves" to allow bats to exit, but not allow them to reenter the building. Species and roost appropriate mitigation measures will be developed based on the results of the survey in consultation with CDFG.

Consultation with CDFG may be warranted to determine appropriate mitigation measures if roosts are disturbed or destroyed.

### *5.3.2 Woodrat*

The riparian and shrub areas in the Study Area have the potential to support the San Francisco Dusky-footed Woodrat. If stick houses are observed, they should be avoided if possible. If avoidance is not feasible, the houses will be dismantled by hand under the supervision of a biologist. If young are encountered during the dismantling process, the material should be placed back on the house and the house will remain unmolested for two to three weeks in order to give the young enough time to mature and leave the house. After two to three weeks, the nest dismantling process may begin again. Nest material will be moved to suitable adjacent areas (riparian, woodland, scrub) that will not be impacted.

### *5.3.3 Marine Mammals*

The Pacific Harbor Seal is known to haul out adjacent to the Study Area on the beach and on the near shore reefs which are exposed at lower tides. Reserve rangers have also observed the Southern Sea Otter foraging off shore of the Study Area.

The Southern Sea Otter is a rare visitor off the northern San Mateo Coast. It seldom hauls out on land, preferring to stay off shore for resting and foraging opportunities. Because of the rarity of this species near the Study Area and the tendency for this species to remain off shore, no potential impacts are expected from the proposed project.

Visual and acoustic disturbance during construction, however, may affect the behavior of the Pacific Harbor Seal. If acoustic disturbance is a potential during construction activities, levels should be kept lower than 160 decibels - the limit recommended by NMFS for the protection of marine mammals. Preliminary discussions with the NMFS, however, indicate that visual disturbance may be the most likely potential impact to this species. The marine mammals at the Reserve are already acclimated to some level of disturbance from public visits, but if they are determined to be affected by construction activity, construction methods may need to be modified to reduce or eliminate the source of disturbance. The NMFS may also require a marine mammal Incidental Harassment Authorization Permit or Letter of Concurrence for potential disturbances to the seals. These potential impacts may be assessed in further detail once the specifics of the work plan are known.

### 5.3.4 *Birds*

Nesting birds protected by the Migratory Bird Treaty Act and other regulations may be impacted by construction during the bird breeding season from February through August. Ideally, the clearing of vegetation and the initiation of construction can be done in the non-breeding season between September and January. If these activities cannot be done in the non-breeding season, a qualified biologist shall perform pre-construction breeding bird surveys within 14 days of the onset of construction or clearing of vegetation. If nesting birds are discovered in the vicinity of planned construction, a buffer area around the nest will be established until the nest is vacated. The size of the buffer would be dependent on the habitat, level of disturbance and the particular species of nesting bird.

### 5.3.5 *Herpetofauna*

CRLF and SFGS have potential to occur in the Study Area due to suitability of habitat and nearby occurrences. Because each of these species is listed (federal threatened and federal endangered, respectively), formal consultation with the USFWS will be required in accordance with legal requirements set forth under Section 7 of the Endangered Species Act. A Section 7 Biological Assessment will be prepared in order to recommend mitigation measures to minimize the take of listed species determined to be affected by the proposed project. The following measures to prevent impacts to sensitive herpetofauna are a likely result of the Section 7 consultation process:

- At least 10 days prior to the onset of activities, the applicant or project proponent shall submit the name(s) and credentials of biologists who would conduct activities specified in the following measures. No project activities shall begin until proponents have received written approval from the USFWS that the biologist(s) is qualified to conduct the work.

- A USFWS-approved biologist shall survey the work site immediately before the onset of activities. If CRLF, tadpoles, or eggs are found, the approved biologist shall contact the USFWS to determine if moving any of these life-stages is appropriate. In making this determination, the USFWS will consider if an appropriate relocation site exists. If the USFWS approves moving animals, the approved biologist will be allowed sufficient time to move them from the work site before work activities begin. Only USFWS-approved biologists shall participate in activities associated with the capture, handling, and monitoring of CRLF. Any SFGS shall be allowed to leave the work area on their own, and shall be monitored as practical by the biologist to ensure they do not reenter the work area.

- Prior to the start of groundbreaking activities, all construction personnel will receive training on listed species and their habitats by a USFWS-approved biologist. The importance of these species and their habitat will be described to all employees as well as the minimization and avoidance measures that are to be implemented as part of the project. An educational brochure containing color photographs of all listed species .in the work area(s) will be distributed to all employees working within the Study Area(s). The original list of employees who attend the training sessions will be maintained by the applicant and be made available for review by the USFWS and the CDFG upon request.

- A USFWS-approved biologist shall be present at the work site until such time as all removal of CRLF and/or SFGS, instruction of workers, and habitat disturbance have been completed. After this time, the contractor or permittee shall designate a person to monitor on-site compliance with all minimization measures. The USFWS-approved biologist shall ensure that

this individual (on-site biological monitor) receives training outlined in the above measure and in the identification of CRLF and SFGS. The on-site biological monitor and the USFWS-approved biologist shall have the authority to halt any action that might result in impacts that exceed the levels anticipated by the Corps and USFWS during review of the proposed action. If work is stopped, the Corps and USFWS shall be notified immediately by the USFWS-approved biologist or on-site biological monitor.

- The on-site biological monitor(s) will remain on-site for the duration of the proposed project, including vegetation removal, grading and cleanup activities. If a CRLF or SFGS is observed at any time, the on-site biological monitor will have the authority to halt work on the Study Area until these animals are no longer within the work area. If construction activities are occurring at more than one location at a time, each area must have a minimum of one on-site biological monitor present to increase the likelihood that listed species are detected.

- All best management practices prescribed by the San Mateo County planning office for work within sensitive habitat areas will be implemented to the fullest extent.

- Designated construction staging areas will be utilized as the staging areas for the trail and bridge construction activities. All vehicles associated with project activities will be clustered within these areas at the end of each work day or when not in use to minimize habitat disturbance and water quality degradation. Before vehicles move from the staging areas at the start of each work day or before they return to this location at the end of each work day, the on-site biological monitor will check under the vehicles and their tires to ensure no listed species are utilizing the equipment as temporary shelter.

- Tightly woven fiber netting or similar material shall be used for erosion control or other purposes at the project to ensure that the CRLF and SFGS do not get trapped. This limitation will be communicated to the contractor. Plastic mono-filament netting (erosion control matting), rolled erosion control products or similar material shall not be used at the Study Area because CRLF, SFGS, and other species may become entangled or trapped in it.

- No trash shall be deposited on the site during construction activities. All trash shall be placed in trash receptacles with secure lids stored in vehicles and removed nightly from the Study Area.

- Fueling and maintenance of equipment will be conducted off-site and at least 50 feet from any wetland.

- Because CRLF and SFGS may take refuge in cavity-like and den-like structures such as pipes and may enter stored pipes and become trapped, all construction pipes, culverts, or similar structures that are stored at a construction site for one or more overnight periods will be either securely capped prior to storage or thoroughly inspected by the on-site biologist and/or the construction foreman/manager for these animals before the pipe is subsequently buried, capped, or otherwise used or moved in any way. If a CRLF is discovered inside a pipe by the on-site biologist or anyone else, the on-site biologist shall move the animal to a safe nearby location and monitor it until it is determined that it is not imperiled by predators or other dangers. If a SFGS is found, it should be allowed to passively leave the work area on its own, as determined by the on-site biologist.

- To prevent inadvertent entrapment of sensitive herpetofauna during construction, the on-site biologist and/or construction foreman/manager shall ensure that all excavated, steep-walled

holes or trenches more than one foot deep are completely covered at the close of each working day by plywood or similar materials, or provided with one or more escape ramps constructed of earth fill or wooden planks and inspected by the on-site biologist. Before such holes or trenches are filled, they will be thoroughly inspected for trapped animals by the on-site biologist and/or construction foreman/manager. If at any time a trapped CRLF or SFGS is discovered by the on-site biologist or anyone else, the animal should be allowed to passively leave the work area on its own, as determined by the onsite biologist. If a CRLF or SFGS is trapped, a CRLF or SFGS permitted biologist shall move the individual(s) with permission from USFWS and CDFG. If SFGS are discovered, the snake may be relocated by a permitted biologist and with USFWS and CDFG approval.

- Permanent and temporary disturbances and other types of project-related disturbance to the habitats of the SFGS shall be minimized to the maximum extent practicable. To minimize temporary disturbances, all project-related vehicle traffic shall be restricted to established roads, construction areas, and other designated areas. These areas should be established in locations disturbed by previous activities to prevent further adverse effects.

- Preconstruction surveys for the CRLF will be performed by USFWS-approved biologists throughout the project area immediately prior to groundbreaking activities. If a CRLF is observed, a USFWS-approved biologist will remove these individuals to locations outside of the work area but within the greater property boundary. CRLF will not be removed from the vicinity or remain in captivity over night unless in the care of a certified wildlife veterinarian.

- Preconstruction surveys for the SFGS will be performed by USFWS-approved biologists throughout the project area immediately prior to groundbreaking activities. If at any time during the survey, vegetation removal, or construction phases of the proposed project a SFGS is observed within the project area, the animal will be allowed to passively leave the work area unless in circumstances where the animal is determined to be trapped as discussed above.

- Under no circumstances will mosquito fish *(Gambusia affinis)* be introduced at any location within the Study Area. If pesticide application for mosquito abatement becomes necessary, the applicant will contact the USFWS and the San Mateo mosquito abatement district for further guidance.

- Wildlife exclusion fencing will be erected and maintained around the perimeter of the Project and Project staging areas to prevent SFGS and CRLF from entering the site. Installation of the fence will be performed under the supervision of a USFWS-approved biologist. Once the fencing is installed, workers will clear all vegetation within this area with belt driven weed whackers or other hand tools to a height of four to six inches. Following the removal of vegetation, preconstruction surveys will be performed prior to the start of any ground breaking activities by a USFWS-approved biologist. Fencing will be equipped with one-way escape funnels. Fencing will extend a minimum of 36-inches above ground level and will be buried four inches to six inches into the ground. Exclusion fencing will be checked a minimum of one time per week by biological monitors for the duration of the Project to identify problems or weaknesses in fence integrity and function. All compromised portions will be repaired and/or replaced immediately. Upon completion of the Project, all fencing material will be removed from the site and disposed of properly.

- No lighting will be incorporated at any location into the project design.

- To discourage recreational users from leaving designated trails, interpretive signs describing the sensitivity of the habitat and how to utilize the property in an ecologically sensitive manner will be placed at trailheads and wetlands adjacent to enhanced trails. If rehabilitated trails show continued signs of usage, the applicant will implement additional preventative measures, such as the installation of additional signage or fencing. Trailhead signs will also describe the importance of prohibitions on unrestrained domestic pets and the associated fines for violating these laws.

- All vegetation removed during trail construction activities will remain on-site upon completion of trail development. A portion of this vegetation will be utilized to facilitate the rehabilitation of the existing unofficial trails. The remainder of the removed vegetation will be bundled into small piles and placed near on-site aquatic areas to provide cover for local SFGS.

- Upon completion of the construction and rehabilitation phases of the proposed project, the applicant will monitor the property regularly and according to a USFWS-approved monitoring plan to ensure the successful establishment of native plants in all restored areas. Any plant species observed in these areas determined to be invasive will be removed.

- Because dusk and dawn are often the times when CRLFs are most actively foraging and dispersing, all construction activities should cease one half hour before sunset and should not begin prior to one half hour before sunrise.

### *5.3.6 Monarch Butterfly*

Monarch butterflies have known winter roosts in the area. No impacts would be expected if tree removal is scheduled between March and September. If construction activities or vegetation removal is scheduled during the winter, from October through February, then a monarch winter roost survey would be recommended. Detection of a roost may require consultation with CDFG.

### *5.3.7 Black Abalone*

This species is known to occur in the intertidal area off shore of the Study Area. Construction Best Management Practices (BMPs) should off set any potential negative impacts to water quality during construction activities. Techniques may include dry season work windows and use of silt fence and straw waddle to prevent sediment and construction debris from entering the intertidal area. Work conducted within the rip rap at the observation area should be performed at low tide. Fueling and maintenance of equipment (or other work tasks that may spill contaminants) will be conducted at least 50 feet away from the high tide line.

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# APPENDIX A

## LIST OF OBSERVED PLANT AND ANIMAL SPECIES

| Appendix A: Observed plant and wildlife species during the August 13 and September 17, 2008 site visit | |
|---|---|
| **Scientific Name** | **Common Name** |
| **Plants** | |
| *Achillea millefolium* | yarrow |
| *Anagalis arvensis* | scarlet pimpernel |
| *Artemisia californica* | California safebrush |
| *Avena fatua* | slender wild oats |
| *Baccharis pilularis* | coyote bush |
| *Bromus diandrus* | ripgut brome |
| *Carduus pycnocephalus* | Italian thistle |
| *Carex obnupta* | coast carex |
| *Carpobrotus edulis* | iceplant |
| *Conium maculatum* | poison hemlock |
| *Cupressus macrocarpa* | Monterey cypress |
| *Cyperus eragrostis* | flatsedge |
| *Distichlis spicata* | saltgrass |
| *Dudleya sp.* | dudleya |
| *Equisetum arvense* | common horsetail |
| *Erigeron sp.* | fleabane |
| *Eriophyllum sp.* | sunflower |
| *Eschscholzia californica* | California poppy |
| *Eucalyptus globulus* | eucalyptus |
| *Festuca sp.* | fescue |
| *Fragaria vesca* | California strawberry |
| *Grindelia stricta* | coastal gumweed |
| *Holcus lanatus* | velvet grass |
| *Hordeum murinum* | foxtail barley |
| *Juncus balticus* | wire rush |
| *Juncus patens* | common rush |
| *Lolium multiflorum* | Italian rye-grass |
| *Lonicera sp.* | honeysuckle |

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|---|---|
| *Ludwigia peploides* | ludwigia |
| *Lupinus bicolor* | bicolored lupin |
| *Lupinus arboreus* | coastal bush lupine |
| *Lythrum californicum* | common loosestrife |
| *Malva sp.* | malva |
| *Mimulus guttatus* | yellow monkeyflower |
| *Picris echioides* | prickly ox tongue |
| *Pittosporum crassifolium* | thick-leaved pittosporum |
| *Plantago lanceolata* | English plantain |
| *Plantago erecta* | California plantain |
| *Poa annua* | blue-eyed grass |
| *Polygonum persicaria* | lady's thumb |
| *Polypogon monspeliensis* | rabbitsfoot grass |
| *Polystichum californicum* | Sword fern |
| *Potentilla anserina* | silverweed |
| *Raphanus sativa* | wild radish |
| *Ribes sp.* | currant |
| *Rubus ursinus* | California blackberry |
| *Rubus discolor* | Himalayan blackberry |
| *Rumex crispus* | curly dock |
| *Salix lasiolepis* | arroyo willow |
| *Sambucus racemosa* | elderberry |
| *Scrophularia californica* | bee plant |
| *Senecio mikanioides* | german ivy |
| *Sonchus asper* | spiny sowthistle |
| *Toxicodendron diversilobum* | poison oak |
| *Tropaeolum majus* | nasturtium |
| *Urtica dioica* | stinging nettle |
| *Vinca major* | periwinkle |
| *Vulpia myuros* | rattail fescue |

**Wildlife Species**

| | |
|---|---|
| **Mammals** | |
| Pacific Harbor Seal | *Phoca vitulina richardii* |
| Botta's Pocket Gopher (burrows) | *Thomomys bottae* |
| Raccoon (tracks) | *Procyon lotor* |
| **Birds** | |
| California Quail | *Callipepla californica* |
| Double-crested Cormorant | *Phalacrocorax auritus* |
| Great Blue Heron | *Ardea herodias* |
| Red-shouldered Hawk | *Buteo lineatus* |
| Red-tailed Hawk | *Buteo jamaicensis* |
| Killdeer | *Charadrius vociferus* |
| Black Oystercatcher | *Haematopus bachmani* |
| Western Sandpiper | *Calidris mauri* |
| Western Gull | *Larus occidentalis* |
| Band-tailed Pigeon | *Patagioenas fasciata* |
| Mourning Dove | *Zenaida macroura* |
| Anna's Hummingbird | *Calypte anna* |
| Belted Kingfisher | *Ceryle alcyon* |
| Downy Woodpecker | *Picoides pubescens* |
| Northern Flicker | *Colaptes auratus* |
| Black Phoebe | *Sayornis nigricans* |
| Western Scrub-Jay | *Aphelocoma californica* |
| Chestnut-backed Chickadee | *Poecile rufescens* |
| Bushtit | *Psaltriparus minimus* |
| American Robin | *Turdus migratorius* |
| Common Yellowthroat | *Geothlypis trichas* |
| Song Sparrow | *Melospiza melodia* |
| Dark-eyed Junco | *Junco hyemalis* |
| House Finch | *Carpodacus mexicanus* |
| **Herpetofauna** | |
| Pacific Treefrog | *Pseudacris regilla* |

# APPENDIX B

## POTENTIAL FOR SPECIAL STATUS PLANT AND WILDLIFE SPECIES TO OCCUR IN THE STUDY AREA

**Appendix B.** Potential for Special Status Plant and Wildlife Species to Occur in the Project Area. List compiled from the California Department of Fish and Game (CDFG) Natural Diversity Database (September 2009), U.S. Fish and Wildlife Service (USFWS) Species Lists, and California Native Plant Society (CNPS) Electronic Inventory search of the Half Moon Bay, Montara Mountain, San Francisco South, San Mateo and Woodside USGS 7.5' quadrangles and a review of other CDFG lists and publications (Jennings and Hayes 1994, Zeiner et al. 1990).

| SPECIES | STATUS* | HABITAT | POTENTIAL FOR OCCURRENCE | RECOMMENDATIONS |
|---|---|---|---|---|
| **Mammals** | | | | |
| Long-eared Myotis *Myotis evotis* | WBWG High Priority | Primarily a forest associated species. Day roosts in hollow trees, under exfoliating bark, rock outcrop crevices and buildings. Other roosts include caves, mines and under bridges. | **Moderate.** Trees in the Project Area may provide suitable roost habitat for this species. | Work windows or perform preconstruction roost surveys |
| Fringed Myotis *Myotis thysanodes* | WBWG High Priority | Associated with a wide variety of habitats including mixed coniferous-deciduous forest and redwood/sequoia groves. Buildings, mines and large snags are important day and night roosts. | **Moderate.** Trees in the Project Area may provide suitable roost habitat for this species. | Work windows or perform preconstruction roost surveys |
| Long-legged Myotis *Myotis volans* | WBWG High Priority | Generally associated with woodlands and forested habitats. Large hollow trees, rock crevices and buildings are important day roosts. Other roosts include caves, mines and buildings. | **Moderate.** Trees in the Project Area may provide suitable roost habitat for this species. | Work windows or perform preconstruction roost surveys |
| Townsend's Western Big-eared Bat *Corynorhinus townsendii townsendii* | SSC, WBWG High Priority | Primarily found in rural settings in a wide variety of habitats including oak woodlands and mixed coniferous-deciduous forest. Day roosts highly associated with caves and mines. Building roost sites must be cave like. Very sensitive to human disturbance. | **Unlikely.** Project Area does not contain suitable roost habitat for this species. | No further actions are recommended for this species. |

| SPECIES | STATUS* | HABITAT | POTENTIAL FOR OCCURRENCE | RECOMMENDATIONS |
|---|---|---|---|---|
| Pallid Bat<br>*Antrozous pallidus* | SSC, WBWG High Priority | Occupies a variety of habitats at low elevation including grasslands, shrublands, woodlands, and forests. Most common in open, dry habitats with rocky areas for roosting. | **Moderate.** Trees in the Project Area may provide suitable roost habitat for this species. | Work windows or perform preconstruction roost surveys |
| Big Free-tailed Bat<br>*Nyctinomops macrotis* | SSC, WBWG Medium Priority | Need high cliffs or rocky outcrops for roosting sites. Feeds principally on large moths. | **Unlikely.** This species is more common in Southern California. | No further actions are recommended for this species. |
| Western Mastiff Bat<br>*Eumops perotis* | SSC, WBWG, BLM sensitive | Found in a wide variety of open, arid and semi-arid habitats. Distribution appears to be tied to large rock structures which provide suitable roosting sites, including cliff crevices and cracks in boulders. | **Unlikely.** Project Area does not contain suitable roost habitat for this species. | Preconstruction roost survey in appropriate habitat. |
| Western Red Bat<br>*Lasiurus blossevillii* | WBWG High Priority | Roosts primarily in trees, less often in shrubs. Roost sites often are in edge habitats adjacent to streams, fields, or urban areas. | **Moderate.** Trees in the Project Area may provide suitable roost habitat for this species. | Work windows or perform preconstruction roost surveys |
| San Francisco Dusky-Footed Woodrat<br>*Neotoma fuscipes annectens* | SSC | Typically occurs in forest habitats of moderate canopy and moderate to dense understory. Also found in chaparral habitats. Feeds mainly on woody plants, such as live oak, maple, coffeeberry, alder, and elderberry. | **High.** The forested, riparian and scrub habitat in the Project Area provide suitable nesting habitat for this species. | Conduct woodrat house preconstruction surveys in shrub and wooded environments. |
| American Badger<br>*Taxidea taxus* | SSC | Most abundant in drier open stages of most shrub, forest, and herbaceous habitats, with friable, uncultivated soils. Prey on burrowing rodents. | **Unlikely.** Nearest occurrence is from Peak Mountain to the northwest, from 1944. | No further actions are recommended for this species. |

| SPECIES | STATUS* | HABITAT | POTENTIAL FOR OCCURRENCE | RECOMMENDATIONS |
|---|---|---|---|---|
| Southern Sea Otter *Enhydra lutris nereis* | FT | Nearshore marine environments from about Año Nuevo, San Mateo County. To Point Sal, Santa Barbara County. Needs canopies of giant kelp and bull kelp for rafting and feeding. Prefers rocky substrates with abundant invertebrates. | **Present.** Reserve rangers have observed this species foraging off shore of the Project Area. | Pacific Harbor Seal impact avoidance recommendations will be sufficient for this species. |
| Pacific Harbor Seal *Phoca vitulina richardsi* | MMPA | Marine and coastal waters, as well as estuaries. Hauls out on coastal rocks, rock reefs, and other habitats relatively isolated from disturbance. | **Present.** This species has a known haul out off shore of the Project Area. | May require monitor depending on level of disturbance. |
| Guadalupe Fur Seal *Arctocephalus townsendi* | FT, ST, CFP | Breed on Isla de Guadalupe off the coast of Mexico, occasionally found on San Miguel, San Nicolas, and San Clemente islands. Prefers shallow, nearshore island water with cool and sheltered rocky areas for haul-outs. | **Unlikely.** Fur seal have not been observed by rangers in the vicinity of the Project Area for the last 20 years. | No further actions are recommended for this species. |
| Northern Fur Seal *Callorhinus ursinus* | MMPA | Breeds on large offshore rocks, and along undisturbed rocky or sandy island shorelines. The Farallone Islands are the nearest known breeding site. | **Unlikely.** Fur seal have not been observed by rangers in the vicinity of the Project Area for the last 20 years. | No further actions are recommended for this species. |
| Steller (=northern) Sea Lion *Eumetopias jubatus* | FT | Breeds on Año Nuevo, San Miguel and Farallon islands, Point Saint George, and Sugarloaf. Hauls-out on islands and rocks. Needs haul-out and breeding sites with unrestricted access to water, near aquatic food supply and with no human disturbance. | **Unlikely.** This species is not know to haul out near the Project Area. | No further actions are recommended for this species. |

| SPECIES | STATUS* | HABITAT | POTENTIAL FOR OCCURRENCE | RECOMMENDATIONS |
|---|---|---|---|---|
| **Birds** | | | | |
| Harlequin Duck *Histrionicus histrionicus* | SSC, BLM sensitive | Found in marine waters along rocky shore during non-breeding season. Breeds on west slope of the Sierra Nevada range. Nests in inland streams or along shores of swift, shallow rivers. | **Unlikely.** This species may forage off shore but does not breed in the Project Area. | No further actions are recommended for this species. |
| Common Loon *Gavia immer* | SSC | Nesting locations at certain large lakes and reservoirs in interior of state, primarily in northeastern plateau region. Bodies of water regularly frequented are extensive, fairly deep, and produce quantities of large fish. | **Unlikely.** This species may forage off shore but does not breed in the Project Area. | No further actions are recommended for this species. |
| Ashy Storm-petrel *Oceanodroma homochroa* | BCC, SSC | Colonial nester on offshore islands. Nest sites are in crevices beneath loosely piled rocks or driftwood, or in caves. Typically forages west of the continental shelf. | **Unlikely.** This does not breed in the Project Are, and occurs within the vicinity only rarely. | No further actions are recommended for this species. |
| California Brown Pelican *Pelecanus occidentalis californicus* | FE, SE, CFP | Nests colonially on coastal islands of small to moderate size which afford immunity from attack by ground-dwelling predators. Does not breed north of the Channel Islands. Winter visitor and post-breeding dispersent to San Francisco Bay region. | **Unlikely.** Does not breed in the Project Area, but may roost in areas adjacent to the Project Area. | No further actions are recommended for this species. |
| White-tailed Kite *Elanus leucurus* | CFP | Year-round resident of coastal and valley lowlands. Preys on small diurnal mammals and occasional birds, insects, reptiles, and amphibians. | **Moderate.** The Project Area contains suitable breeding and foraging habitat for this species. This species winters in the area. | Remove vegetation outside of breeding season and conduct pre-construction surveys. |
| Northern Harrier *Circus cyaneus* | SSC | Coastal salt and freshwater marsh. Nest and forage in grasslands, from salt grass in desert sink to mountain cienagas. Nests on ground in shrubby vegetation, usually at marsh edge; nest built of a large mound of sticks in wet areas. | **Moderate.** The Project Area contains suitable breeding and foraging habitat for this species. | Remove vegetation outside of breeding season and conduct pre-construction surveys. |

| SPECIES | STATUS* | HABITAT | POTENTIAL FOR OCCURRENCE | RECOMMENDATIONS |
|---|---|---|---|---|
| Ferruginous Hawk *Buteo regalis* | BCC | Winter resident of open grasslands, sagebrush flats, desert scrub, low foothills surrounding valleys, and fringes of pinyon-juniper habitats. | **Unlikely.** Does not breed in the Project Area. May infrequently be seen within the Project Area during winter and migration. | No further actions are recommended for this species. |
| Golden Eagle *Aquila chrysaetos* | CFP | Year-round resident in rolling foothills with open grasslands, scattered trees, and cliff-walled canyons. | **Unlikely.** The Project Area contains some nesting and foraging habitat for this species, however, no large remnant nest structures were observed in the eucalyptus trees within the Project Area. | No further actions are recommended for this species. |
| Bald Eagle *Haliaeetus leucocephalus* | FD, SE, CFP | Frequents ocean shores, lake margins, and rivers for both nesting and wintering. Requires abundant fish and adjacent snags or other perches. Nests in large, old-growth, or dominant live tree with open branchwork. Shows a preference for ponderosa pine. Roosts communally in winter. | **Unlikely.** Typical nesting and foraging habitat is not located in the Project Area. | No further actions are recommended for this species. |
| Swainson's Hawk *Buteo swainsoni* | ST, BCC | Summer resident in the region. Nests in stands with few trees in juniper-sage flats, riparian areas and in oak savannah. Requires adjacent suitable foraging areas such as grasslands, or alfalfa or grains fields supporting rodent populations. | **Unlikely.** This species is usually found further inland. | No further actions are recommended for this species. |
| American Peregrine Falcon *Falco peregrinus anatum* | FT, SE | Resident and winter visitor to region. Occurs near wetlands, lakes, rivers, or other water; on cliffs, banks, dunes, mounds; also, human-made structures. Nest consists of a scrape on a depression or ledge in an open site. | **Unlikely.** The Project Area only contains poor quality nesting habitat for this species, however, this species may forage in the Project Area. | No further actions are recommended for this species. |

| SPECIES | STATUS* | HABITAT | POTENTIAL FOR OCCURRENCE | RECOMMENDATIONS |
|---|---|---|---|---|
| Prairie Falcon<br>*Falco mexicanus* | BCC, DFG:WL | Resident and winter visitor to region. Inhabits dry, open terrain, either level or hilly. Breeding sites located on cliffs. Forages far afield, even to marshlands and ocean shores. | **Unlikely.** The Project Area only contains poor quality nesting habitat for this species, however, this species may forage in the Project Area. | No further actions are recommended for this species. |
| California Clapper Rail<br>*Rallus longirostris obsoletus* | FE, SE, CFP | Found in tidal salt marsh and brackish marshes supporting emergent vegetation, upland refugia, and incised tidal channels. Restricted to the San Francisco Bay estuary. | **Not Present.** The Project Area is outside of this species' range. | No further actions are recommended for this species. |
| California Black Rail<br>*Laterallus jamaicensis coturniculus* | ST, CFP, BCC | Occurs in tidal salt marsh with dense stands of pickleweed as well as freshwater to brackish marshes. | **Not Present.** Typical nesting and foraging habitat is not located in the Project Area. | No further actions are recommended for this species. |
| Western Snowy Plover<br>*Charadrius alexandrinus nivosus* | FT, SSC, BCC, RP | Federal listing applies only to the Pacific coastal population. Year-round resident on sandy beaches, salt pond levees and shores of large alkali lakes. Requires sandy, gravelly or friable soils for nesting. | **Unlikely.** This species is not known to nest near the Project Area. The breeding habitat is very disturbed, however, this species may forage at the shoreline. | No further actions are recommended for this species. |
| Caspian Tern<br>*Sterna caspia* | BCC | Summer resident in the region. Nests in small colonies inland and along the coast, usually on small islands and sandbars. | **Unlikely.** The Project Area does not contain typical breeding habitat for this species. This species may forage off shore of the Project Area. | No further actions are recommended for this species. |
| Elegant Tern<br>*Sterna elegans* | BCC, DFG:WL | Post-breeding dispersent to coastal habitats in the region; not known to nest north of San Diego County. Forages for fish over open water. | **Unlikely.** This species does not breed in the Project Area. Occurs off shore of the Project Area. | No further actions are recommended for this species. |

| SPECIES | STATUS* | HABITAT | POTENTIAL FOR OCCURRENCE | RECOMMENDATIONS |
|---|---|---|---|---|
| California Least Tern *Sterna antillarum browni* | FE, SE | Summer resient in the region. Nests colonially along the coast from San Francisco bay south to northern Baja California. Colonial breeder on bare or sparsely vegetated, flat substrates: sand beaches, alkali flats, land fills, or paved areas. | **Unlikely.** The Project Area does not contain typical breeding habitat for this species. This species may forage off shore of the Project Area. | No further actions are recommended for this species. |
| Black Oystercatcher *Haematopus bachmani* | BCC | Resident along rocky shorelines. Nests are small bowls or depressions close to the shore. | **Present.** This species forages off shore of the Project Area and may breed in the rocky, undisturbed portions of the shoreline. | Conduct pre-construction surveys. |
| Long-billed Curlew *Numenius americanus* | BCC, DFG:WL | Breeds in upland shortgrass prairies and wet meadows in northeastern California. Winter visitor to the region, occurring in grasslands and shores. | **Unlikely.** This species may forage along the shore of the Project Area but does not breed here. | No further actions are recommended for this species. |
| Short-tailed Albatross *Diomedea albatrus* | FE | Nests on Japanese islands. Very rare winter visitor to offshore California waters. | **Not Present.** This species occurs within the region only rarely, and is found well offshore. | No further actions are recommended for this species. |
| Xantu's Murrelet *Synthliborampus hypoleucus* | SSC | Generally rare post-breeding dispersent to the region. Pelagic, breeding on offshore islsands in rock crevices or under bushes. Does not breed north of the Channel Islands. | **Unlikely.** This species may forage off shore of the Project Area but does not breed here. | No further actions are recommended for this species. |
| Cassin's Auklet *Ptychoramphus aleuticus* | SSC, BCC | Pelagic species, nesting colonially in burrows on coastal and offshore islands. | **Unlikely.** This species may forage off shore of the Project Area but does not breed here. | No further actions are recommended for this species. |
| Marbled Murrelet *Brachyramphus marmoratus* | FT, SE | Breed in old-growth redwood stands containing platform-like branches along the coast. Winters in coastal waters. | **Unlikely.** This species may forage off shore of the Project Area but does not breed here. | No further actions are recommended for this species. |
| Tufted Puffin *Fratercula cirrhata* | BCC | Pelagic; nests along the coast on islands, islets, or (rarely) mainland cliffs. Typically winters well offshore. | **Unlikely.** This species may forage off shore of the Project Area but does not breed here. | No further actions are recommended for this species. |

| SPECIES | STATUS* | HABITAT | POTENTIAL FOR OCCURRENCE | RECOMMENDATIONS |
|---|---|---|---|---|
| Western Burrowing Owl *Athene cunicularia hypugea* | SSC, BCC | Open, dry annual or perennial grasslands, deserts and scrub lands characterized by low-growing vegetation. Subterranean nester, dependent upon burrowing mammals, most notably, the California ground squirrel. | **Unlikely.** No ground squirrel burrows and more likely further inland. | No further actions are recommended for this species. |
| Long-eared Owl *Asio otus* | SCC | Generally uncommon resident and winter visitor in the region. Found in a variety of woodland types. Requires adjacent open land productive of mice and the presence of old nests of crows, hawks, or magpies for breeding. | **Unlikely.** The Project Area does not provide any typical habitat for this species. | No further actions are recommended for this species. |
| Short-eared Owl *Asio flammeus* | SSC | Resident and mostly winter visitor to the region. Found in swamp lands, both fresh and salt; lowland meadows; irrigated alfalfa fields. Tule patches/tall grass needed for nesting/daytime seclusion. Nests on dry ground in depression concealed in vegetation. | **Unlikely.** The Project Area does not provide any typical habitat for this species. | No further actions are recommended for this species. |
| Vaux's Swift *Chaetura vauxi* | SSC | Summer resident. Forages high in the air over most terrain and habitats but prefers rivers/lakes. Requires large hollow trees for nesting, usually within old-growth forest. | **Unlikely.** There are no recent breeding records within the vicinity of the Project Area, and the Project Area does not offer old-growth forest habitat. | Remove vegetation outside of breeding season and conduct pre-construction surveys. |
| Black Swift *Cypseloides niger* | SSC | Patchily-distributed summer resident in California, occurring in coastal and forested habitats. Nest sites are usually associated with waterfalls. | **Unlikely.** Typical nesting habitat is not located in the Project Area. | No further actions are recommended for this species. |
| Rufous Hummingbird *Selasphorus rufus* | BCC | Migrant and uncommon summer resident in California. Found in a wide variety of habitats that provide nectar-producing flowers. Typically breeds north of the region. | **Unlikely.** No known breeding records in San Mateo County; probably occurs within the Project Area during migration. | No further actions are recommended for this species. |

| SPECIES | STATUS* | HABITAT | POTENTIAL FOR OCCURRENCE | RECOMMENDATIONS |
|---|---|---|---|---|
| Lewis's Woodpecker *Melanerpes lewis* | BCC | Uncommon winter resident occurring on open oak savannahs, broken deciduous and coniferous habitats. | **Unlikely.** Typical nesting habitat is not present in the Project Area. | No further actions are recommended for this species. |
| Olive-sided Flycatcher *Contopus cooperi* | SSC, BCC | conifer forests where tall trees overlook canyons, meadows, lakes or other open terrain | **Moderate.** The Project Area contains suitable breeding and foraging habitat fro this species. | Remove vegetation outside of breeding season and conduct pre-construction surveys. |
| Little Willow Flycatcher *Empidonax traillii brewsteri* | SE | Most numerous where extensive thickets of low, dense willows edge on wet meadows, ponds, or backwaters. Winter migrant. | **Unlikely.** No known occurrences in San Mateo County, may occur as a migrant. | No further actions are recommended for this species. |
| Purple Martin *Progne subis* | SSC | Inhabits woodlands, low elevation coniferous forest. Nest in snags, old woodpecker cavities and human-made structures. | **Moderate.** The Project Area contains suitable breeding and foraging habitat fro this species. | Remove vegetation outside of breeding season and conduct pre-construction surveys. |
| Bank Swallow *Riparia riparia* | ST | Migrant in riparian and other lowland habitats in western California. Nests in riparian areas with vertical cliffs and bands with fine-textured or sandy soils in which to nest. | **Unlikely.** No known colonies near the Project Area. | No further actions are recommended for this species. |
| Loggerhead Shrike *Lanius ludovicianus* | SSC, BCC | Prefers open habitats with scattered shrubs, trees, posts, or other perches. Eats mostly large insects. | **Moderate.** The Project Area contains suitable breeding and foraging habitat for this species. | Remove vegetation outside of breeding season and conduct pre-construction surveys. |
| San Francisco (Saltmarsh) Common Yellowthroat *Geothlypis trichas sinuosa* | SSC, BCC | Resident of San Francisco bay region fresh and salt water marshes. Requires thick, continuous cover down to water surface for foraging, tall grasses, tule patches, willows for nesting. | **High.** The Project Area contains suitable breeding and foraging habitat for this species. | Remove vegetation outside of breeding season and conduct pre-construction surveys. |

| SPECIES | STATUS* | HABITAT | POTENTIAL FOR OCCURRENCE | RECOMMENDATIONS |
|---|---|---|---|---|
| Yellow-breasted Chat *Icteria virens* | SSC | Summer resident; inhabits riparian thickets of willow and other brushy tangles near watercourses. Nests in low, dense riparian thickets consisting of willow, blackberry, wild grape | **Unlikely.** There are no recent breeding records from San Mateo County, and the Project Area provides only sub-optimal habitat. | No further actions are recommended for this species. |
| Yellow Warbler *Dendroica petechia* | SSC | Summer resident in the region. Nests in riparian stands of aspens, sycamores and alders with a dense understory of willows. Also nests in montane shrubbery in open conifer forests. | **Moderate.** The Project Area contains suitable breeding and foraging habitat for this species. | Remove vegetation outside of breeding season and conduct pre-construction surveys. |
| Grasshopper Sparrow *Ammodramus savannarum* | SSC | Frequents dense tall, dry or well-drained grasslands, especially native grasslands with mixed grasses and forbs for foraging and nesting. Nests on ground at base of overhanging clumps of vegetation. | **Unlikely.** This species typically requires large expanses of grasslands than what is in the Project Area. | No further actions are recommended for this species. |
| Bryant's Savannah Sparrow *Passerculus sandwichensis alaudinus* | SSC | Year-round resident of tidal marshes and grasslands in coastal fog belt. Breeds from April through July. | **Moderate.** The Project Area contains suitable breeding and foraging habitat for this species. | Remove vegetation outside of breeding season and conduct pre-construction surveys. |
| Alameda Song Sparrow *Melospiza melodia pusillula* | BCC, SSC | Year-round resident in tidal-influenced marshes along the eastern and southern portions of San Francisco Bay. | **Not Present.** The Project Area is outside of this species' recognized range. | Remove vegetation outside of breeding season and conduct pre-construction surveys. |
| Tricolored Blackbird *Agelaius tricolor* | SSC, BCC | Usually nests over or near freshwater in dense cattails, tules, or thickets of willow, blackberry, wild rose or other tall herbs. Nesting area must be large enough to support about 50 pairs. | **Unlikely.** The Project Area does not contain typical breeding habitat for this species. | No further actions are recommended for this species. |
| **Reptiles and Amphibians** | | | | |

| SPECIES | STATUS* | HABITAT | POTENTIAL FOR OCCURRENCE | RECOMMENDATIONS |
|---|---|---|---|---|
| Western Pond Turtle *Actinemys marmorata* | SSC | Occurs in perennial ponds, lakes, rivers and streams with suitable basking habitat (mud banks, mats of floating vegetation, partially submerged logs) and submerged shelter. | **Unlikely.** This species is not known near the Project Area and is more typical of perennial pond environments with basking sites. | No further actions are recommended for this species. |
| California Horned Lizard *Phrynosoma coronatum frontale* | SSC | Frequents a wide variety of habitats, most common in lowlands along sandy washes with scattered low bushes. Needs open areas for sunning, bushes for cover and abundant supply of ants and other insects. | **Unlikely.** Not known near the Project Area. | No further actions are recommended for this species. |
| San Francisco Garter Snake *Thamnophis sirtalis tetrataenia* | FE, SE, CFP, RP | Vicinity of freshwater marshes, ponds and slow moving streams in San Mateo County and extreme northern Santa Cruz County. Prefers dense vegetative cover and water depths of at least one foot. Upland areas near water are important habitat features. | **Moderate.** The creek and temporary pond adjacent to the Project Area may provide suitable foraging habitat for this species. The uplands in the Project Area may provide suitable estivation habitat. | Recommendations discussed in Section 5.3 |
| Western Spade-foot toad *Scaphiopus hammondi* | SSC | Occurs primarily in grasslands but occasionally populates valley-foothill hardwood woodlands. Feed on insects, worms, and other invertebrates. | **Unlikely.** Not known near the Project Area. | No further actions are recommended for this species. |
| California Tiger Salamander *Ambystoma californiense* | FT, SSC | Need underground refuges, especially ground squirrel burrows and vernal pools or other seasonal water sources for breeding. | **Unlikely.** There are no nearby occurrences to the Project Area. | No further actions are recommended for this species. |
| California Red-legged Frog *Rana aurora draytonii* | FT, SSC | Associated with quiet perennial to intermittent ponds, stream pools and wetlands. Prefers shorelines with extensive vegetation. Documented to disperse through upland habitats after rains. | **Moderate.** The creek and temporary pond adjacent to the Project Area may provide suitable non-breeding aquatic habitat for this species. The uplands in the Project Area may provide suitable estivation habitat. | Recommendations discussed in Section 5.3. |

| SPECIES | STATUS* | HABITAT | POTENTIAL FOR OCCURRENCE | RECOMMENDATIONS |
|---|---|---|---|---|
| **Fish** | | | | |
| River Lamprey<br>*Lampetra ayresi* | SSC | Lower Sacramento River, San Joaquin River and Russian River. May occur in coastal streams north of San Francisco Bay. Adults need clean, gravelly riffles, Ammocoetes need sandy backwaters or stream edges, good water quality and temps < 25 degrees C. | **No Potential.** The Project Area does not contain suitable habitat for this species. | No further actions are recommended for this species. |
| Green Sturgeon<br>*Acipenser medirostris* | FT | Spawn in the Sacramento River and the Klamath River. Spawn at temperatures between 8-14 degrees C. Preferred spawning substrate is large cobble, but can range from clean sand to bedrock. | **No Potential.** The Project Area does not contain suitable habitat for this species., however, this species may forage off shore of the Project Area. | No further actions are recommended for this species. |
| Pacific Herring<br>*Clupea pallasii* | None | Pacific herring is a coastal marine fish that uses large estuaries for spawning and early rearing habitat. | **No Potential.** The Project Area does not contain suitable habitat for this species., however, this species may forage off shore of the Project Area. | No further actions are recommended for this species. |
| Tidewater Goby<br>*Eucyclogobius newberryi* | FE | Brackish water habitats along the California coast from Agua Hedionda Lagoon, San Diego County to the mouth of the Smith River. Found in shallow lagoons and lower stream reaches, they need fairly still but not stagnant water and high oxygen levels. | **No Potential.** The Project Area does not contain suitable habitat for this species., however, this species may forage off shore of the Project Area. | No further actions are recommended for this species. |

| SPECIES | STATUS* | HABITAT | POTENTIAL FOR OCCURRENCE | RECOMMENDATIONS |
|---|---|---|---|---|
| Steelhead - Central Valley ESU *Oncorhynchus mykiss irideus* | FT | Occurs from the Russian River south to Soquel Creek and Pajaro River. Also in San Francisco and San Pablo Bay Basins. Populations in the Sacramento and San Joaquin Rivers and their tributaries. Adults migrate upstream to spawn in cool, clear, well-oxygenated streams. Juveniles remain in fresh water for 1 or more years before migrating downstream to the ocean. | **No Potential.** The Project Area does not contain suitable habitat for this species., however, this species may forage off shore of the Project Area. | No further actions are recommended for this species. |
| Steelhead, Central California Coast ESU *Oncorhynchus mykiss* | FT | Occurs from the Russian River south to Soquel Creek and Pajaro River. Also in San Francisco and San Pablo Bay Basins. Adults migrate upstream to spawn in cool, clear, well-oxygenated streams. Juveniles remain in fresh water for 1 or more years before migrating downstream to the ocean. | **No Potential.** The Project Area does not contain suitable habitat for this species., however, this species may forage off shore of the Project Area. | No further actions are recommended for this species. |
| Winter-run Chinook Salmon, Sacramento River *Oncorhynchus tshawytscha* | FE | Occurs in the Sacramento River below Keswick Dam. Spawns in the Sacramento River but not in tributary streams. Requires clean, cold water over gravel beds with water temperatures between 6 and 14 degrees C for spawning. Adults migrate upstream to spawn in cool, clear, well-oxygenated streams. Juveniles typically migrate to the ocean soon after emergence from the gravel. | **No Potential.** The Project Area does not contain suitable habitat for this species., however, this species may forage off shore of the Project Area. | No further actions are recommended for this species. |
| Central Valley Spring-run Chinook Salmon *Oncorhynchus tshawytscha* | FT | Populations spawning in the Sacramento and San Joaquin Rivers and their tributaries. Adults migrate upstream to spawn in cool, clear, well-oxygenated streams. Juveniles remain in fresh water for 1 or more years before migrating downstream to the ocean. | **No Potential.** The Project Area does not contain suitable habitat for this species., however, this species may forage off shore of the Project Area. | No further actions are recommended for this species. |

| SPECIES | STATUS* | HABITAT | POTENTIAL FOR OCCURRENCE | RECOMMENDATIONS |
|---|---|---|---|---|
| Central Valley Fall- and Late Fall-run Chinook Salmon ESU *Oncorhynchus tshawytscha* | NMFS SC | Populations spawning in the Sacramento and San Joaquin Rivers and their tributaries. Adults migrate upstream to spawn in cool, clear, well-oxygenated streams. Juveniles remain in fresh water for 1 or more years before migrating downstream to the ocean. | **No Potential.** The Project Area does not contain suitable habitat for this species., however, this species may forage off shore of the Project Area. | No further actions are recommended for this species. |
| Coho Salmon - Central CA Coast ESU *Oncorhynchus kisutch* | FE, SE | Federal listing includes populations between Punta Gorda and San Lorenzo River. State listing includes populations south of San Francisco Bay only. Occurs inland and in coastal marine waters. Requires beds of loose, silt-free, coarse gravel for spawning. Also needs cover, cool water and sufficient dissolved oxygen. | **No Potential.** The Project Area does not contain suitable habitat for this species., however, this species may forage off shore of the Project Area. | No further actions are recommended for this species. |
| **Invertebrates** | | | | |
| white abalone *Haliotis sorenseni* | FE | White abalone is the first marine invertebrate to be listed under the ESA and are reported to be most abundant between 25-30 m (80-100 ft depth). | **Not Present.** Outside of known range. | No further surveys or mitigation measures are necessary. |
| black abalone *Haliotis cracherodii* | FC, NMFS SC | Ranges from Cabo San Lucas to Mendocino County. Found in intertidal and shallow subtidal areas. | **Present.** This species is known to occur in the intertidal areas off shore of the Project Area. | Construction BMPs will prevent potential impacts. No further surveys or mitigation measures are necessary. |
| Bay checkerspot butterfly *Euphydryas editha bayensis* | FT | Restricted to native grasslands on outcrops of serpentine soil in the vicinity of San Francisco Bay. *Plantago erecta* is the primary host plant; *Orthocarpus densiflorus* and *O. purpurscens* are the secondary host plants. | **Unlikely.** No known occurrences near the Project Area. | No further surveys or mitigation measures are necessary. |

| SPECIES | STATUS* | HABITAT | POTENTIAL FOR OCCURRENCE | RECOMMENDATIONS |
|---|---|---|---|---|
| monarch butterfly *Danaus plexippus* | winter roosts monitored by CDFG | Winter roost sites located in wind-protected tree groves (Eucalyptus, Monterey pine, cypress), with nectar and water sources nearby. | **Moderate.** The mature trees in the Project Area may provide a suitable winter roost site. | Conduct winter roost survey if potential roost trees are to be removed. |
| Myrtle's silverspot *Speyeria zerene myrtleae* | FE | Foggy, coastal dunes and hills of the Point Reyes Peninsula. | **Not Present.** Extirpated from San Mateo County. | No further surveys or mitigation measures are necessary. |
| callippe silverspot butterfly *Speyeria callippe callippe* | FE | Hostplant is *Viola pedunculata,* most adults found on east facing slopes, males congregate on hilltops in search of females. | **Unlikely**. No known occurrences near the Project Area. | No further actions are recommended for this species. |
| Lange's metalmark butterfly *Apodemia mormo langei* | FE, SSI, RP | Inhabits stabilized dunes along the San Joaquin River. Endemic to Antioch Dunes, Contra Costa County. Primary host plant is *Eriogonum nudum* var. *auriculatum*; feeds on nectar of other wildflowers, as well as host plant. | **Unlikely.** No known occurrences in San Mateo County. | No further actions are recommended for this species. |
| San Bruno elfin butterfly *Callophrys mossii bayensis* | FE | Colonies are located on steep, north-facing slopes in the vicinity of San Bruno mountain, San Mateo County. Larval host plant is *Sedum spathulifolium*. | **Unlikely**. No known occurrences near the Project Area. | No further actions are recommended for this species. |
| mission blue butterfly *Plebejus icarioides missionensis* | FE | Grasslands of the San Francisco Peninsula. Host plants are three species of lupine, of which *Lupinus albifrons* is preferred. | **Unlikely**. No known occurrences near the Project Area. | No further surveys or mitigation measures are necessary. |
| conservancy fairy shrimp *Branchinecta conservatio* | FE | Endemic to the grasslands of the northern two-thirds of the central valley. Inhabit astatic pools located in swales formed by old, braided alluvium; filled by winter/spring rains, last until June. | **No Potential.** The Project Area does not contain suitable habitat for this species. | No further actions are recommended for this species. |

| SPECIES | STATUS* | HABITAT | POTENTIAL FOR OCCURRENCE | RECOMMENDATIONS |
|---|---|---|---|---|
| vernal pool fairy shrimp *Branchinecta lynchi* | FT | Endemic to the grasslands of the central valley, central coast mountain, and south coast mountains. Inhabit small, clear-water sandstone-depression pools and grassed swale, earth slump, or basalt-flow depression pools. | **No Potential.** The Project Area does not contain suitable habitat for this species. | No further actions are recommended for this species. |
| longhorn fairy shrimp *Branchinecta longiantenna* | FE, SSI, RP | Endemic to the eastern margin of the central coast mountains in seasonally astatic grassland vernal pools. Inhabit small, clear-water depressions in sandstone and clear-to-turbid clay/grass-bottomed pools in shallow swales. | **No Potential.** The Project Area does not contain suitable habitat for this species. | No further actions are recommended for this species. |
| vernal pool tadpole shrimp *Lepidurus packardi* | FE | Pools commonly found in grass bottomed swales of unplowed grasslands. Some pools are mud-bottomed and highly turbid. | **No Potential.** The Project Area does not contain suitable habitat for this species. | No further actions are recommended for this species. |
| valley elderberry longhorn beetle *Desmocerus californicus dimorphus* | FT | Occurs only in association with blue elderberry (*Sambucus mexicana*). Prefers to lay eggs in elderberrries 2-8 inches in diameter; some preference shown for "stressed" elderberries. | **No Potential.** The Project Area does not contain suitable habitat for this species. | No further actions are recommended for this species. |
| San Francisco tree lupine moth *Grapholita edwardsiana* | SMC LCP | Occurs only on sandy northern peninsula sites. Tree lupine (*Lupinus arboreus*) host the larvae of this species. This species is addressed in the San Mateo County LCP. | **Unlikely.** No tree lupine observed near the Project Area. | No further actions are recommended for this species. |
| California brackish water snail *Tryonia imitator* | SMC LCP | Occurs in brackish water, such as Pescadero Marsh. | **No Potential.** The Project Area does not contain suitable habitat for this species. | No further actions are recommended for this species. |
| globose dune beetle *Coelus globosus* | SMC LCP | Inhabits California's coastal dune system. | **Unlikely.** No dune habitat within the proposed Project. | No further actions are recommended for this species. |
| **Plants** | | | | |

| SPECIES | STATUS* | HABITAT | POTENTIAL FOR OCCURRENCE | RECOMMENDATIONS |
|---|---|---|---|---|
| *Acanthomintha duttonii* San Mateo thorn minto | List 1B | Chaparral, valley and foothill grassland, often on serpentine soils. 50-300m. Blooms April-June. | **Unlikely.** Small patches of non-native grassland are present on-site. Serpentine soil does not occur within the Project Area. | No further surveys or mitigation measures are recommended. |
| *Allium peninsulare var. franciscanum* Franciscan onion | List 1B | Cismontane woodland, valley and foothill grassland, found on clay, volcanic and often serpentinite soils. 100-300m elevation. Blooms May-June. | **Unlikely.** Small patches of non-native grassland are present on-site. Serpentine soil does not occur within the Project Area. | No further surveys or mitigation measures are recommended. |
| *Amsinckia lunaris* bent-flowered fiddleneck | List 1B | Coastal bluff scrub, cismontane woodland, valley and foothill grassland. 3-500m. Blooms March-June. | **Moderate.** Small areas of non-native grassland occur within the Project Area. | This species was not observed during the 2009 April site visit. No further surveys or mitigation measures are recommended. |
| *Arctostaphylos andersonii* Santa Cruz manzanita | List 1B | Broadleaved upland forest, chaparral, and North Coast coniferous forest. Found on open sites and redwood forest at elevations of 60-700m. Known only from Santa Cruz Mountains. Blooms Nov-April. | **Unlikely.** Suitable habitat for this species is not present within the Project Area. Species found only in the Santa Cruz mountains. | No further surveys or mitigation measures are recommended. |
| *Arctostaphylos hookeri ssp. franciscana* San Francisco manzanita | List 1A | Coastal scrub, serpentine soil. 60-300m. Blooms Feb-April. | **Unlikely.** Suitable habitat is not present. Serpentine soil does not occur within the Project Area. | No further surveys or mitigation measures are recommended. |
| *Arctostaphylos hookeri ssp. ravenii* Presidio manzanita | List 1B | Chaparral, coastal prairie, coastal scrub in serpentine soil. 45-215m. Blooms February-March. | **Unlikely.** Suitable habitat is not present. Serpentine soil does not occur within the Project Area. | No further surveys or mitigation measures are recommended. |

| SPECIES | STATUS* | HABITAT | POTENTIAL FOR OCCURRENCE | RECOMMENDATIONS |
|---|---|---|---|---|
| *Arctostaphylos imbricata* San Bruno Mountain manzanita | List 1B | Chaparral, coastal scrub. 275-370m. Blooms February-May. | **High.** Suitable coastal scrub habitat is present within the Project Area. | This species was not observed during the 2008 July and September site visits. No further surveys or mitigation measures are recommended. |
| *Arctostaphylos montaraensis* Montara manzanita | List 1B | Chaparral, coastal scrub. 150-500m. Blooms January-March. | **High.** Suitable coastal scrub habitat is present within the Project Area. | This species was not observed during the 2008 July and September site visits. No further surveys or mitigation measures are recommended. |
| *Arctostaphylos pacifica* Pacific manzanita | List 1B | Chaparral and coastal scrub. 330-330m. Blooms February- April. | **High.** Suitable coastal scrub habitat is present within the Project Area. | This species was not observed during the 2008 July and September site visits. No further surveys or mitigation measures are recommended. |
| *Arctostaphylos regismontana* Kings Mountain manzanita | List 1B | Broadleafed upland forest, chaparral, north coast coniferous forest, often on granite or sandstone soils. 305-730 meters. Blooms Jan-April. | **Unlikely.** Suitable habitat no present on-site. | No further surveys or mitigation measures are recommended. |
| *Astragalus pycnostachyus* var. *pycnostachyus* coastal marsh milk-vetch | List 1B | Coastal dunes (mesic) and marshes and swamps (coastal salt, streamsides). Found at elevations of 0-30m. Blooms April-Oct. | **No Potential.** No suitable habitat occurs within the Project Area. | No further surveys or mitigation measures are recommended. |
| *Astragalus tener* var. *tener* alkali milk-vetch | List 1B | Alkali playa, valley and foothill grassland, vernal pools. Low ground, alkali flats, and flooded lands. 1-170m. Blooms March-June. | **Unlikely.** Small patches of mesic grassland habitat occur in the Project Area. | No further surveys or mitigation measures are recommended. |

| SPECIES | STATUS* | HABITAT | POTENTIAL FOR OCCURRENCE | RECOMMENDATIONS |
|---|---|---|---|---|
| *Centromadia parryi* ssp. *parryi* pappose tarplant | List 1B | Coastal prairie, meadows and seeps, coastal salt marsh, valley and foothill grassland. Vernally mesic, often alkaline sites. 2-420m. Blooms May-November. | **Moderate.** Some grassland habitat occurs interspersed within the Project Area. | This species was not observed during the 2009 July site visit. No further surveys or mitigation measures are recommended. |
| *Chorizanthe cuspidata var. cuspidata* San Francisco Bay spineflower | List 1B | Coastal bluff scrub, coastal dunes, coastal prairie, coastal scrub, often on sandy soils. 3-215 meters. Blooms April-July. | **High.** Suitable coastal scrub habitat is present within the Project Area. | This species was not observed during the 2009 April site visit. No further surveys or mitigation measures are recommended. |
| *Chorizanthe robusta var. robusta* robust spineflower | List 1B | Chaparral, cismontane woodland, coastal dunes, coastal scrub, in sandy or gravelly soil. 3-300m. Blooms April-September. | **High.** Suitable coastal scrub habitat is present within the Project Area. | This species was not observed during the 2009 April site visit. No further surveys or mitigation measures are recommended.. |
| *Cirsium andrewsii* Franciscan thistle | List 1B | Broad leafed upland forest, coastal bluff scrub, coastal prairie, coastal scrub/ mesic, sometimes serpentine. 0-135m. Blooms March-July. | **Moderate**. Suitable coastal scrub habitat is present within the Project Area, although no serpentine soils occur on-site. | This species was not observed during the 2009 April site visit. No further surveys or mitigation measures are recommended. |
| *Cirsium fontinale var. fontinale* fountain thistle | FE, SE, List 1B | Chaparral, cismontane woodlands, valley and foothill grasslands, often in serpentinite seeps. 90-175m elevation. Blooms June-Oct. | **Unlikely.** Small patches of non-native grassland are present on-site. Serpentine soil does not occur within the Project Area. | No further surveys or mitigation measures are recommended. |

| SPECIES | STATUS* | HABITAT | POTENTIAL FOR OCCURRENCE | RECOMMENDATIONS |
|---|---|---|---|---|
| *Cirsium occidentale var. compactum* compact cobwebby thistle | List 1B | Chaparral, coastal dunes, coastal prairie, coastal scrub. 5-150m. Blooms April-June. | **High**. Suitable coastal scrub habitat is present within the Project Area. | This species was not observed during the 2009 April site visit. No further surveys or mitigation measures are recommended. |
| *Collinsia multicolor* San Francisco collinsia | List 1B | Closed cone coniferous forest, coastal scrub, sometimes on serpentinite soils. 30-250m elevation. Blooms March-May. | **Moderate**. Suitable coastal scrub habitat is present within the Project Area, although no serpentine soils occur on-site. | This species was not observed during the 2009 April site visit. No further surveys or mitigation measures are recommended. |
| *Cordylanthus maritimus* ssp. *palustris* Point Reyes bird's-beak | List 1B | Coastal salt marshes and swamps. 1- 10 m. Blooms June- October. | **No Potential.** No suitable habitat occurs within the Project Area. | No further surveys or mitigation measures are recommended. |
| *Dirca occidentalis* western leatherwood | List 1B | Broad leafed upland forest, closed-cone coniferous forest, chaparral, cismontane woodland, North Coast coniferous forest, riparian forest, riparian woodland/mesic. 50-395m. Blooms January - April. | **Moderate.** Suitable riparian habitat is present within the Project Area. | This species was not observed during the 2008 July and September site visits. No further surveys or mitigation measures are recommended. |
| *Equisetum palustre* marsh horsetail | List 3 | Marshes and swamps. 45-150m. | **No Potential.** No suitable habitat occurs within the Project Area. | No further surveys or mitigation measures are recommended. |
| *Eriophyllum latilobum* San Mateo wooly sunflower | FE, SE, List 1B | Cismontane woodland, often on roadcuts, on and off of serpentine, 45-150 m elevation. Blooms May-June. | **No Potential.** No suitable habitat occurs within the Project Area. | No further surveys or mitigation measures are recommended. |

| SPECIES | STATUS* | HABITAT | POTENTIAL FOR OCCURRENCE | RECOMMENDATIONS |
|---|---|---|---|---|
| *Fritillaria biflora var. ineziana* Hillsborough chocolate lily | List 1B | Cismontane woodland, valley and foothill grassland in serpentine soils. 150-150m. Blooms March-April. | **Unlikely.** Small patches of non-native grassland are present on-site. Serpentine soil does not occur within the Project Area. | No further surveys or mitigation measures are recommended. |
| *Fritillaria lanceolata var. tristulis* Mission bells | List 1B | Coastal bluff scrub, coastal prairie, coastal scrub. 15-150m. Blooms February-May. | **High.** Suitable coastal scrub habitat is present within the Project Area. | This species was not observed during the 2009 April site visit. No further surveys or mitigation measures are recommended. |
| *Fritillaria liliacea* fragrant fritillary | List 1B | Coastal scrub, valley and foothill grassland, coastal prairie. Often on serpentine; various soils reported though usually clay, in grassland. 3-410m. Blooms February-April. | **Moderate.** Suitable coastal scrub habitat is present within the Project Area, although no serpentine soils occur on-site. Small areas of non-native grassland area also present. | This species was not observed during the 2009 April site visit. No further surveys or mitigation measures are recommended. |
| *Gilia capitata ssp. chamissonis* dune gilia | List 1B | Coastal dunes and coastal scrub. 2-200m. Blooms April-July. | **High.** Suitable coastal scrub habitat is present within the Project Area. | This species was not observed during the 2009 April site visit. No further surveys or mitigation measures are recommended. |
| *Grindelia hirsutula* var. *maritima* San Francisco gumplant | List 1B | Coastal scrub, coastal bluff scrub, and valley and foothill grassland. Found on sandy or serpentine slopes and sea bluffs at elevations of 15-400m. Blooms June-September. | **High.** Suitable coastal scrub habitat is present within the Project Area. | This species was not observed during the 2009 July site visit. No further surveys or mitigation measures are recommended. |
| *Helianthella castanea* Diablo helianthella | List 1B | Broadleafed upland forest, chaparral, cismontane woodland, coastal scrub, riparian woodland, valley and foothill grassland. 60-1300m. Blooms March-June. | **High.** Suitable coastal scrub habitat is present within the Project Area. | This species was not observed during the 2009 April site visit. No further surveys or mitigation measures are recommended. |

| SPECIES | STATUS* | HABITAT | POTENTIAL FOR OCCURRENCE | RECOMMENDATIONS |
|---|---|---|---|---|
| *Hesperevax sparsiflora var. brevifolia* shortleaf dwarf cudweed | List 2 | Coastal bluff scrub in sandy soils and coastal dunes. 0-215m. Blooms March-June. | **Moderate.** Suitable coastal scrub with sandy soils is present within the Project Area. | This species was not observed during the 2009 April site visit. No further surveys or mitigation measures are recommended. |
| *Hesperolinon congestum* Marin western flax | FT, ST, List 1B | Chaparral and valley and foothill grassland on serpentine soils. 5- 370 m. Blooms April- July. | **Unlikely.** Small patches of non-native grassland are present on-site. Serpentine soil does not occur within the Project Area. | No further surveys or mitigation measures are recommended. |
| *Horkelia cuneata ssp. sericea* Kellogg's horkelia | List 1B | Closed cone coniferous forest, maritime chaparral, and openings in coastal scrub habitat on gravelly or sandy soils. 10-200m elevation. Blooms April-September. | **High.** Suitable coastal scrub habitat is present within the Project Area. | This species was not observed during the 2009 April site visit. No further surveys or mitigation measures are recommended.. |
| *Horkelia marinensis* Point Reyes horkelia | List 1B | Coastal dunes, coastal prairie, coastal scrub. 10-150m. Blooms May-September. | **High.** Suitable coastal scrub habitat is present within the Project Area. | This species was not observed during the 2009 July site visit. No further surveys or mitigation measures are recommended. |
| *Leptosiphon croceus* coast yellow leptosiphon | List 1B | Coastal bluff scrub and coastal prairie. 10-150m elevation. Blooms April-May. | **High.** Suitable coastal scrub habitat is present within the Project Area. | This species was not observed during the 2009 April site visit. No further surveys or mitigation measures are recommended. |
| *Leptosiphon rosaceus* rose leptosiphon | List 1B | Coastal bluff scrub. 0-100m elevation. Blooms April-July. | **Moderate.** Suitable habitat is present within the Project Area. | This species was not observed during the 2009 April site visit. No further surveys or mitigation measures are recommended. |

| SPECIES | STATUS* | HABITAT | POTENTIAL FOR OCCURRENCE | RECOMMENDATIONS |
|---|---|---|---|---|
| *Lessingia arachnoidea* Crystal Springs lessingia | List 1B | Cismontane woodland, coastal scrub, serpentinite soils in valley and foothill grasslands, often roadsides. 60-200m elevation Blooms July-Oct. | **Unlikely.** Small patches of non-native grassland are present on-site. Serpentine soil does not occur within the Project Area. | No further surveys or mitigation measures are recommended. |
| *Lessingia germanorum* San Francisco lessingia | List 1B | Coastal scrub, possibly in remnant dune habitat. 25-90m. Blooms July-November. | **High.** Suitable coastal scrub habitat is present within the Project Area. | This species was not observed during the 2009 July site visit. No further surveys or mitigation measures are recommended. |
| *Lessingia hololeuca* woolly-headed lessingia | List 3 | Broadleafed upland forest, coastal scrub, lower montane coniferous forest, valley and foothill grassland on clay and serpentine. 15-305m. Blooms June-October. | **Moderate.** Suitable habitat is present within the Project Area. | This species was not observed during the 2009 July site visit. No further surveys or mitigation measures are recommended. |
| *Lilium maritimum* coast lily | List 1B | Broadleafed upland forest, closed cone coniferous forest, coastal prairie, coastal scrub, marshes and swamps, North Coast coniferous forest, sometimes on roadsides. 90-550m. Blooms May-August. | **High.** Suitable coastal scrub habitat is present within the Project Area. | This species was not observed during the 2009 July site visit. No further surveys or mitigation measures are recommended. |
| *Lupinus eximius* San Mateo tree lupine | List 3 | Coastal prairie, mesic meadows and seeps, freshwater marshes and swamps, and vernal pools. 1-140m elevation. Blooms March-May. | **No Potential.** No suitable habitat occurs within the Project Area. | No further surveys or mitigation measures are recommended. |
| *Malacothamnus aboriginum* Gray bushmallow | List 1B | Chaparral, cismontane woodland on rocky soil, often in burned areas. 150-1700m. Blooms April-October. | **No Potential.** No suitable habitat occurs within the Project Area. | No further surveys or mitigation measures are recommended. |
| *Malacothamnus arcuatus* arcuate bush mallow | List 1B | This evergreen shrub is found in chaparral at elevations of 15-355m. Blooms April-Sept. | **No Potential.** No suitable habitat occurs within the Project Area. | No further surveys or mitigation measures are recommended. |

| SPECIES | STATUS* | HABITAT | POTENTIAL FOR OCCURRENCE | RECOMMENDATIONS |
|---|---|---|---|---|
| *Malacothamnus davidsonii* Davidson's bushmallow | List 1B | Chaparral, cismontane woodland, coastal scrub and riparian woodland. 185-855m. Blooms June-July. | **High.** Suitable coastal scrub habitat is present within the Project Area. | This species was not observed during the 2009 July site visit. No further surveys or mitigation measures are recommended. |
| *Malacothamnus hallii* Hall's bush mallow | List 1B | Chaparral. Some populations on serpentine. 10-550m. Blooms May-September. | **No Potential.** No suitable habitat occurs within the Project Area. | No further surveys or mitigation measures are recommended. |
| *Pedicularis dudleyi* Dudley's lousewort | List 1B | Maritime chaparral, cismontane woodland, North Coast coniferous forest, valley and foothill grassland. 60-900m elevation. Blooms April-June. | **Moderate.** Suitable habitat is present within the Project Area. | This species was not observed during the 2009 April site visit. No further surveys or mitigation measures are recommended. |
| *Pentachaeta bellidiflora* white-rayed pentachaeta | FE, SE, List 1B | Valley and foothill grassland (often on serpentine soil) and cismontane woodland. 35- 620 m. Blooms March- May. | **Unlikely.** Small patches of non-native grassland are present on-site. Serpentine soil does not occur within the Project Area. | No further surveys or mitigation measures are recommended. |
| *Plagiobothrys chorisianus* var. *chorisianus* Choris' popcornflower | List 1B | Chaparral, coastal prairie, and coastal scrub. Found in mesic areas at elevations of 15-100m. Blooms March-June. | **High.** Suitable coastal scrub habitat is present within the Project Area. | This species was not observed during the 2009 April site visit. No further surveys or mitigation measures are recommended.. |
| *Potentilla hickmanii* Hickman's cinquefoil | List 1B | Coastal bluff scrub, closed-cone coniferous forest, meadows and seeps, freshwater marshes and swamps. 10-135m. Blooms April-August. | **High.** Suitable coastal scrub habitat is present within the Project Area. | This species was not observed during the 2009 April site visit. No further surveys or mitigation measures are recommended. |

| SPECIES | STATUS* | HABITAT | POTENTIAL FOR OCCURRENCE | RECOMMENDATIONS |
|---|---|---|---|---|
| *Silene verecunda ssp. verecunda* San Francisco campion | List 1B | Coastal bluff scrub, chaparral, coastal prairie, coastal scrub, valley and foothill grassland (sandy). 30-645m elevation. Blooms March to June (August). | **High**. Suitable coastal scrub habitat is present within the Project Area. | This species was not observed during the 2009 April site visit. No further surveys or mitigation measures are recommended. |
| *Suaeda californica* California seablite | FE, List 1B | Coastal salt marshes and swamps. 0- 15 m. Blooms July- October. | **No Potential.** No suitable habitat occurs within the Project Area. | No further surveys or mitigation measures are recommended. |

| SPECIES | STATUS* | HABITAT | POTENTIAL FOR OCCURRENCE | RECOMMENDATIONS |
|---|---|---|---|---|

*** Key to status codes:**

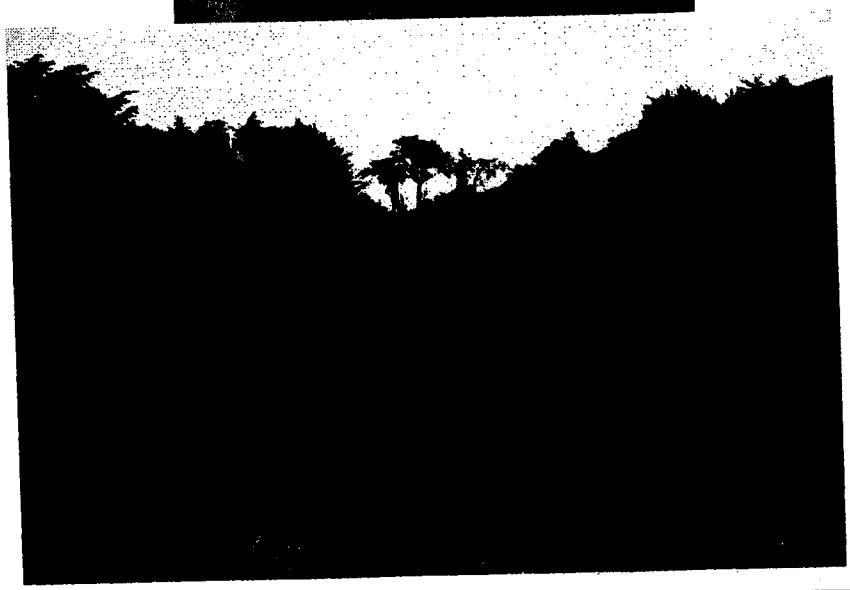
| | |
|---|---|
| EFH | Essential Fish Habitat |
| FE | Federal Endangered |
| FT | Federal Threatened |
| FD | Federal De-listed |
| FC | Federal Candidate |
| BCC | U.S. Fish & Wildlife Service (USFWS) Birds of Conservation Concern |
| NMFS SC | National Marine Fisheries Service Species of Concern |
| RP | Sensitive species included in a USFWS Recovery Plan or Draft Recovery Plan |
| SE | State Endangered |
| ST | State Threatened |
| SMC LCP | San Mateo County Local Coastal Program species |
| SR | State Rare |
| SSC | California Department of Fish and Game (CDFG) Species of Special Concern |
| CFP | CDFG Fully Protected Animal |
| SSI | CDFG Special Status Invertebrates |
| WBWG | Western Bat Working Group High Priority species |
| List 1A | California Native Plant Society (CNPS) List 1A: Plants presumed extinct in California. |
| List 1B | California Native Plant Society (CNPS) List 1B: Plants rare, threatened or endangered in California and elsewhere |
| List 2 | CNPS List 2: Plants rare, threatened, or endangered in California, but more common elsewhere |
| List 3 | CNPS List 3: Plants about which CNPS needs more information (a review list) |

**Potential species occurrence definitions:**

- Present. Species was observed on the site during site visits or has been recorded (i.e. CNDDB, other reports) on the site recently.
- High Potential. All of the habitat components meeting the species requirements are present and/or most of the habitat on or adjacent to the site is highly suitable. The species has a high probability of being found on the site.
- Moderate Potential. Some of the habitat components meeting the species requirements are present, and/or only some of the habitat on or adjacent to the site is unsuitable. The species has a moderate probability of being found on the site.
- Unlikely. Few of the habitat components meeting the species requirements are present, and/or the majority of habitat on and adjacent to the site is unsuitable or of very poor quality. The species has a low probability of being found on the site.
- No Potential. Habitat on and adjacent to the site is clearly unsuitable for the species requirements (foraging, breeding, cover, substrate, elevation, hydrology, plant community, site history, disturbance regime).
- Not Present. Species was not observed during protocol-level plant surveys performed during the appropriate blooming period.

# APPENDIX C

# STUDY AREA PHOTOGRAPHS



**Top:** San Vicente Creek towards the Pacific Ocean. Note the in-stream wetland and the observation area.

**Bottom:** San Vicente Creek looking east. Note the riparian area further upstream.

Photograph taken August 13, 2008

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**Top:** Existing footbridge on San Vicente Creek. An in-stream wetland occurs at the pictured bend in the creek.

**Bottom:** Existing multi-use trail adjacent to Cypress stand.

Photograph taken August 13, 2008

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**Top:** Riparian area along San Vicente Creek.

**Bottom:** Mouth of San Vicente Creek where it crosses the beach. Note the wrack line.

Photograph taken August 13, 2008

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