Pedro Point Headlands Restoration and Trail Improvement Project

Final Initial Study

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ATTACHMENT I

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County of San Mateo
Planning and Building Department

INITIAL STUDY
ENVIRONMENTAL EVALUATION CHECKLIST

1. **Project Title:** Pedro Point Headlands Restoration and Trail Improvement Project

2. **County File Number:** PLN 2015-00568

3. **Lead Agency Name and Address:** County of San Mateo Parks Department, 455 County Center – Fourth Floor, Redwood City, CA 94063

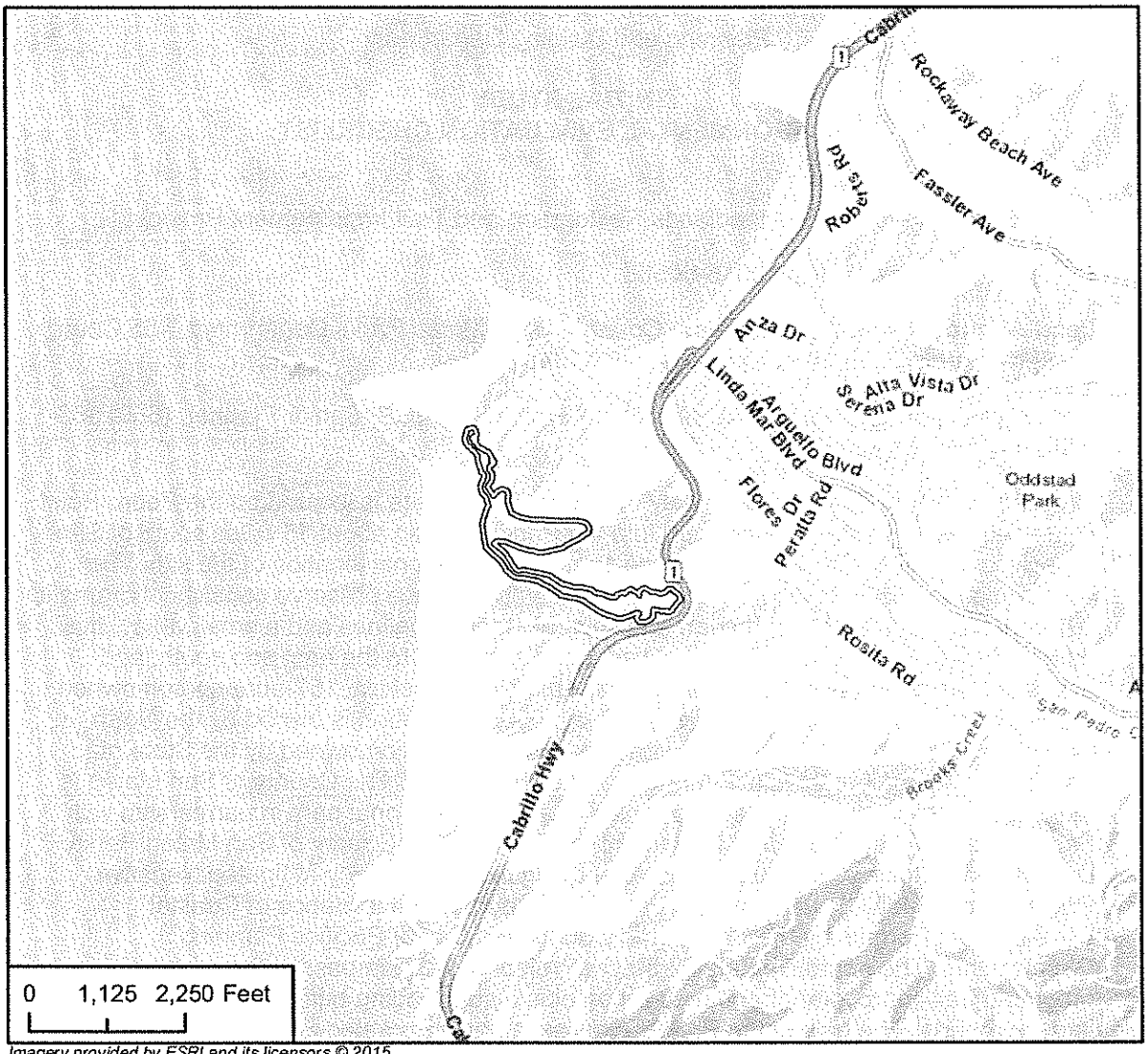
4. **Contact Person and Phone Number:** Sam Herzberg, AICP, Senior Planner, (650) 363-1823, sherzberg@smgov.org

5. **Project Location:** The approximately 32.3-acre Project site is located on the Pedro Point Headlands, which extends westward into the Pacific Ocean about 15 miles south of San Francisco in San Mateo County. **Figure 1** shows the regional location of the site. The approximately 255-acre Pedro Point Headlands open space preserve consists of dramatic 600-foot high cliffs along the ocean and several steep ridgelines and a small valley. It is bounded by the Pacific Ocean to the west and Highway 1 to the east and south, and accessible from Highway 1. The property is split into a western, 157-acre portion owned predominantly by the City of Pacifica (a small, 0.4-acre portion is owned by the North Coast County Water District) and an eastern, 98 -acre portion owned by the State of California on behalf of the California Coastal Conservancy. The County of San Mateo is moving towards acquiring these properties to add as a regional park in partnership with Pacifica Land Trust who would implement the Project. The County of San Mateo Parks Department is taking the role of Lead Agency on this Initial Study-Mitigated Negative Declaration (IS-MND), which will be used for the purpose of issuance of Coastal Development Permits by the San Mateo County and City of Pacifica Planning Departments. The approximately 32.3-acre Project site encompasses the areas of proposed trail improvement and restoration plus a surrounding buffer area within this larger property. The bulk of the Project site lies in unincorporated San Mateo County, but portions of the site are within the southern city limits of the City of Pacifica. **Figure 2**, Project Location, shows an aerial view of the Project site and surrounding area and the boundaries and ownership of parcels within the site.

6. **Assessor's Parcel Number and Size of Parcel:** The approximately 32.3-acre Project site is situated on five parcels as shown in **Table 1**. **Table 1** further identifies each Assessor's Parcel Numbers, ownership, and acreage, where **Figure 2** provides a visual representation of ownership.

Table 1
Parcels within the Project Site

Assessor's Parcel Number	Ownership	Acreage
023-730-020	California Coastal Conservancy	33.3
023-730-220	California Coastal Conservancy	40.2
023-740-020	California Coastal Conservancy	25.1
023-730-210	City of Pacifica	71.6
023-730-040	North Coast County Water District	0.4



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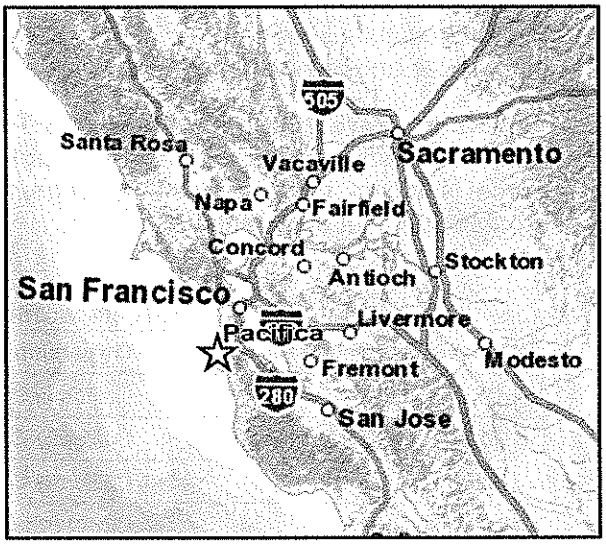
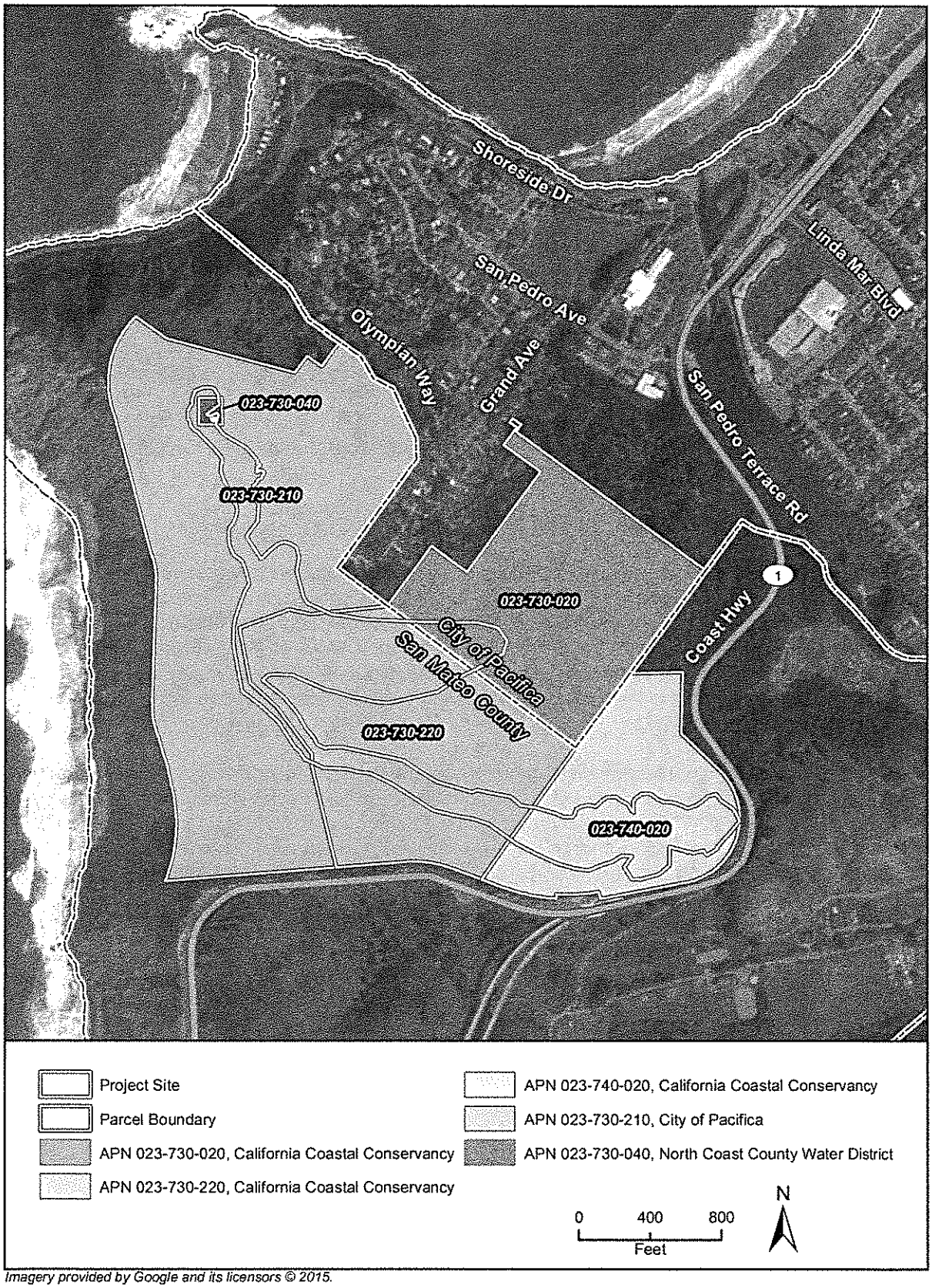
Project Site



Regional Location Figure 1



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Project Location

Figure 2

County of San Mateo

The Project would affect one of six parcels owned by the City of Pacifica on the Pedro Point Headlands: the 71.6-acre Assessor's Parcel Number 023-730-210. As noted above, the City owns 157 total acres at the headlands. The remaining 85.4 acres are primarily located on four parcels to the west of the Project site, on the steep slopes descending to the Pacific Ocean.

7. **Project Co-Sponsors' Names and Addresses:** Pacifica Land Trust, P.O. Box 988, Pacifica, CA 94044. Contacts: Deborah Fleischer, Project Manager, (415) 302-2655; Kathy Kellerman, Pacifica Land Trust Director, (650) 996-4002

   County of San Mateo Parks Department, 455 County Center – Fourth Floor, Redwood City, CA 94063. Contact: Sam Herzberg, Senior Planner, (650) 363-1823, sherzberg@smcgov.org.

8. **General Plan Designation:** San Mateo County: Open Space; City of Pacifica: Open-Space Residential

9. **Zoning:** San Mateo County: Resource Management/Coastal Zone (RM-CZ/CD); City of Pacifica: Agriculture/B-5 (A/B-5)

10. **Description of the Project:**

    The proposed Project is intended to minimize sediment transport to waterways through restoration of areas scarred by past off-road motorcycle use. Restoration would primarily involve the use of erosion and sediment control measures and native landscaping to improve the existing trail network on approximately 32.3 acres at Pedro Point Headlands. An abundance of on-site remnant trails are susceptible to erosion, dating to former off-road motorcycle use when the Pedro Point Headlands property was leased to the Pedro Point Motorcycle Club until 1992.

    While the Pedro Point Headlands is currently owned by the City of Pacifica and the California Coastal Conservancy (with a small portion owned by the North Coast County Water District [NCCWD]) and stewarded by the Pacifica Land Trust (PLT), it is anticipated that ownership and management of the property would be transferred to the San Mateo County Parks Department before construction of the Project. The Pacifica Land Trust is expected to implement the proposed Project, with funding from the California Coastal Conservancy and the California State Parks Off-Highway Motor Vehicle (OHV) Recreation Division.

    The specific goals of the Project are to restore off-road vehicle damage and improve existing trails by:

    - Properly filling and eliminating existing gullies and trail scars;
    - Re-establishing the natural topography and positive drainage within highly eroded coastal bluff areas;
    - Restoring disturbed trails and gullies to coastal prairie and coastal scrub vegetation;
    - Propagating and salvaging native plants using volunteers;
    - Incorporating a trail design and construction plan to build sustainable trails in place of ones to be decommissioned; and
    - Installing kiosks and signage to clarify wayfaring, trail usage, and interpretation.

Sustainable trails would be durable and built to minimize erosion. Proposed improvements would take place on and near four existing trails at the Project site. **Table 2** lists the primary improvements on each trail. **Figure 3** shows the existing trail network on-site, and Appendix A shows the proposed improvements to the existing trail network.

Table 2
Proposed Trail Improvements

Trail[1]	Improvements
South Ridge Trail	• Abandon existing steepened/through cut trail in southeastern portion of trail and re-align with switchbacks to the north • Abandon connecting informal trails and revegetate disturbed areas • Narrow entire existing trail and revegetate edges • Construct one lookout area for ocean views with educational signage • Construct one informational kiosk at trailhead • Install wayfinding signage • Trail would be open to hikers, equestrians, and bicyclists
Middle Ridge Trail	• Abandon and revegetate informal connections to Arroyo Trail • Narrow existing trail, slightly re-align with meander, and revegetate edges • Abandon southeastern through cut portion of trail connecting to Arroyo Trail • Construct two lookout areas for ocean views with educational signage • Trail would be open to hikers only
Bluff Trail	• Narrow and revegetate edges of trail • Form small depressions for storm water retention • Construct two lookout areas for ocean views with educational signage, one with hitching post and bike rack • Re-align northern portion of trail near connection to North Ridge Trail • Abandon and revegetate trail spurs • Install wayfinding signage • Entire trail would be open to hikers; lower portion of trail would also be open to equestrians and bicyclists up to the first lookout area

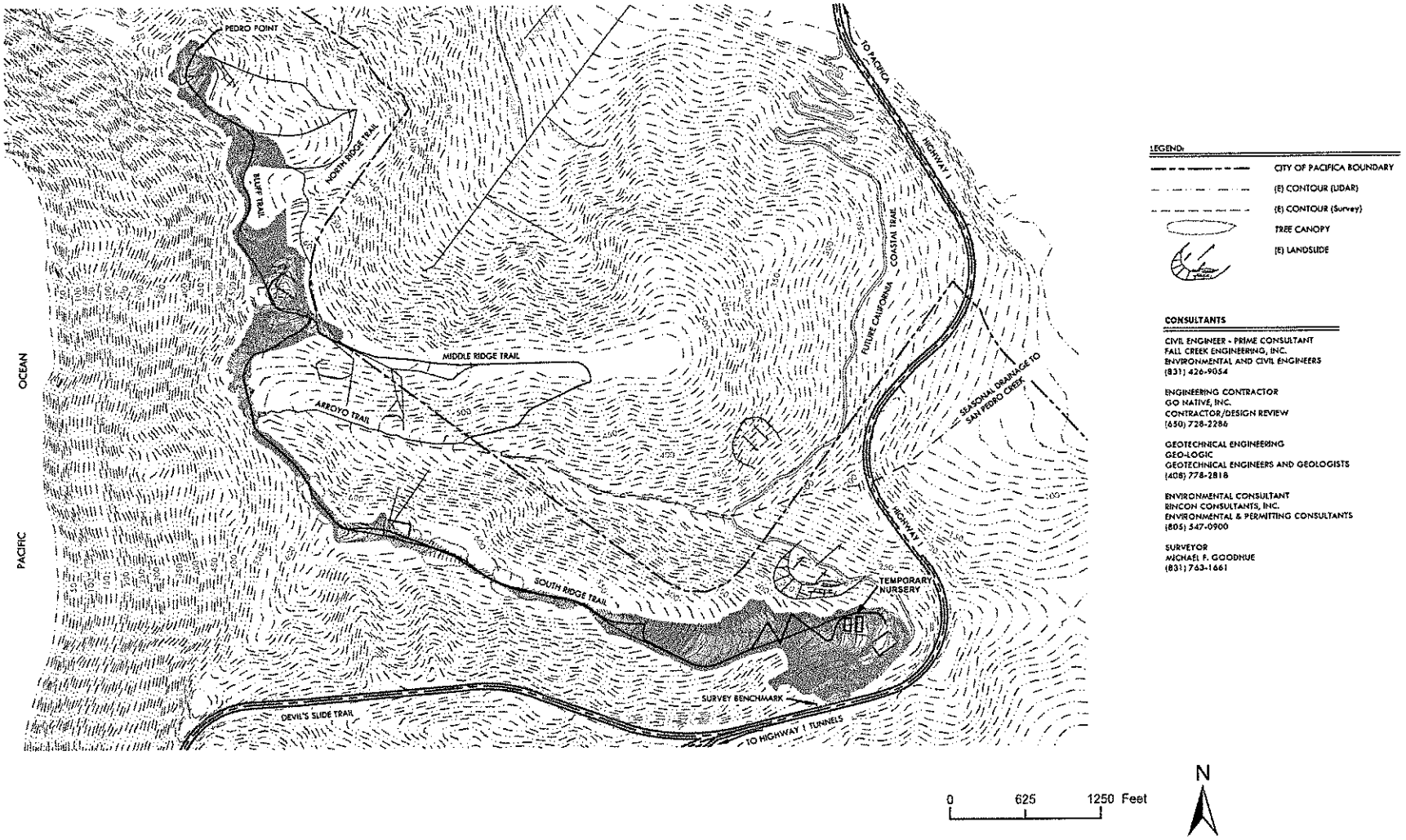
1. No improvements would occur on the North Ridge Trail.

The proposed improvements to the easternmost portion of the Middle Ridge Trail would occur within the City of Pacifica, including narrowing and revegetation of the trail, abandonment and restoration of part of the connection to the Arroyo Trail, and construction of a scenic overlook. The remainder of the Project would take place on unincorporated San Mateo County land. Within the 0.4-acre NCCWD parcel, the Project would involve re-alignment of the northern portion of the Bluff Trail, narrowing and revegetation of part of the trail, and installation of an overlook.

The Project includes both restoration elements intended to reduce erosion, and other elements that would improve the recreational value and durability of trails.

Restoration. The bulk of trail improvements would consist of restoration activities to reduce erosion and sediment transport to waterways. No prior trail design has been performed for the property and trails have been established informally. As detailed below, restoration elements would include realignment of over-steepened and through cut (or shortcut) trails, revegetation of abandoned trails, narrowing of trails to plant vegetative buffers, and installation of erosion control measures on trails and disturbed areas.

Trail Realignment. Over-steepened and informal shortcut trails would be realigned to reduce slopes and concentrated storm water runoff, thereby reducing sediment transfer



Source: *Fall Creek Engineering, Inc., January, 2016.*

Site Layout

Figure 3

County of San Mateo

into waterways and other sensitive habitats. The abandoned shortcut trails would be filled and reshaped to re-establish a natural topography: existing slopes alongside shortcut trails would be pulled in, with the soil used to fill in trail beds and create a continuous out slope. These graded areas would then be revegetated with native, micro-climate-appropriate species of shrubs, trees, or other vegetation. Planting areas would be filled with a combination of native soil and bioretention soil mix. Realigned trails would have longitudinal slopes of less than 12%, consistent with requirements in the *San Mateo County 2001 Trails Plan*, and surfaces composed of native soil.

Trail Narrowing and Revegetation. Existing trails at Pedro Point Headlands would be narrowed to five feet in width to reduce impacts to the environment and sensitive habitats, while being accessible to County Park all-terrain vehicles (Kubotas) for future trail maintenance. A one-foot buffer on each side of the narrowed five-foot-wide trails would be revegetated with low growing plants or brush that require minimal future brushing to be maintained by County Parks. In some instances, the one-foot buffers would require grading with fill material prior to revegetation.

Erosion Control Blankets. All disturbed slopes with greater than 20% grades would be seeded and covered with approximately 97,791 square feet of erosion control blankets. These blankets would consist of jute fibers, curled wood fibers, straw, coconut fiber, or a combination of these materials. All rock, clods, and vegetative or other obstructions would be removed so that the installed blankets have direct contact with the soil. Blankets would be anchored to the ground surface at the top of slope and unrolled downslope in the direction of water flow.

Fiber Rolls. Fiber rolls (also called straw wattles) would be installed along the contour of slopes across trails to slow runoff velocity and trap sediment, wherever disturbed slopes are located adjacent to a stream or drainage course. Approximately 1,850 linear feet of fiber rolls would be installed.

Out Sloping and Rolling Dips. Cross-slopes of 2-5% (out slopes) and rolling dips would be graded on trails to convey water off-trail while minimizing erosion. Rolling dips have a lead-in section, a flat bottom section where water is conveyed off the trail, and a lead-out section. The lead-in and lead-out sections are steeper than prevailing longitudinal grade of the trail.

Temporary Native Plant Nursery. A temporary nursery for the preservation and propagation of site-specific native plant species to be used in revegetation and habitat restoration would be established at the Pedro Point Headlands. The applicant intends for this on-site plant nursery to propagate disease-free plants, obviating the need for plant material from an off-site commercial nursery that could introduce plant pathogens (especially *Phytophthora* spp.) into native habitats. The nursery would not include any structures, other than two temporary water tanks (described below). The nursery facility would be set up on two existing man-made terraces near an existing gravel driveway to the site from Highway 1, encompassing an area of approximately one-quarter acre (refer to site plans in Appendix A). These terraces are highly disturbed, with scattered weedy ruderal vegetation, and worn down to bedrock in some places. Vegetation clearing would be minimal; any usable native plants would be salvaged for the nursery. Because the existing slope and drainage of the terraces is adequate for operation of the nursery, no grading, filling, or road construction would be required.

The upper terrace would have a 1,800-square-foot (30' x 60') nursery grow-out area, covered with a woven nursery ground cloth textile to suppress weeds. Plant containers would sit on pallets to minimize any ground contact. Plants would be irrigated by a drip system and hand watering.

On the middle terrace, up to 2,100 square feet (30' x 70') would be used as a work area for propagation of plants, for storage of tools and supplies, and for two temporary aboveground 1,500-gallon water tanks. Each water tank would be colored green and eight feet in diameter and six feet tall, atop a three-inch-deep pad of base rock/gravel. This gravel would later be reused for trail construction on-site. NCCWD would supply all water for use at the on-site native plant nursery. Water would be obtained from a hydrant located 1,000 feet from the nursery site at the north entrance to the Devil's Slide Trail and delivered to the tanks by truck. The tanks would be situated so that the water truck could fill them while in an existing parking and staging area. Both nursery areas would be surrounded by a six-to-eight-foot-tall post-and-wire fence for protection from animal predation and to minimize vandalism.

The temporary plant nursery would be removed and the area restored by the end of construction of the proposed Project.

Trail Improvements. The Project would involve measures to improve the recreational value and durability of a total of 1.09 miles of trail.

Full-Bench Construction. Realigned trails would be constructed on full benches, by cutting the full width of the trail into the side of existing slopes. This method of construction creates durable trails because excavated soil is not used in fill material for the trail bed.

Overlooks and Signage. Interpretive nodes with educational signs would be constructed at five overlook points on the trail network. The interpretive nodes would be small segments of the trail that would widen to eight feet, enabling trail users to rest off of the main trail, read educational signs, and enjoy outlook views. Other signs would be posted at intervals on the trail network for informational purposes, safety, and wayfinding. Signage would have wood or steel posts, concrete foundations, and plastic or painted metal signs. One of the overlook points along the Bluff Trail (where the trail transitions from bicycle and equestrian access to pedestrian only access) would have a hitching post for equestrians and a bike rack for bicycle parking.

One informational kiosk would also be installed at the entrance to the South Ridge Trail. The typical appearance of signs and kiosks is shown in the site plans in Appendix A.

Trail Use. As listed in Table 2, the South Ridge Trail and a portion of the Bluff Trail would be designed as multi-use trails, open to hikers, equestrians, and bicyclists. The Bluff Trail would allow equestrian and bicyclist use from its connection with the South Ridge Trail until its first overlook past the Middle Ridge Trail. The remainder of the Bluff Trail, up to the Pedro Summit overlook, and the Arroyo and North Ridge trails, would be open to hikers only. The exact location of proposed multi-use trails is shown in Appendix A, on Sheet C1.2 in the trail improvement plans.

Grading and Construction. It is estimated that construction of the proposed improvements would begin with installation of the temporary plant nursery in the fall of 2016 and conclude with the completion of restoration activities at the end of 2017, potentially extending to March 2018. The proposed trail improvements would run through

June 30, 2017, and could extend to the end of the year depending on the availability of funding. The temporary plant nursery would be in use until restoration work is finished at the end of 2017 or March 2018. Based on this timeline, the IS-MND assumes that the overall construction period would take up to 1.5 years. Construction would be phased to occur first in the northern section of the Project site and then in the southern section. In the first year of construction, the Bluff Trail would be closed to public use to the Pedro Summit overlook; however, the South Ridge and Arroyo trails would remain open to public access. In the second year of construction, the South Ridge Trail would be closed all the way to the Bluff Trail and a detour established to direct users to the Bluff Trail via the Arroyo Trail. During construction on each trail, signs would be posted at the trailhead to inform users of closure. When trucks are active at the Project site, contractors would be present at the entrance to the Pedro Point Headlands to prevent trails users and other trucks from entering the main access road and the South Ridge Trail. No bicycle or equestrian use would be allowed on-site during construction, and signage would indicate this restriction. Truck trips during construction would be restricted to non-peak hours on Highway 1. All trail improvements and restoration activities within the City of Pacifica would occur during the second year of construction.

Approximately 5.69 acres of the site (2.55 acres for trail improvements and 3.14 acres for restoration) would be disturbed. The total volume of graded material is estimated at approximately 4,952 cubic yards, including 2,213.1 cubic yards of cut and 2,738.5 cubic yards of fill. The Project would require an estimated net 525 cubic yards of fill. A 2,319-square-foot area at the eastern end of the South Ridge Trail would serve as a "borrow pit," supplying fill material for grading. Fill material may also be taken from the Devil's Slide area to the south of the site. Three temporary staging and stockpile areas totaling 18,000 square feet would be located on-site during construction: one on the east side of the Bluff Trail, one on the north side of the South Ridge Trail, and another on the south side of the South Ridge Trail near the borrow pit. A backhoe and small excavator would be used for grading, and construction vehicles would access the site by an existing entrance on the north side of Highway 1. As noted above, no grading would be necessary for construction of the temporary plant nursery.

Temporary erosion control measures during construction would vary depending on the time of year. For any construction taking place between April 15 and October 15, erosion control measures would be applied during inclement weather. After October 15, exposed soil not involved in immediate construction activity would be protected from erosion at all times. Silt traps, filter berms, or other measures would prevent discharge of turbid water to nearby waterways. Any material stockpiled on-site would be covered with plastic and secured with staked wattles, especially during the winter months or periods of rain. Erosion control measures would be held in place until native vegetation has been established and provides necessary slope cover (minimum 70% cover). All slopes disturbed and exposed during construction, if not permanently landscaped, would be protected from erosion by mulching and/or hand-broadcasting of the following seed mix:

- *Bromus carinatus*;
- *Danthonia californica;*
- *Elymus glaucus*;
- *Festuca rubra*;
- *Stipa pulchra*;
- *Stipa lepida*; and
- *Koeleria macrantha.*

Site Access. The Project would not involve changes to parking and access. The Pedro Point Headlands would remain accessible by a trailhead to the California Coastal Trail on the north side of Highway 1. Parking would be available at nearby pull-offs on Highway 1 and to the west at the northern Devil's Slide Trail parking lot.

11. **Surrounding Land Uses and Setting:**

Project Site. The Project site is located on the Pedro Point Headlands, which is the western terminus of the Montara Mountain at the Pacific Ocean. The site area is made up of entirely undeveloped open space with approximately three miles of existing walking trails that are currently accessed by hikers and equestrians. The majority of the site area is made up of open space dominated by scrub as well as planted Monterey pine. The western border is made up of very steep, ocean-facing slopes that do not provide access to the beach below. The existing trial network throughout the site is degraded by past motor vehicle use. **Figures 4a through 4d** show existing conditions on-site.

Surrounding Area. Lands immediately surrounding the Project site are largely undeveloped with the exception of some single family residences to the north, which is the only development directly adjacent to the Project area (at the end of Grand Avenue in the City of Pacifica to the north). West of the Project area are very steep slopes that lead directly into the Pacific Ocean. Directly to the east is Highway 1 with some equestrian land use on the far side of Highway 1. South of the Project area is open space comprised of unincorporated San Mateo County land along the California Coastal Trail and the northern end of McNee Ranch State Park. The City of Pacifica lies to the north and east of the Project site. The majority of the land within the City of Pacifica and in proximity to the Project is made up of single-family residences with some commercial development. **Figures 5a and 5b** show existing conditions in the surrounding area.

12. **Other Public Agencies Whose Approval is Required:**

- San Mateo County
  - Adoption of CEQA Document
  - Approval of Coastal Development Permit
- City of Pacifica
  - Approval of Coastal Development Permit
- Caltrans
  - Approval of Encroachment Permit
- San Francisco Bay Regional Water Quality Control Board
  - Storm Water Pollution Prevention Plan

Photo 1: The Middle Ridge Trail looking southeast toward Montara Mountain.

Photo 2: A barren and grassland area by the South Ridge Trail, looking east toward Monterey pine trees.

Site Photographs Figure 4a

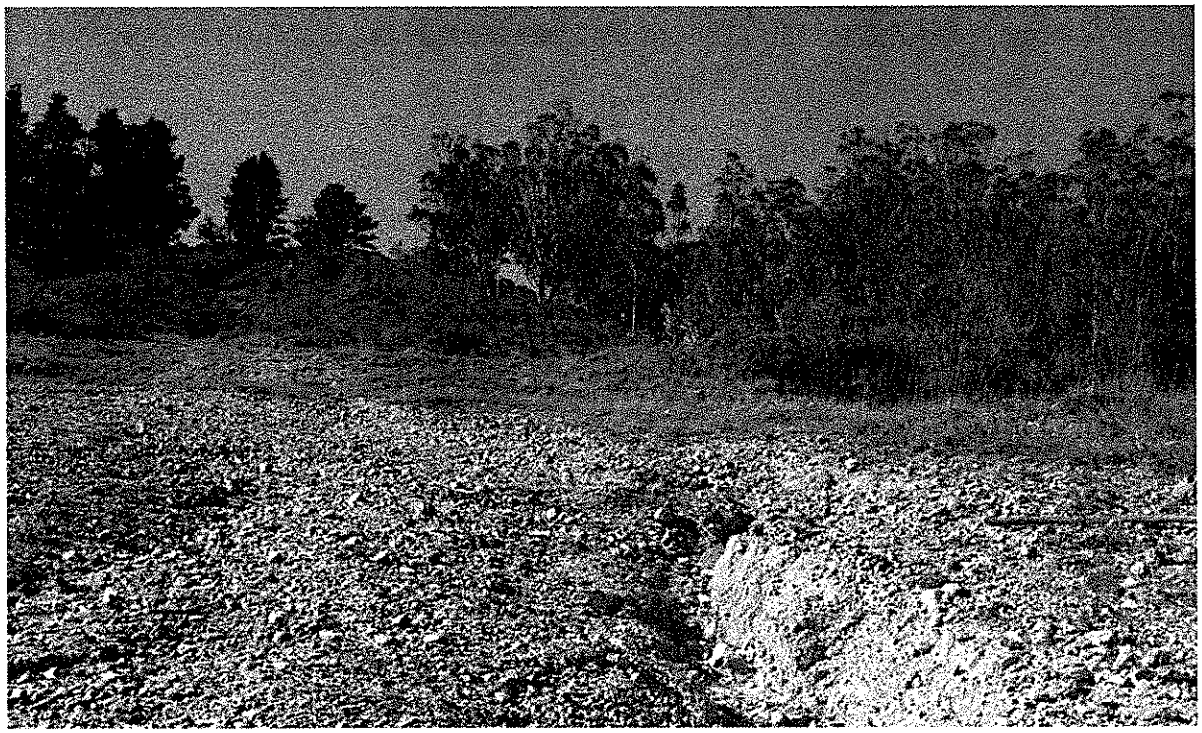


Photo 3: Westward view of an eroded informal trail south of the South Ridge Trail.

Photo 4: Existing restoration efforts with netting along the Bluff Trail.

Site Photographs Figure 4b

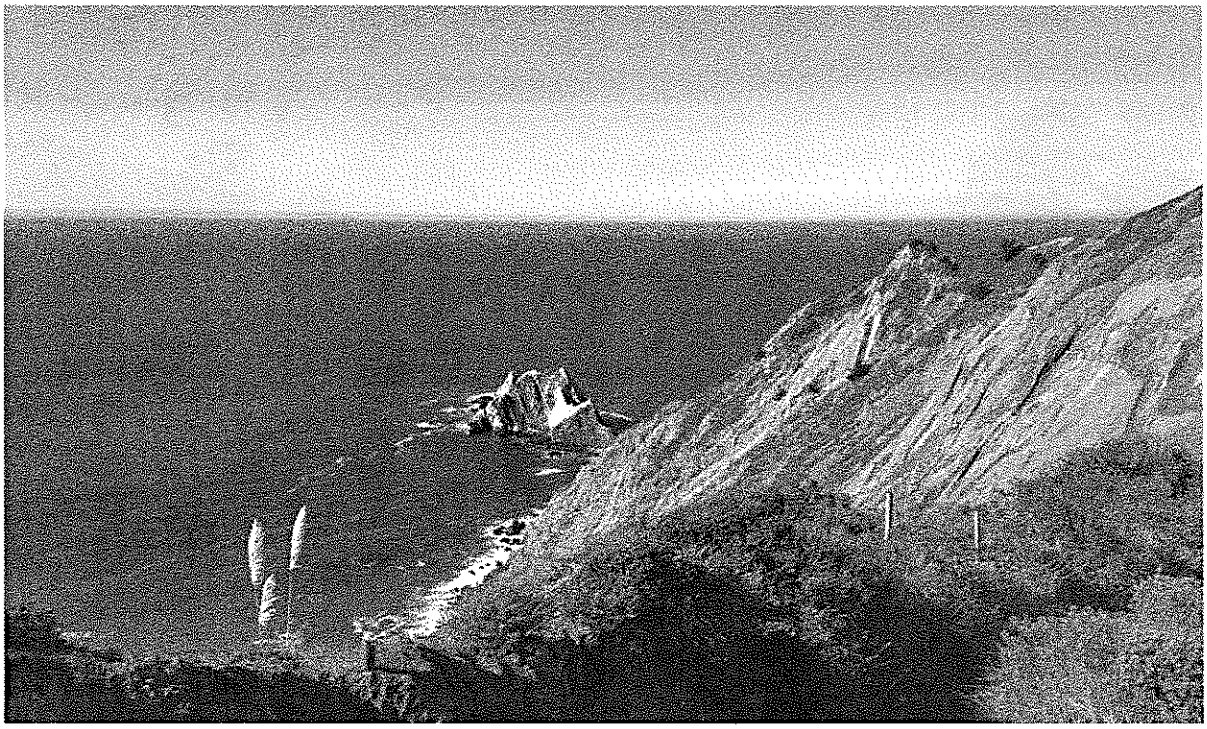


Photo 5: San Pedro Rock to northwest of the Bluff Trail.

Photo 6: Northward overlook on South Ridge Trail of the Pacifica, San Francisco, and Marin County coastline.

Site Photographs Figure 4c

Photo 7: Valley in Pedro Point Headlands, looking southeast from Bluff Trail.

Photo 8: Eucalyptus forest at intersection of Arroyo Trail and future California Coastal Trail.

Site Photographs Figure 4d

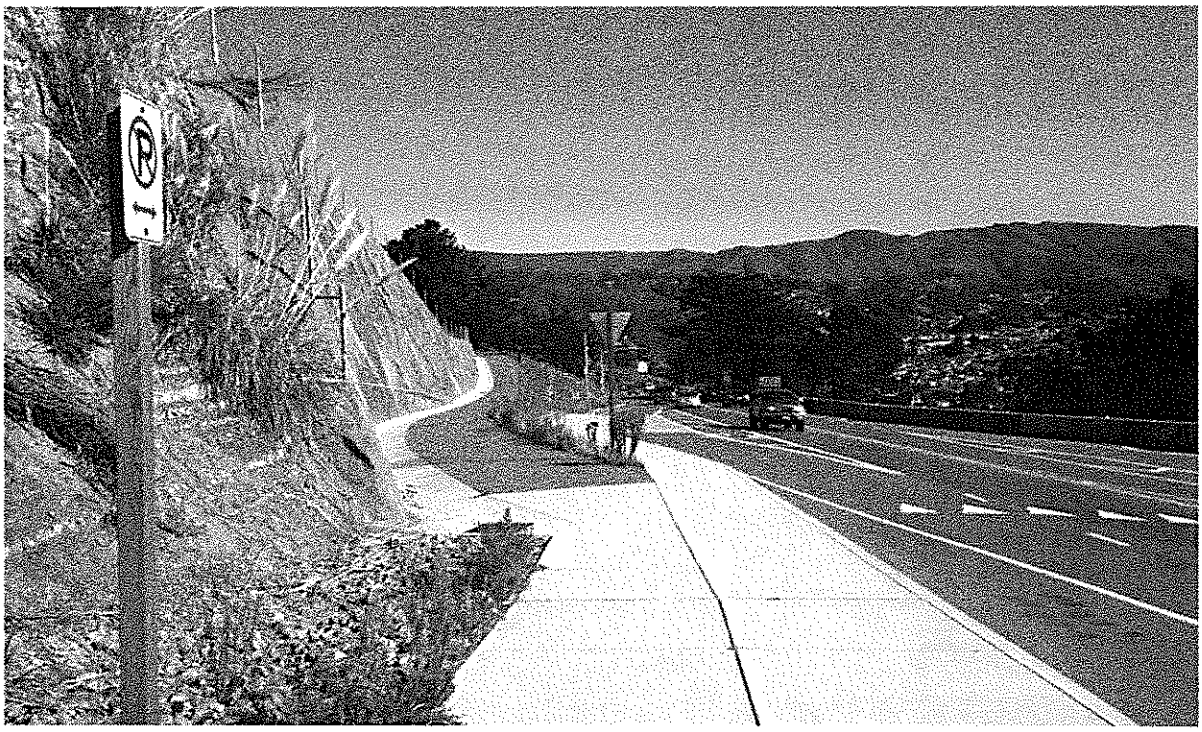


Photo 1: California Coastal Trail segment and Highway 1, looking east from Devil's Slide Trail toward Pedro Point Headlands gate.

Photo 2: Southward overlook on South Ridge Trail of Highway 1 at Devil's Slide Tunnel.

Surrounding Area Photographs Figure 5a

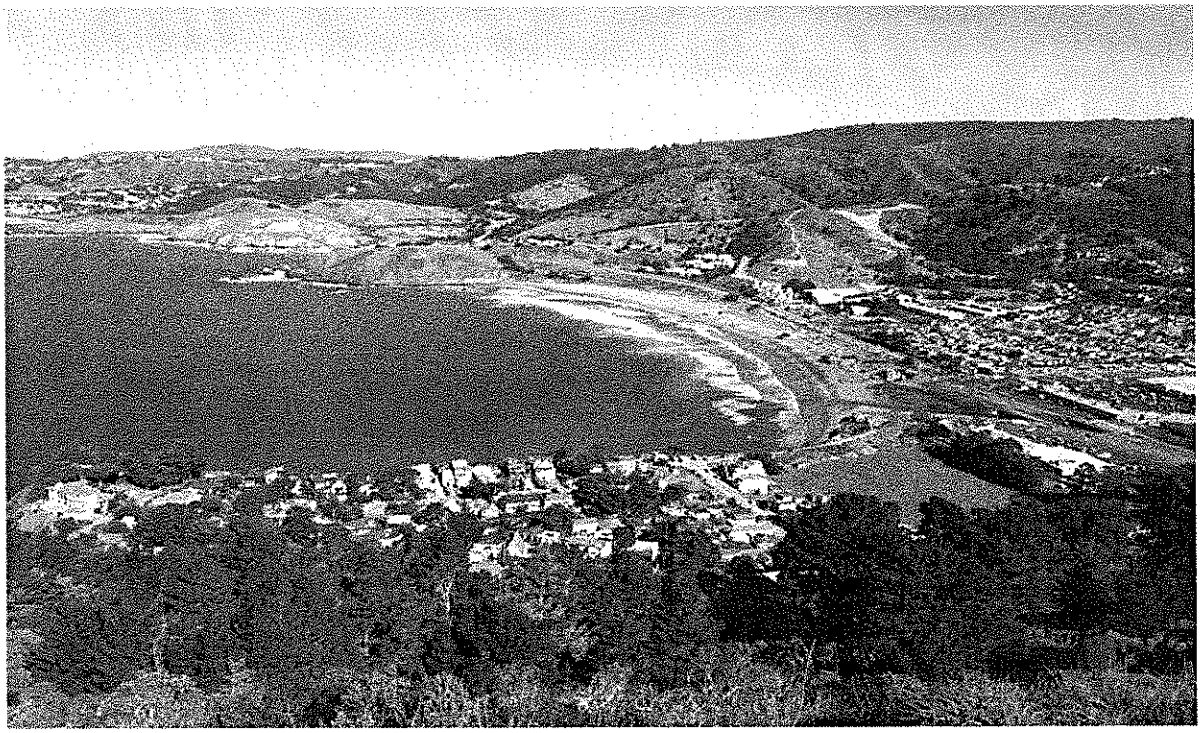


Photo 3: Residences in City of Pacifica to north of Pedro Summit overlook on Bluff Trail.

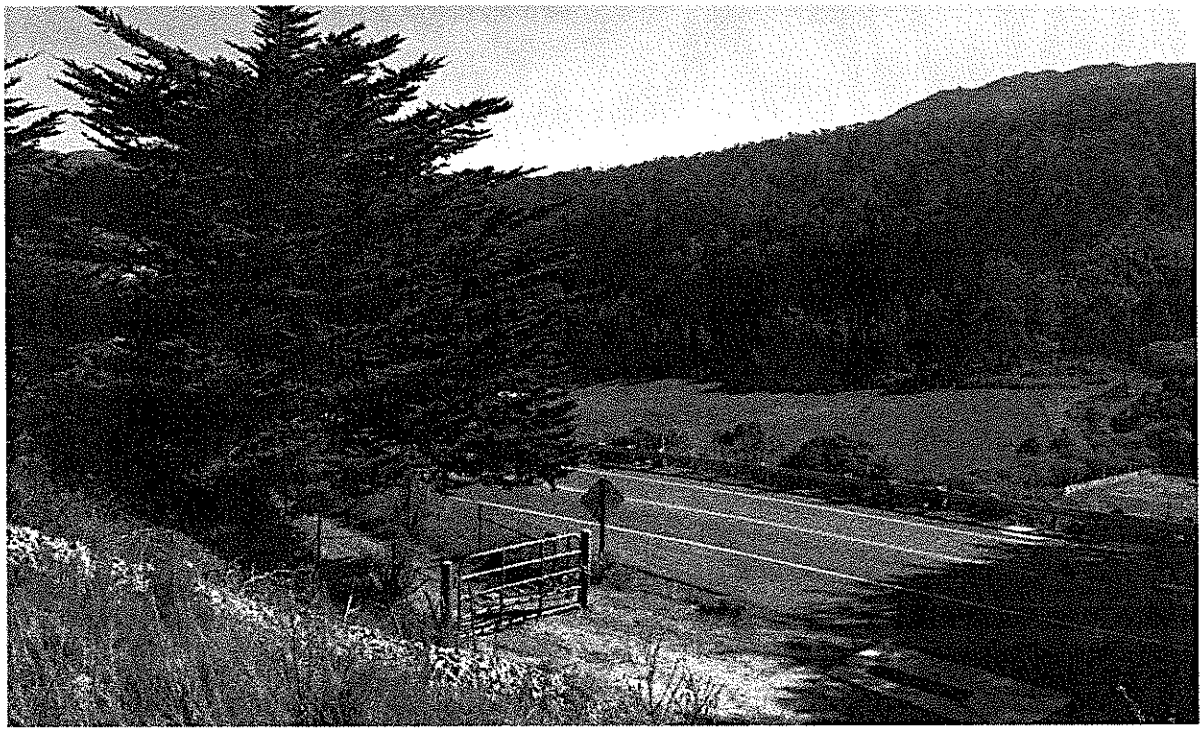


Photo 4: Horse grazing area at Shamrock Ranch to southeast of Highway 1.

Surrounding Area Photographs Figure 5b

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

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

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

EVALUATION OF ENVIRONMENTAL IMPACTS

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

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

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

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

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

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

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

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

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

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

1. **AESTHETICS.**

Environmental Setting: The Project site consists of undeveloped open space with a rugged topography in the Pedro Point Headlands. Three parallel ridges separated by narrow valleys run roughly in an east-west direction across the Project site. These ridges and valleys generally slope down from the western edge of the site toward Highway 1 to the east. The western border of the property, outside the approximately 32.3-acre Project site, is made up of very steep, ocean-facing slopes. As shown in **Figures 4a through 4d**, scrub vegetation predominates, with pockets of planted Monterey pine. Approximately three miles of existing trails provide access to all three ridges, the western bluff, and the southern valley. Wooden posts with signage mark the intersections of formal trails on the Project site. Trail scars with barren, eroded ground from past off-road motorcycle use are visible in several locations along the South Ridge Trail, the Bluff Trail, the Middle Ridge Trail, and the Arroyo Trail. The Pacifica Land Trust has closed off some trail scars along the Bluff Trail with posts and rope for the purpose of restoration.

Public trails on the Project site offer spectacular scenic views in all directions of attractive visible elements of the natural and developed landscape. As shown in **Figures 4a and 4c**, trail overlooks face the Devil's Slide coastline to the south; San Pedro Rock in the Pacific Ocean to the northwest; the coastline up to San Francisco, the Golden Gate Bridge, and Marin to the north; the City of Pacifica to the northeast; and Montara Mountain to the southeast. The northern end of the Bluff Trail at Pedro Summit, with an elevation of approximately 650 feet, provides the most panoramic scenic views toward the Pacific Ocean, the coastline, and the City of Pacifica.

Goals and policies in the San Mateo County General Plan (1986) to protect visual quality would apply to the majority of the Project site which consists of unincorporated County land. Goal 4.1 would protect and enhance the natural visual quality of the County. Policy 4.29 is to preserve natural vegetation, replace vegetation and trees removed during construction, use native plant materials compatible with the surrounding vegetation, climate, soil, and ecological characteristics, and provide special protection to large and native trees. The City of Pacifica General Plan (1980) has policies for aesthetics that would apply to the portion of the Project site that is within city limits. Policy 2 in the City's Scenic Highways Element would

encourage the protection of scenic corridors. In addition, Policy 1 in the City's Open Space Element is to retain open space that protects visual amenities, and Policy 3 in the Community Design Element is to protect the City's "irreplaceable scenic and visual amenities."

Would the Project:

		Potentially Significant Impacts	*Significant Unless Mitigated*	*Less Than Significant Impact*	*No Impact*
1.a.	Have a significant adverse effect on a scenic vista, views from existing residential areas, public lands, water bodies, or roads?				X

Discussion: As discussed above, public trails on the Project site offer spectacular scenic views in all directions of attractive visible elements of the natural and developed landscape. The proposed restoration of trails at Pedro Point Headlands would alter the foreground of scenic views from public lands on the Project site. During the anticipated construction period of up to 1.5 years, earth-moving activities with a backhoe and small excavator on approximately 78,000 square feet on-site would disrupt public views from the trail system. One temporary staging and stockpile area on the east side of the Bluff Trail and two along the South Ridge Trail also would be visible within the Project site during construction, but would not be prominent from offsite viewpoints. In addition, the proposed temporary native plant nursery, a surrounding six- to-eight-foot-tall post-and-wire fence, and two associated eight-foot-tall water tanks would be visible to the south of the South Ridge Trail near its trailhead. After the completion of restoration activities and removal of the temporary plant nursery, however, the Project would improve scenic views in the long term. The revegetation of over-steepened and informal shortcut trails from past off-road motorcycle use would improve the visual integrity of the natural scrub landscape in the foreground of scenic views. Interpretive nodes at five overlook points on the trail network also would improve the setting of scenic viewpoints. These eight-foot-wide nodes would enable trail users to rest off of the main trail and enjoy scenic views, while educational signs would provide background information on views. The Project would not include construction of any structures that could obstruct scenic views from public lands.

An existing residential area located as close as 350 feet north of the Project site has limited views of the site. The steep North Ridge and trees on its slopes obstruct long-distance views across the site. Although construction activities at Pedro Summit and the North Ridge Trail could be partially visible from thee residences, any adverse effects on scenic views would be temporary. The proposed trail improvement and restoration activities would improve scenic views in the long term. Impacts on scenic vistas from roads (i.e., Highway 1) are discussed below in Items 1.b and 1.e. No inland water bodies provide views of the Project site.

Conclusion: By improving public access to overlooks on the trail network and restoring trail scars, the Project would have a beneficial overall impact on scenic views.

Source: Project Plans, 2015. City of Pacifica, General Plan, 1980. San Mateo County, General Plan, 1986.

1.b.	Significantly damage or destroy scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?				X

Discussion: The Project would involve the removal of nine (9) Monterey pine (*pinus radiata*) trees within the project site, all within the City of Pacifica. No trees would be removed within the County of San Mateo. Chapter 12 of the Pacifica Municipal Code (Preservation of Heritage Trees) stipulates regulations designed to preserve and protect heritage trees on private or city-owned property. Heritage trees are defined as any trees within the City of Pacifica, exclusive of eucalyptus, which have a trunk with a circumference of fifty (50") inches [approximately sixteen (16") inches in diameter] or more, measured at twenty-four (24") inches above the natural grade. Of the nine trees to be removed, seven have a circumference greater than twenty-four (24) inches. Tree removal permits would be required for the removal of these seven trees.

The project would not damage or destroy any rock outcroppings. In addition, no historic buildings occur at the Pedro Point Headlands. Although seven trees would be removed, no eligible or State-designated scenic highway is located in the vicinity of the Project site (Caltrans, 2013). (See Item 1.e for a discussion of impacts to the County-designated scenic corridor of Highway 1.) Therefore, the Project would not significant damage or destroy these scenic resources within a state scenic highway.

Conclusion: The Project would have no impact on scenic resources.

Source: Caltrans, Scenic Highway Program, List of Eligible and Officially Designated State Scenic Highways, May 2015.

1.c. Significantly degrade the existing visual character or quality of the site and its surroundings, including significant change in topography or ground surface relief features, and/or development on a ridgeline?				X

Discussion: The Project would improve the existing natural visual character of the Pedro Point Headlands over the long term. On a temporary basis, two eight-foot-tall water tanks associated with the proposed native plant nursery to the south of the South Ridge Trail would degrade the site's natural visual character from the perspective of trail users. Earth-moving activities would impair the site's natural visual character during the anticipated construction period of up to 1.5 years. During construction, one temporary staging and stockpile area on the east side of the Bluff Trail and two along the South Ridge Trail also would be visible from the trail network but not from Highway 1). However, the Project would involve restoration of over-steepened and shortcut trails that from past off-road motorcycle use that currently scar the natural scrub landscape. Abandoned shortcut trails would be filled and reshaped to re-establish a natural topography, then revegetated with native species. The surface of realigned trails would consist of native soil, which would be visually compatible with the natural landscape. In addition, the edges of wide trails would be revegetated to reduce the usable width to no less than five feet so that San Mateo County Parks can access trails for maintenance or emergency evacuation with a Kubota utility vehicle. These activities would restore the natural visual character of the Pedro Point Headlands and reduce the footprint of disturbance from the trail network, improving overall visual quality. Interpretive nodes would introduce educational signage with wood or steel posts, concrete foundations, and plastic or painted metal signs at five overlook points. These educational signs would not substantially alter or visually intrude on the site's visual character and, as discussed in Item 1.a, would provide a context for scenic views. The Project would not significantly change topography or ground surface relief features, and would not involve development on a ridgeline.

Conclusion: Aesthetic impacts associated with construction would be temporary, and the Project would have a beneficial overall impact on visual character and quality.

Source: Project Plans, 2015.

1.d.	Create a new source of significant light or glare that would adversely affect day or nighttime views in the area?				X

Discussion: The Project would not create any sources of light or glare as no exterior lighting or nighttime construction is proposed.

Conclusion: No impact would occur.

Source: Project Plans, 2015.

1.e.	Be adjacent to a designated Scenic Highway or within a State or County Scenic Corridor?			X	

Discussion: As discussed in Item 1.b, the Project site is not located adjacent to a State-designated scenic highway; however, Table 4.6 in the San Mateo County General Plan (1986) lists the Cabrillo Highway (Highway 1) as a County-designated scenic road from the Junipero Serra Freeway to the northern limits of the City of Half Moon Bay, a segment which passes by the eastern and southern sides of the Pedro Point Headlands (San Mateo, 1986). Policy 4.12 in the County General Plan defines a scenic corridor as "land adjacent to a scenic road right-of-way which, when seen from the road, provides outstanding views of natural landscapes and attractive man-made development." In the Project area, a scenic corridor covers the southeastern, southern, and southwestern edges of the site, which include the areas visible from Highway 1 and the Devil's Slide Trail (a former segment of the highway). Project features within this scenic corridor would include the proposed stabilized construction entrance, staging and stockpile area, borrow pit, temporary native plant nursery, trail improvements on portions of the South Ridge Trail, and the closure and revegetation of several informal trails connecting to the South Ridge Trail (San Mateo County, GIS, 2015). The Project would not substantially affect scenic views from Highway 1 because an extensive grove of eucalyptus trees alongside the roadway from the southern city limits of Pacifica to near the Devil's Slide Trail obstructs views toward the Pedro Point Headlands. The proposed temporary plant nursery and eight-foot-tall water tanks by the staging and stockpile area south of the South Ridge Trail would not be visible from the perspective of Highway 1 because of the surrounding topography and the nursery's elevated position above the highway. In the context of natural open space at the Pedro Point Headlands, the green-colored water tanks would not be visually obtrusive. Furthermore, no buildings or structures are proposed that would alter the scenic qualities of views from the Devil's Slide Trail. The temporary water tanks would not be visible from the Devil's Slide Trail because of intervening slopes to the north of the Devil's Slide Trail at the Pedro Point Headlands. Although proposed trail improvements involving the realignment of trails and the removal of up to ten trees would result in permanent loss of vegetation that has scenic qualities, the overall change in vegetative cover would be minor due to revegetation of narrowed trails and abandoned trails. Therefore, the Project would not substantially alter existing scenic views from the Devil's Slide Trail of vegetation at the Pedro Point Headlands.

Conclusion: Although the Project site is part of a scenic corridor, it would have a less than significant impact on this corridor.

Sources: San Mateo County, General Plan, 1986. San Mateo County, Planning and Building Department, GIS, 2015.

1.f.	If within a Design Review District, conflict with applicable General Plan or Zoning Ordinance provisions?				X

Discussion: San Mateo County has design review districts for the areas of Bayside, Emerald Lake, and the coast from Montara to Miramar. The Project site is not located within any of these design review districts. Implementation of the Project would not conflict with Zoning Ordinance provisions.

Conclusion: No impact would occur.

Source: San Mateo County, Design Review website, 2015.

1.g.	Visually intrude into an area having natural scenic qualities?			X	

Discussion: See the discussion under Item 1.c. The Project would not visually intrude into an area having natural scenic qualities.

Conclusion: Impacts would be less than significant.

2. AGRICULTURAL AND FOREST RESOURCES. In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the State's inventory of forestland, including the Forest and Range Assessment Project and the Forest Legacy Assessment Project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board.

Environmental Setting: The Project site is an open space preserve stewarded by the Pacifica Land Trust. Existing zoning on-site is Resources Management/Coastal Zone (RM-CZ/CD) in San Mateo County and Agriculture/B-5 (A/B-5) in the City of Pacifica. Although the portion of the site within the City of Pacifica is zoned for agricultural use, public parks are a permitted use in the A/B-5 zone. The site is not used for farming, grazing, forest land, or timberland. The Project area is not under a Williamson Act contract and no Williamson Act land is located in the vicinity of the Project site.

Would the Project:

		Potentially Significant Impacts	***Significant Unless Mitigated***	***Less Than Significant Impact***	***No Impact***
2.a.	For lands outside the Coastal Zone, convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland) as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?				X

Discussion: The California Department of Conservation (DOC), Office of Land Conservation, maintains a statewide inventory of farmlands. These lands are mapped by the Division of Land Resource Protection as part of the Farmland Mapping and Monitoring Program (FMMP). The maps are updated every two years with the use of aerial photographs, a computer mapping system, public review, and field reconnaissance. Important farmlands are divided into the following five categories based on their suitability for agriculture:

- *Prime Farmland is land that has the best combination of physical and chemical characteristics for crop production. It has the soil quality, growing season, and moisture supply needed to produce sustained high yields of crops when treated and managed.*
- *Farmland of Statewide Importance is land other than Prime Farmland that has a good combination of physical and chemical characteristics for crop production.*
- *Unique Farmland is land that does not meet the criteria for Prime Farmland or Farmland of Statewide Importance, but has been used for the production of specific crops with high economic value.*
- *Farmland of Local Importance is either currently producing crops or has the capability of production, but does not meet the criteria of the categories above.*
- *Grazing Land is land on which the vegetation is suited to grazing livestock.*

Because the Project site is located in the Coastal Zone, the above threshold for conversion of Important Farmland would not apply to the Project. Moreover, the Project site and vicinity are designated as Other Land under the FMMP, indicating that they do not have value for agricultural production or grazing (DOC, 2015).

Conclusion: The Project would not convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance outside the Coastal Zone to a non-agricultural use, and no impact would occur.

Source: DOC, California Important Farmland Finder, 2014.

2.b.	Conflict with existing zoning for agricultural use, an existing Open Space Easement, or a Williamson Act contract?				X

Discussion: The Project site is zoned Agriculture/B-5 (A/B-5) within the City of Pacifica. Although this portion of the site is zoned for agricultural use, Section 9-4.1901 of the Pacifica Municipal Code allows public parks as a permitted use in the A/B-5 zone. Therefore, the proposed improvements to the open space area at Pedro Point Headlands would not conflict with existing zoning for agricultural use. The site also is not under an existing Open Space Easement or a Williamson Act contract.

Conclusion: No impact would occur.

Source: City of Pacifica, Municipal Code, 2015. San Mateo County, GIS, 2015. San Mateo County, Zoning Regulations, 2012.

2.c.	Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to non-agricultural use or conversion of forestland to non-forest use?				X

Discussion: The nearest agricultural site to the Pedro Point Headlands is the Shamrock Ranch, a dog and cat kennel and horse-boarding property located across Highway 1 to the northeast. The proposed restoration and trail improvement Project would not affect agricultural operations at this property or result in its conversion to non-agricultural use. Furthermore, because the Project site is not currently under use for agriculture or forestry, the Project would not result in conversion of such uses.

Conclusion: No impact from other changes in the existing environment would occur.

Source: San Mateo County, GIS, 2015.

2.d.	For lands within the Coastal Zone, convert or divide lands identified as Class I or Class II Agriculture Soils and Class III Soils rated good or very good for artichokes or Brussels sprouts?				X

Discussion: The Pedro Point Headlands are located within the Coastal Zone in San Mateo County. While the U.S. Department of Agriculture's Web Soil Survey does not have available data on the Capability Class of soils at a usable resolution for the Project site (USDA, 2015), the site is a natural open space area with steep topography that is not suitable for agricultural cultivation. Therefore, the Project would not convert or divide lands identified as Class I, Class II, or Class III soils rated good or very good for artichokes or Brussels sprouts.

Conclusion: No impact would occur.

Source: USDA, Web Soil Survey, 2015.

2.e.	Result in damage to soil capability or loss of agricultural land?				X

Discussion: As discussed under Item 2.d, the Project site is a natural open space area that is not suitable for agricultural production. The Project would not result in damage to soil capability or loss of agricultural land.

Conclusion: No impact would occur.

2.f.	Conflict with existing zoning for, or cause rezoning of, forestland (as defined in Public Resources Code Section 12220(g)), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))? *Note to reader: This question seeks to address the economic impact of converting forestland to a non-timber harvesting use.*				X

Discussion: Pursuant to Public Resources Code Section 12220(g), "forest land" is land that can support 10% native tree cover of any species. Timberland, according to Public Resources Code Section 4526, refers to land which is available for and capable of growing a crop of trees of a commercial species used to produce lumber and other forest products. The only portions of the Project site that might contain trees with a canopy of greater than 10% of total cover are the eastern

parts of the Middle Ridge and South Ridge trails, which have clusters of Monterey pine forest (a non-native species at the Pedro Point Headlands). However, these areas of the site are zoned RM-CZ/CD in San Mateo County and A/B-5 in the City of Pacifica, and are not zoned for forestland or timberland. The Project would not cause the rezoning of forest or timberland.

Conclusion: No impact would occur.

Source: Google Earth, 2015. Public Resources Code Section 12220(g).

3. **AIR QUALITY.**

Environmental Setting: Federal and state standards have been established for six criteria air pollutants, including ozone (O_3), carbon monoxide (CO), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), particulates less than 10 and 2.5 microns in diameter (PM_{10} and $PM_{2.5}$), and lead (Pb). California has also set standards for sulfates, hydrogen sulfide, vinyl chloride, and visibility-reducing particles. **Table 3** lists the current federal and state standards for criteria pollutants.

The Project site lies within the San Francisco Bay Area Air Basin (SFBAAB), under the jurisdiction of the Bay Area Air Quality Management District (BAAQMD). The local air quality management agency is required to monitor air pollutant levels to ensure that the air quality standards are met and, if they are not met, to develop strategies to meet the standards. Depending on whether the standards are met or exceeded, the air basin is classified as being in "attainment" or "nonattainment." The SFBAAB is in nonattainment for both the federal and state standards for ozone, the federal standard for NO_2, as well as the state standard for particulate matter (PM_{10} and $PM_{2.5}$) and the federal standard for 24 hour $PM_{2.5}$. The BAAQMD has adopted a Clean Air Plan (CAP) that provides a strategy for the attainment of state and federal air quality standards. To comply with the California Clean Air Act, the BAAQMD and its cooperating partners adopted the 2005 Ozone Strategy. The BAAQMD has made updates to the 2005 Ozone Strategy and included those updates in the 2010 Clean Air Plan.

Table 3
Current Federal and State Ambient Air Quality Standards

Pollutant	Federal Standard	California Standard
Ozone	0.070 ppm (8-hr avg)	0.09 ppm (1-hr avg) 0.070 ppm (8-hr avg)
Carbon Monoxide	35 ppm (1-hr avg) 9 ppm (8-hr avg)	20 ppm (1-hr avg) 9.0 ppm (8-hr avg)
Nitrogen Dioxide	0.10 ppm (1-hr avg) 0.053 ppm (annual avg)	0.18 ppm (1-hr avg) 0.030 ppm (annual avg)
Sulfur Dioxide	0.075 ppm (1-hr avg) 0.14 ppm (24-hr avg) 0.030 ppm (annual avg)	0.25 ppm (1-hr avg) 0.04 ppm (24-hr avg)
Lead	1.5 $\mu g/m^3$ (calendar quarter) 0.15 $\mu g/m^3$ (rolling 3-mth avg)	1.5 $\mu g/m^3$ (30-day avg)
Particulate Matter (PM_{10})	150 $\mu g/m^3$ (24-hr avg)	50 $\mu g/m^3$ (24-hr avg) 20 $\mu g/m^3$ (annual avg)
Particulate Matter ($PM_{2.5}$)	35 $\mu g/m^3$ (24-hr avg) 12 $\mu g/m^3$ (annual avg)	12 $\mu g/m^3$ (annual avg)

ppm= parts per million

$\mu g/m^3$ = micrograms per cubic meter

avg = average

Source: California Air Resources Board, www.arb.ca.gov/research/aaqs/aaqs2.pdf, *October 1, 2015.*

Project emissions for construction have been modeled using the California Emissions Estimator Model (CalEEMod) air quality modeling program (version 2013.2.2), based on the total proposed area of disturbance and the number of trips required for Project construction.

Would the Project:

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

Discussion: The Project would result in temporary emissions during the anticipated period of up to 1.5 years when the construction equipment would be in use. As discussed in Section 16, *Transportation/Traffic*, the Project would not contribute to urban growth or generate additional visitorship and associated vehicle trips to the Pedro Point Headlands. Therefore, the Project would not introduce new long-term sources of air pollutants into the SFBAAB. The Project would not conflict with or obstruct implementation of any applicable air quality management plans due to the small size, short duration, and the temporary nature of the Project elements.

Conclusion: No impact would occur.

Source: BAAQMD, 2010 Clean Air Plan.

3.b.	Violate any air quality standard or contribute significantly to an existing or projected air quality violation?		X		

Discussion: The restoration and trail improvement Project would not introduce new permanent sources of air emissions into the SFBAAB: it does not involve new land uses, would not contribute to urban growth, and would not generate visitorship at the Pedro Point Headlands that is additional to existing use of the open space area. Visitors currently access the Project site via parking lots at the northern and southern trailheads of the Devil's Slide Trail, Pacifica weekend shuttles, and SamTrans buses. There is no access from the City of Pacifica via trail.

The Project would result in temporary emissions for the duration of the work that involves use of construction equipment. These impacts are associated with fugitive dust (PM_{10} and $PM_{2.5}$) and exhaust emissions from the use of a backhoe and small excavator to grade areas for restoration and trail improvements.

The following significance thresholds for construction emissions within the SFBAAB are based on the 2010 BAAQMD proposed thresholds of significance:

- *54 pounds per day of ROG*
- *54 pounds per day of NO_x*
- *82 pounds per day of PM_{10} (exhaust only)*
- *54 pounds per day of $PM_{2.5}$ (exhaust only)*

Although it is anticipated that construction activity for the Project may last for 1.5 years (or 18 months), from the fall of 2016 to March 2018, the CalEEMod analysis conservatively assumes that construction would occur on a shorter timeframe of approximately 15 months (by the end of 2017), without a possible extension to March 2018. This condensed construction schedule would result in somewhat higher maximum emissions per day, and is therefore a more conservative assessment of air emissions. The Project would require an estimated net 525 cubic yards of fill. An area at the eastern end of the South Ridge Trail would serve as a "borrow pit," supplying fill material for grading. This analysis assumes that the net 525 cubic yards of fill would be excavated from the on-site borrow pit and that no truck trips would be required to import fill from an off-site location. The CalEEMod calculations are available in Appendix B. **Table 4** summarizes the estimated maximum daily construction emissions of ROG, NO_X, CO, PM_{10}, and $PM_{2.5}$ relative to the significance thresholds.

Table 4
Estimated Maximum Daily Emissions During Construction (lbs/day)

	Pollutant				
	ROG	**NO_X**	**CO**	**PM_{10}**	**$PM_{2.5}$**
Maximum total lbs/day	3.0	31.9	21.7	1.7	1.6
Threshold	**54**	**54**	**None**	**82 (exhaust only)**	**54 (exhaust only)**
Threshold Exceeded?	***No***	***No***	***No***	***No***	***No***

Notes: All calculations were made using CalEEMod. See Appendix B for calculations. Site Preparation, Grading, Construction totals include worker trips, construction vehicle emissions and fugitive dust.

** Site Preparation and Grading phases includes adherence to the conditions listed below that are required by BAAQMD to reduce fugitive dust.*

As shown in **Table 4**, none of the BAAQMD thresholds would be exceeded. Nonetheless, for all proposed projects, BAAQMD recommends implementing all the *Basic Construction Mitigation Measures,* listed in Table 8-1 of the *BAAQMD CEQA Air Quality Guidelines,* to meet the best management practices threshold for fugitive dust, whether or not construction-related emissions exceed applicable thresholds. Sources of fugitive dust would include disturbed soils at the Project site and trucks carrying uncovered loads of debris. Unless properly controlled, vehicles leaving the site could deposit mud on local streets, which could generate an additional source of airborne dust after it dries. Fugitive dust emissions would vary from day to day, depending on the nature and magnitude of construction activity and local weather conditions. Fugitive dust emissions would also depend on soil moisture, silt content of soil, wind speed, and the amount of equipment operating. Larger dust particles would settle near the source, while fine particles would disperse over greater distances from the site. The *BAAQMD CEQA Air Quality Guidelines* consider these impacts to be less than significant if best management practices (BMPs) are employed to reduce emissions. While the Project would not generate emissions in excess of BAAQMD thresholds, implementation of **Mitigation Measure AQ-1** would further reduce emissions, resulting in a less than significant impact.

Mitigation Measure AQ-1: Implementation of the measures recommended by BAAQMD and listed below would reduce the impacts on air quality from fugitive dust emissions during construction to less than significant. The contractor shall implement the following BMPs that are required of all projects:

1) All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day;
2) All haul trucks transporting soil, sand, or other loose material off-site shall be covered;
3) All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited;
4) All vehicle speeds on unpaved roads shall be limited to 15 mph;
5) Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes (as required by the California airborne toxics control measure Title 13, Section 2485 of California Code of Regulations [CCR]). Clear signage shall be provided for construction workers at all access points;
6) All construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. All equipment shall be checked by a certified mechanic and determined to be running in proper condition prior to operation; and
7) Post a publicly visible sign with the telephone number and person to contact at the Lead Agency regarding dust complaints. This person shall respond and take corrective action within 48 hours. The Air District's phone number shall also be visible to ensure compliance with applicable regulations.

Conclusion: Incorporation of **Mitigation Measure AQ-1** would reduce the potential significant impact from violations of air quality standards to a less than significant level.

Sources: BAAQMD, 2010 Clean Air Plan. BAAQMD, CEQA Air Quality Guidelines, updated May 2012. South Coast Air Quality Management District, CalEEMod, version 2013.2.2.

3.c.	Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable Federal or State ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?		X		

Discussion: The Project does not involve new land uses and would not contribute to urban growth or introduce new sources of air emissions into the SFBAAB. Exhaust from construction vehicles and grading equipment and fugitive dust emissions would result in temporary air pollutant emissions over a period of up to 1.5 years. As indicated in **Table 4**, predicted emissions from construction of the Project would not exceed the BAAQMD's significance thresholds. Although fugitive dust emissions would not be individually significant, they could result in a cumulatively considerable net increase in particulates, for which the Bay Area is currently in non-attainment, unless properly controlled. Implementation of the BAAQMD's recommended dust control measures in **Mitigation Measure AQ-1** would ensure that no significant construction-period emissions occur.

Conclusion: Incorporation of **Mitigation Measure AQ-1** would reduce the potentially significant impact to a less than significant level.

Source: BAAQMD, 2010 Clean Air Plan. BAAQMD, CEQA Air Quality Guidelines, updated May 2012.

3.d.	Expose sensitive receptors to significant pollutant concentrations, as defined by BAAQMD?			X	

Discussion: The closest sensitive receptors to the Project site are single-family residences located in the City of Pacifica, at least 350 feet to the north of proposed grading activities at the Middle Ridge Trail. Only temporary emissions from construction equipment and dust would occur during the Project implementation period, and none of the sensitive receptors would be exposed to substantial concentrations of air pollutants because emissions would be well below BAAQMD thresholds. Construction would occur over an anticipated period of up to 1.5 years and would not result in substantial concentration of air pollutants. Additionally, the implementation of BMPs in **Mitigation Measure AQ-1** would further reduce impacts from fugitive dust.

Conclusion: This impact would be less than significant, and incorporation of **Mitigation Measure AQ-1** would further reduce this less-than-significant impact.

Source: Project Plans, 2015. Google Earth, 2015.

3.e.	Create objectionable odors affecting a significant number of people?			X	

Discussion: Construction activities associated with the Project are temporary and would not involve materials or activities that are a potential source of significant odors. They would not result in the creation of objectionable odors affecting a substantial number of people. Furthermore, trail users would not be exposed to any objectionable odors from construction because trails would be closed to the public during the course of restoration and improvement

activities. During trail operation, the South Ridge Trail and a portion of the Bluff Trail would be open to equestrian users. Equestrians can generate odors that are perceived as unpleasant to some people. The degree of unpleasantness is partly a function of personal tolerance for short-term odors associate with horse manure, and the attending flies that are attracted. Horse manure is essentially highly-processed hay, with little additional organic material that produces long-term odors, such as those commonly associated with cow excrement. In addition, given the relatively low equestrian use anticipated and the transient nature of trail use by hikers and bicyclists, any odors experienced would be temporary. Impacts would be less than significant.

Conclusion: Impacts from objectionable odors would be less than significant.

Source: Project Plans, 2015.

3.f.	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		

Discussion: See response to Item 3.b. The Project would temporarily generate pollutants during construction activities. As shown in **Table 4**, construction-period emissions would not exceed the BAAQMD thresholds. However, implementation of the BAAQMD's recommended dust control measures in **Mitigation Measure AQ-1** would ensure that the Project would not contribute to violations of air quality standards on-site or in the surrounding area.

Conclusion: Implementation of **Mitigation Measure AQ-1** would reduce this impact to a less than significant level.

4. BIOLOGICAL RESOURCES.

Environmental Setting: In December 2015, Rincon Consultants, Inc. completed a Biological Resources Assessment (BRA) for the Project, supported by a field reconnaissance survey of the Project site that was conducted on July 23, 2015 (Rincon, 2015). The focus of the biological studies (as presented in the BRA) was to inform the impact analysis provided herein, and was sufficient to identify and map vegetation communities, assess the potential for special status species to occur on the site and to evaluate potential impacts to biological resources. Focused botanical surveys for special status plants and wildlife were not conducted. The BRA is provided as Appendix C. The Biological Study Area (BSA) refers to the area covered by the biological assessment, and here encompasses the "Project site" boundary shown in **Figures 1 and 2** of this IS-MND.

Vegetation Communities. Vegetation communities and habitats mapped in the field on July 23, 2015 (Rincon, 2015) are presented in **Figure 6** (Rincon, 2015). Five vegetation communities were identified on the Project site[1]: 1) coyote brush scrub - California sagebrush scrub (*Baccharis pilularis – Artemisia californica* Association); 2) Monterey pine forest (*Pinus radiata* Alliance); 3) Pacific reed grass meadows (disturbed) (*Calamagrostis nutkaensis* Alliance); 4) red fescue grassland (disturbed) (*Festuca rubra* Alliance); and 5) eucalyptus groves (*Eucalyptus globulus* Semi-natural Stands). **Table 5** presents acreages of

1. The nomenclature for vegetation communities presented in this Initial Study is based on the CDFW *List of Vegetation Alliances and Associations* (CDFW (2010) and the *Manual of California Vegetation*, second edition (Sawyer et al. 2009).

each community within the Project site. The Pacific reed grass meadows and red fescue grasslands within the Project site are disturbed and include barren and ruderal areas as noted in the nomenclature for these communities. The vegetation communities present on the site, as well as an ephemeral/intermittent stream that is present within the Project site, are described in detail below.

Table 5
Vegetation Communities on the Project Site

Habitat Type	Approximate Acreage	Approximate Percent Area
Coyote brush scrub - California sagebrush scrub (*Baccharis pilularis – Artemisia californica* Association)	26.18	79%
Monterey pine forest (*Pinus radiata* Alliance)	5.36	16%
Pacific reed grass meadows (*Calamagrostis nutkaensis* Alliance)	0.65	2%
Red fescue grassland (*Festuca rubra* Alliance)	0.38	1%
Eucalyptus groves (*Eucalyptus globulus* Semi-naturalStands)	0.68	2%
Total	**33.25**	**100%**

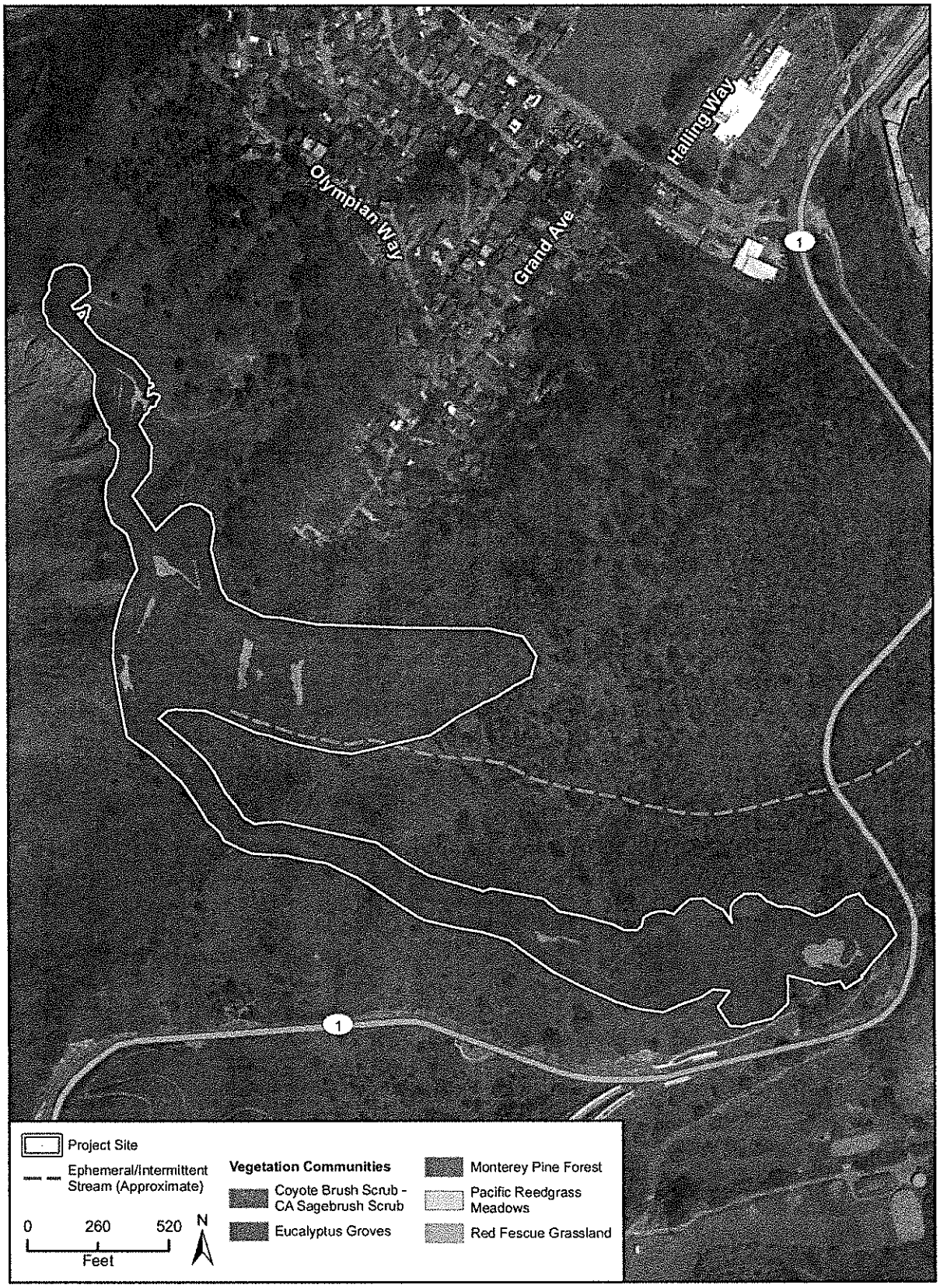
Coyote brush scrub - California sagebrush scrub (Baccharis pilularis-Artemisia californica Association). This association is the dominant vegetation community throughout most of the Project site, covering approximately 26.18 acres, or 9% of the Project site (**Figure 6).** Vegetation in the Project site is characterized by a dense shrub layer dominated by coyote brush (*Baccharis pilularis*) and California sagebrush (*Artemisia californica*).

Monterey pine (Pinus radiata Alliance). This association was historically planted in the Project site. There are 5.36 acres of this alliance in the Project site, or 16% of the Project site (**Figure 6**). This vegetation alliance forms a dense canopy cover in relatively large stands in the Project site and also occurs as isolated trees throughout the Project site (**Figure 6**). The Middle Ridge Trail supports some fairly dense Monterey pine forest habitat, and the densest Monterey pine forest are in the canyon along the Arroyo Trail.

Pacific reed grass meadow (Calamagrostis nutkaensis Alliance). Pacific reed grass occurs sporadically throughout the Project site in all vegetation communities, but it is not abundant. The presence of this community on the project site is the result of restoration efforts, and has resulted in "clumps" reed grass that occur sporadically within the project site. The restored clumps of Pacific reed grass have produced no seedlings since they were initially restored 15 years ago. The grass has continued to survive, but has failed to expand or replace itself, likely as a result of suboptimum habitat conditions in these areas.

There is approximately 0.65 acre of this alliance in the Project site, or 2% of the site (**Figure 6**). It should be noted that this grass species occurs within restoration sites in the BSA (i.e., Pacific reed grass was planted in these locations as part of previous restoration efforts).

Red fescue grassland (disturbed) (Festuca rubra Alliance). The Project site supports 0.38 acre of red fescue grassland (disturbed), or 1% of the site. These areas support a



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Vegetation Communities

Figure 6

conspicuous cover of red fescue (*Festuca rubra*) that is approximately five to ten percent but also support ruderal plant species and some unvegetated areas. It should be noted that this grass species also occurs within restoration sites in the BSA (i.e., red fescue was planted in these locations as part of previous restoration efforts).

Eucalyptus groves (Eucalyptus globulus Semi-natural Stands). A stand of blue gum (*Eucalyptus globulus*) occurs at the eastern portion of the Project site, north of the South Ridge Trail (**Figure 6**). The Project site supports 0.68 acre of Eucalyptus groves, or 2% of the site.

Aquatic Habitat. An ephemeral/intermittent stream flows east thorough the Project site adjacent to the Arroyo Trail (**Figure 6**). Approximately 610 linear feet is present in the Project site. An ephemeral stream is typically defined as a drainage that conveys flows during and shortly after rain events and has little or no groundwater discharge. An intermittent stream is a drainage that has groundwater discharge. The stream on the Project site was classified as an ephemeral/intermittent stream because it is unknown whether or not it has groundwater discharge.

This stream drains eastward and eventually into San Pedro Creek outside the Project site. The extent of the surrounding watershed has not been formally mapped; however, based on topography at the site, the stream is fed only by the immediately adjacent slopes, and the entire watershed is likely less than 100 acres. The stream was dry during the July 23, 2015 site visit. Dense vegetation limited access to the channel; however, at the stream's origin within the Project site, a defined bed and bank was not observed. Outside of the Project site, a downstream section of channel had dimensions of approximately four to six feet wide. Because the feature included a defined bed and bank outside of the Project, it is likely to be considered a water of the United States under the jurisdiction of United States Army Corps of Engineers (USACE) and the California Department of Fish and Wildlife (CDFW). Riparian vegetation and hydrophytic vegetation was not observed to be associated with this feature in the vicinity of the Project site. The *County of San Mateo Local Coastal Program* requires a protective buffer zone of 30 feet from the midpoint of an intermittent stream channel that lacks riparian vegetation. Project activity would not directly impact this potentially jurisdictional feature, and all proposed work is a minimum of 30 feet away from the channel. Therefore, impacts to jurisdictional waters are not expected from this Project.

Special Status Species. Special status species include taxa that are afforded protection by the Federal Endangered Species Act (FESA), the California Endangered Species Act (CESA), or those that are considered sensitive by state or local agencies such as state Species of Special Concern. In addition, California Rare Plant Rank (CRPR) 1B and 2 species are typically regarded as rare, threatened, or endangered under CEQA by lead CEQA agencies and are considered as such in this document. CRPR 4 species have limited distribution globally but are fairly common within their range. CRPR 3 and 4 plant species are typically not considered for analysis under CEQA except where they are designated as rare or otherwise protected by local governments. Several CRPR 4 species are present at the Pedro Point Headlands (PPH), and CRPR 3 and 4 plant species were addressed in the BRA that was prepared for this Project (Rincon, 2015) and are addressed in this IS-MND. CRPR 4 species are likely to qualify as Environmentally Sensitive Habitat Areas (ESHAs) in accordance with Section 30240 of the California Coastal Act.

Special Status Plants and Lichens

A total of 75 regionally occurring special status plant species and one lichen species were evaluated for their potential to occur on the Project site. A table of these species is included in Appendix D of the BRA (see Appendix C of this IS-MND (Rincon 2015)). These represent

species known to occur within the region; however, 38 of these species would not be expected to occur within the Project site because the site lacks the necessary habitat or microhabitat conditions (i.e., serpentinite substrates, volcanic substrates, clay soils, or highly saline or alkaline soils that are not present on the Project site) and were thus excluded from further analysis. The remaining 38 species were further evaluated for their potential to occur on the Project site based on the specific habitat requirements or known historical occurrences. Of the 38 species further evaluated, one (Michael's rein orchid [*Piperia michaelii*]) has been documented on the site, two have records within greater PPH area and are considered to have moderate potential to occur on the Project site, and 35 have a low potential to occur in the Project site based on the presence of marginally suitable habitat.

Michael's rein orchid (CRPR 4.2) was discovered along a section of the Bluff Trail between the Middle Ridge Trail and North Ridge Trail in 2015 (Kellerman, pers. comm., 2015). This occurrence was not observed by Rincon during the July 23, 2015 reconnaissance survey (Rincon, 2015).

Coast rockcress (*Arabis blepharophylla*), a CRPR 4.3 species is documented at the PPH but not within the proposed Project site. Coast rockcress thrives in open coastal bluff and coastal scrub habitats at the PPH than are commonly found in the Project site; however, because of recorded occurrences in the area and small areas of suitable habitat within the Project site, this species are considered to have a moderate potential to occur on the Project site.

San Francisco wallflower (*Erysimum franciscanum*), a CRPR 4.2 species, are documented at the PPH but not within the proposed Project site. Seven individual plants have been documented within the project site (Kellerman, Kathy, Pacific Land Trust, personal communication, February 17, 2016). San Francisco wallflower thrives in open coastal bluff and coastal scrub habitats at PPH, and based on occurrences documented by Pacific Land Trust, the species is considered present on the site.

Figure 7 provides a map of occurrences of special status species recorded in the California Natural Diversity Database (CNDDB) within a 1-mile radius of the Project site (CDFW, 2015). Protocol-level surveys have not been conducted in the Project site. However, an unknown number of non-protocol botanical surveys were conducted at the Project site between 1983 and 1994 (Vasey, 1994), in some cases including large portions of the site. Special status plants have not been documented at the Project site during any surveys, with the exception of Michael's rein orchid. Coyote brush scrub-California sagebrush scrub in the Project site generally has a dense canopy layer that excludes herbaceous species in the understory, especially those species that require openings. However, some areas in this habitat are more open and could potentially support special status plants. Monterey pine forests and eucalyptus groves in the Project site are planted forests that are disturbed and thus provide limited habitat for special status plants. The limited grassland habitats in the Project site are disturbed and are unlikely to support special status plants.

Special Status Wildlife

Thirty six regionally occurring special status animal species were evaluated for their potential to occur on the Project site (Rincon, 2015; Appendix C). These represent wildlife species know to occur within the region; however, 25 of these species would not be expected to occur within the Project site because the site lacks the necessary habitat or microhabitat conditions to support these species, and as such they were excluded from further analysis.

Six special status animal species were determined to have a low potential to occur on the Project site: pallid bat (*Antrozous pallidus*); big free-tailed bat (*Nyctinomops macrotis*); short-eared owl (*Asio flammeus*); *loggerhead shrike:* (*Lanius ludovicianus*); monarch butterfly (*Danaus plexippus*); and mission blue butterfly (Plebejus icarioides missionensis).

Three special status animal species were determined to have a moderate potential to occur on the Project site: California red-legged frog (*Rana draytonii*); bank swallow (*Riparia riparia*); and San Francisco dusky-footed woodrat (*Neotoma fuscipes annectens*).

Two special status animal species were determined to have a high potential to occur on the Project site: American peregrine falcon (*Falco peregrinus anatum*); and California brown pelican (*Pelecanus occidentalis californicus*) .

The 11 special status species with potential to occur on the Project site are discussed in more detail below. **Figure 7** provides a map of CNDDB occurrences and critical habitat within a 1-mile radius of the Project site (CDFW, 2015).

American peregrine falcon: This species is a state fully protected species that has a high potential to forage within the Project site, but is unlikely to nest on the Project site. While Peregrine falcons can be found in nearly any open habitat, they typically nest on cliffs from about 25–1,300 feet high. The PPH website reports peregrine falcon observations on cliff ledges at San Pedro Rock (PPH, 2015a). The western ocean-facing slope along the Bluff Trail is likely to provide suitable cliff ledges for nesting peregrine falcons. However, the upper portion of this slope along the Bluff Trail ridge that occurs within the Project site is unlikely to provide suitable nesting habitat because peregrine falcons usually select a rocky cliff ledge about a third of the way down the cliff face, not close to the ridge. However, a thorough survey of habitat along the western ocean-facing slopes of the Bluff Trail was not conducted during the July 2015 reconnaissance survey (Rincon, 2015). The Project site provides suitable foraging habitat as it contains a number of potential avian prey species.

California brown pelican: This species is a state fully protected species and a federal and state delisted species that is known to roost at the PPH at Pedro Rock (Vasey, 1994; PPH, 2015b; Donahue, 2010). This species breeds on small to moderate sized coastal islands and roosts communally. It roosts, but does not breed, at the PPH on San Pedro Rock (Vasey, 1994), approximately 0.35 mile west of the northern end of the Project site. San Pedro Rock is an important roosting site for this species before and after its breeding season (Vasey, 1994). There is a high potential for it be observed at the Project site, but California brown pelicans forage offshore primarily for fish, so the Project site is unlikely to provide important foraging habitat for this species.

California red-legged frog: This species is a federally threatened and state Species of Special Concern that has a moderate potential to occur in the Project site, but the site lacks suitable breeding habitat for this species. Most of the Project site, except for the northern portion of the Bluff Trail, is within designated Critical Habitat for California red-legged frog (CRLF) (**Figure 7**). All life history stages of the CRLF are most likely to be encountered in and around breeding sites, which include coastal lagoons, marshes, springs, permanent and semi-permanent natural ponds, and ponded and backwater portions of streams, as well as artificial impoundments such as stock ponds, irrigation ponds, and siltation ponds. Eggs are typically deposited in permanent pools, attached to emergent vegetation. The closest CNDDB record of CRLF is approximately 0.3 mile east of the Project site in San Pedro Creek (**Figure 7**). This occurrence was recorded in 2002 and updated in 2008. The locality of this occurrence extends from the mouth of San Pedro Creek to approximately 0.5 mile upstream to San Pedro Valley. Five adults were observed in 2002 and one adult was observed in 2008, and the record states that breeding habitat is present in this reach of San Pedro Creek. Two additional CNDDB occurrences (including one breeding occurrence) of CRLF are recorded at Calera Creek within 0.5 mile of the Project site (**Figure 7**). CRLF generally prefer to remain close to water sources, especially in the dry season; however, the species has been documented dispersing along stream systems up to 1.7 miles from breeding sites (Fellers and Kleeman, 2007). The Project site lacks suitable breeding habitat for CRLF but does provides potentially suitable non-breeding and dispersal habitat.

Bank swallow: This species is a state threatened species that has a moderate potential to occur in the Project site. Bank swallows have not been documented at the PPH (Vasey, 1994; Donahue, 2010; PPH, 2015b). They are documented within the six-quadrangle search area surrounding the Project site in the San Francisco South 7.5 minute quadrangle, but not within one mile of the site (**Figure 7**). A breeding occurrence is located at Fort Funston, which is along the coastline over five miles north of the Project site. Vertical banks and cliffs on the ocean-facing slopes in the Project site along the Bluff Trail potentially provide suitable breeding habitat for this species. However, these slopes in the Project site do not provide ideal breeding habitat because they support dense scrub and bank swallows generally prefer more open and barren areas. Bank swallow nests were not observed during the 2015 reconnaissance survey of the Project site. However, a thorough survey of habitat along the ocean-facing slopes of the Bluff Trail was not conducted during this survey.

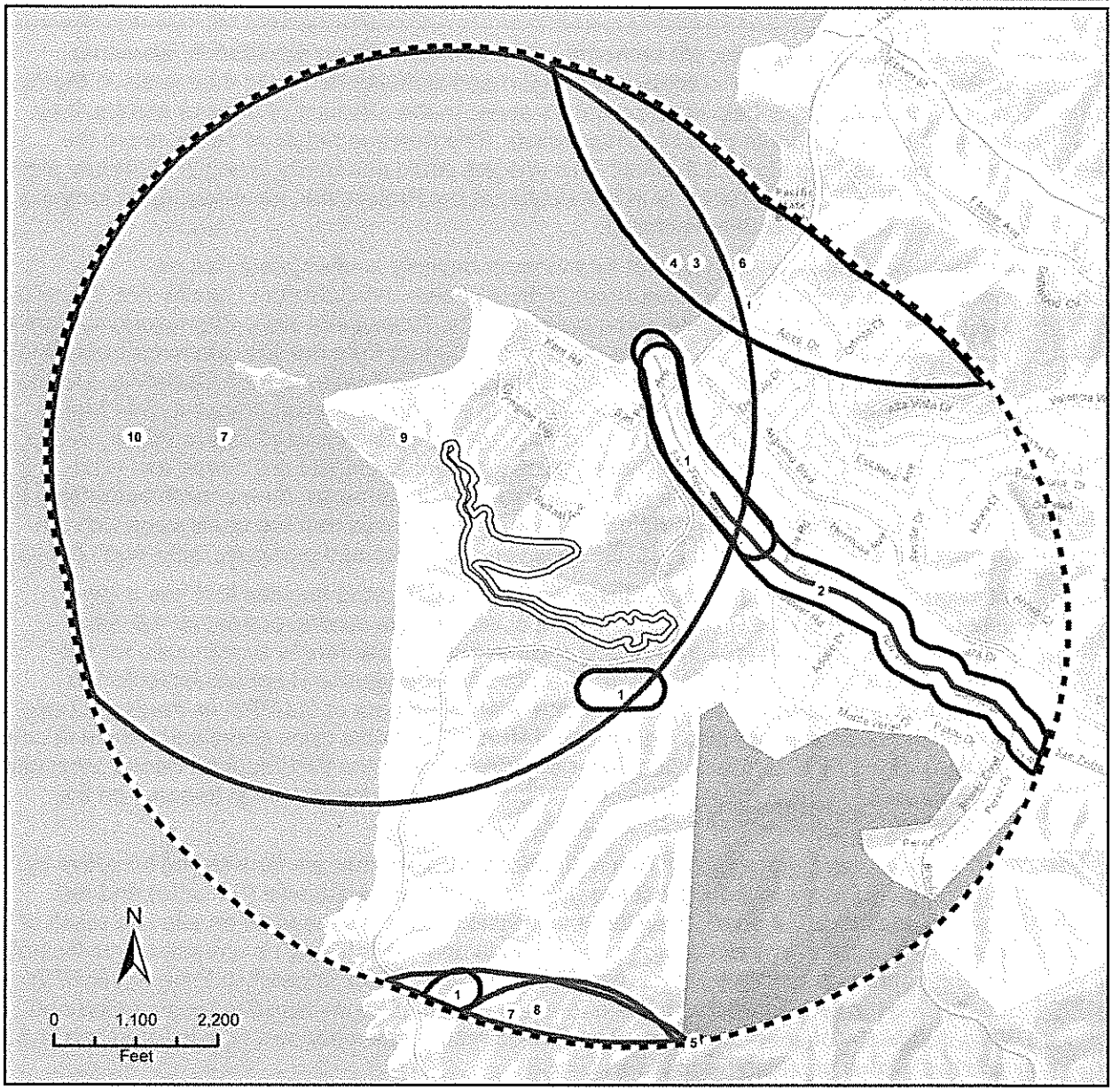
San Francisco dusky-footed woodrat: This species is a state Species of Special Concern that has a moderate potential to occur and breed in the Project site. This species has been documented within the six-quadrangle search area surrounding the site. They are also known to occur in the north coastal scrub and maritime scrub at the nearby San Pedro County Park (Vasey, 1994). Monterey pine forests, eucalyptus groves, and coyote brush scrub-California sagebrush scrub in the Project site potentially provide suitable habitat for San Francisco dusky-footed woodrat. This species has not been observed in the Project site during site surveys. No woodrat nests were observed in the Project site during the July 2015 reconnaissance survey (Rincon, 2015).

Pallid bat and Big free-tailed bat: These species are both state Species of Special Concern that have a low potential to occur in the Project site. Pallid bats and big-free tailed bats have been documented within the nine-quadrangle search area surrounding the Project site. Both of these species roost in colonies on cliff and rocky outcrops and within hollow trees or trees with loose bark or other cavities. The Project site and surrounding area contain suitable roosting and foraging habitat for these species.

Short-eared owl: This species is a state Species of Special Concern, has a low potential to occur in the Project site. The short-eared owl was documented at the PPH in 1994, but not within the six-quadrangle search area surrounding the Project site. A short-ear owl was observed roosting in scrub at the PPH on the north side of Pedro Point by Dan Singer with the Audubon Society in 1994 (Vasey, 1994). Because the exact location is unknown, it is unclear whether or not this siting was within the Project site. Vasey (1994) notes that the presence of this species was unexpected given the fact that short-eared owls usually nest in more interior marshes, such as the San Francisco Bay, and that it is unlikely that is was

breeding there (Vasey, 1994). Furthermore, the BRA notes that it was probably a migrant and that this observation highlights the importance of PPH as an isolated coastal stop-over location for birds. The Project site is outside the breeding range of this species. The only CNDDB record of this species in San Mateo County is a breeding record that is located in the San Francisco Bay at Bair Island, which is located in the Redwood Point 7.5 minute quadrangle. This record is approximately 15.6 miles southeast of the Project site and it is the closest CNDDB occurrence of this species to the Project site.

Loggerhead shrike: This species is a state Species of Special Concern that has a low potential to occur in the Project site. Loggerhead shrikes have not been documented at the PPH (Vasey, 1994; Donahue, 2010; PPH, 2015b), or in the six-quadrangle search area surrounding the Project site. Loggerhead shrikes inhabit open country with short vegetation and well-spaced shrubs or low trees, particularly those with spines or thorns. They frequent



Imagery provided by ESRI and its licensors © 2015. U.S. Fish and Wildlife Service, November, 2015. Additional suppressed records reported by the CNDDB known to occur or potentially occur within this search radius include: Monarch Butterfly, CA overwintering population, and San Francisco Garter Snake. For more information please contact the Department of Fish and Wildlife. Critical habitat shown is that most recently available from U.S. FWS. Check with U.S. FWS or Federal Register to confirm. California Natural Diversity Database, November 16, 2015.

Project Site
1 Mile Buffer
Animals
Plants

Final Critical Habitat
Steelhead
California red-legged frog

Sensitive Elements Reported in the California Natural Diversity Database and Federally Designated Critical Habitat Figure 7

agricultural fields, pastures, old orchards, riparian areas, desert scrublands, savannas, prairies, golf courses, and cemeteries. Loggerhead shrikes often build their nests in thorny vegetation, which may help keep predators away. In the absence of trees or shrubs, they sometimes nest in brush piles or tumbleweeds. The average height of nests above the ground ranges from about 2.5-4 feet. This species could potentially breed in Monterey pine forests at PPH (Vasey, 1994), or in this habitat at the Project site. However, open foraging habitat on-site and the PPH is limited.

Monarch butterfly: Roosting habitat for monarch butterfly is often protected as Environmentally Sensitive Habitat Areas (ESHA) under the California Coastal Act. There is a low potential for roosting habitat to be present in the Project site since the majority of dense stands of eucalyptus and other trees occur over 100 feet from the site. Monarch butterflies overwinter along the coast from northern Mendocino, California, to Baja California, Mexico (CDFW, 2015). Although the CNDDB (CDFW, 2015) includes occurrences in San Mateo County and within one mile of the Project site, they are not expected to overwinter on-site. Monterey pine forests and eucalyptus groves adjacent to the site are dense and wind-protected stands that potentially provide suitable roosting habitat for monarch butterflies, but the Project site only includes 0.68 acre of eucalyptus groves that are contiguous with the large, dense grove north of the eastern position of the site and generally lacks such habitat.

Mission blue butterfly: This species is a federally endangered species that has a low potential to occur in the Project site. This species inhabits coastal prairies of the San Francisco peninsula. It is known to occur within the six-quadrangle search area for the Project site (CDFW, 2015). One of its host plants, varied lupine (*Lupinus variicolor*), is present on-site; however, this plant species is not abundant at the PPH or the Project site, and open grasslands are also limited and disturbed. Suitable open grassland habitat in other portions of the PPH is also limited because grasslands at the PPH support dense perennial bunchgrasses (Vasey, 1994). Mission blue butterfly has a low potential to occur on the Project site.

Sensitive Communities. Two natural communities that are considered sensitive by CDFW (2010) occur in the Project site: Pacific reed grass meadows (0.7 acre) and red fescue grassland (0.4 acre); however, the Pacific reed grass meadow on site is a result of restoration activity, and the community on-site is non-reproducing as a result of insufficient habitat conditions for this species. According to the CDFW's Vegetation Program (CDFW, 2010), vegetation alliances with State ranks of S1-S3 are considered to be imperiled and thus potentially of special concern. The Pacific reed grass meadows type is listed as G4 S2, and red fescue grassland is listed as G4 S3?.

The reconnaissance survey of the Project site was conducted by Rincon on July 23, 2015, when native grasses can be difficult to detect because they are desiccated or lack of an evident inflorescence. Native grasslands that are considered sensitive, as well as other sensitive vegetation types are potentially present on the Project site, include *Nassella pulchra* (purple needle grass grassland) Alliance, *Nassella lepida* (foothill needle grass grassland) Alliance, *Elymus glaucus* (blue wild rye meadows) Alliance, and *Melica torreyana* (Torrey's melic grass patches) Provisional Alliance.

Jurisdictional Waters and Wetlands. The ephemeral/intermittent stream that is present in the Project site has a defined bed and bank and flows to San Pedro Creek, which drains into the Pacific Ocean. This ephemeral/intermittent stream is likely to qualify as waters of the United States and State of California under the jurisdictions of the United States Army Corps of Engineers (USACE), Regional Water Quality Control board (RWQCB), and CDFW, and potentially as an ESHA under the jurisdiction of the California Coastal Commission. No wetlands or other jurisdictional features are present on the Project site.

Wildlife Movement. Wildlife movement corridors, or habitat linkages, are generally defined as connections between habitat patches that allow for physical and genetic exchange between otherwise isolated animal populations. Such linkages may serve a local purpose, such as providing a linkage between foraging and denning areas, or they may be regional in nature providing genetic linkages among populations. Some habitat linkages may serve as migration corridors, wherein animals periodically move to and from seasonal ranges. Others may be important as dispersal corridors for young animals. Multiple habitat linkages may form a wildlife corridor network, and may link a variety of different habitats.

Habitat linkages may differ significantly in composition from the habitats being linked, and often simply provide suitable cover for wildlife to move unabated between patches of suitable habitat. Typically habitat linkages are contiguous strips of natural areas within a larger landscape of disturbed or developed lands; however, dense plantings of landscape vegetation can be used by certain disturbance-tolerant species on local scales. Depending upon the species using a corridor, specific physical resources (such as rock outcroppings, vernal pools, or oak trees) dispersed at certain minimal intervals may be necessary for the linkage to function for many species. For highly mobile or aerial species, habitat linkages may be discontinuous patches of suitable resources spaced close enough together to permit travel along a route in a short period of time. Wildlife movement corridors can be both large and small scale.

The Project site is not located between or among well-defined habitat regions and as such is unlikely to serve as an important wildlife corridor. The site is located at the northern extent of a comparatively undeveloped area of natural habitat that extends from Pacifica south to Santa Cruz and east to the developed portions of Silicon Valley, and constitutes a portion of the undeveloped San Mateo County coastline that is surrounded by more developed areas. It serves as an important stop-over location of migrating birds, although sources of fresh water are limited in the vicinity of the site. The on-site ephemeral/intermittent stream may serve as a localized corridor between the Project site and San Pedro Creek.

Resources Protected by Local Policies and Ordinances. Biological resources in the Project site are protected by policies and ordinances set forth by both the County of San Mateo and the State of California.

Section 30240 of the California Coastal Act: Section 30240 protects sensitive ecological features that qualify as an ESHA, which is defined as "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." Special status plant and animal habitats, Pacific reed grass meadows, red fescue grasslands, and the ephemeral/intermittent stream can be considered ESHAs.

City of Pacifica General Plan and Local Coastal Land Use Plan (LCLUP): The City's existing General Plan (1980) includes the following policies relevant to biological resources on-site:

- Conserve trees and encourage native forestation.
- Require the protection and conservation of indigenous rare and endangered species.
- Protect significant trees of neighborhood or area importance and encourage planting of appropriate trees and vegetation.
- Promote the conservation of all water, soil, wildlife, vegetation, energy, minerals and other natural resources.

Relevant policies in the City's LCLUP (1980) are intended to maintain and restore the biological productivity and quality of coastal waters and streams, and to site and design park and recreation areas so as to prevent significant degradation of habitat values in ESHAs.

San Mateo County General Plan 1986: Goals and objectives in the San Mateo County (1986) General Plan that protect biological resources include the following:

- Promote the conservation, enhancement, protection, maintenance and managed use of the County's vegetative, water, fish and wildlife resources.
- Protect sensitive habitats from reduction in size or degradation of the conditions necessary for their maintenance.
- Protect the availability and encourage the productive use of the county's economically valuable vegetative, water, fish and wildlife resources in a manner which minimizes adverse environmental impacts.

San Mateo County Local Coastal Program: This plan prohibits any land use or development which would have significant adverse impact on sensitive habitat areas. It requires that development in areas adjacent to sensitive habitats shall be sited and designed to prevent impacts that could significantly degrade the sensitive habitats and that all uses shall be compatible with the maintenance of biologic productivity of the habitats. The plan defines sensitive habitats as any area in which plant or animal life or their habitats are either rare or especially valuable and any area which meets one of the following criteria:

1. Habitats containing or supporting "rare and endangered" species as defined by the State Fish and Game Commission;
2. all perennial and intermittent streams and their tributaries;
3. coastal tide lands and marshes;
4. coastal and offshore areas containing breeding or nesting sites and coastal areas used by migratory and resident water-associated birds for resting areas and feeding;
5. areas used for scientific study and research concerning fish and wildlife;
6. lakes and ponds and adjacent shore habitat;
7. existing game and wildlife refuges and reserves; and
8. sand dunes. Sensitive habitat areas include, but are not limited to, riparian corridors, wetlands, marine habitats, sand dunes, sea cliffs, and habitats supporting rare, endangered, and unique species.

Policy 7.11 establishes a buffer zone of 30 feet from the midpoint of an intermittent stream channel that lacks riparian vegetation. All development and disturbances should be located outside this buffer zone.

Policy 7.42 prevents any development on or within 50 feet of any rare plant population. When no feasible alternative exists, development is permitted if: (1) the site or a significant portion thereof is returned to a natural state to allow for the reestablishment of the plant, or (2) a new site is made available for the plant to inhabit.

San Mateo County Heritage Tree *Ordinance*: The *San Mateo County Regulation of the Removal and Trimming of Heritage Trees on Public and Private Property* (Ordinance 2727, April 5, 1977) protects the removal of heritage trees (San Mateo County, 1977). A tree permit is required from the San Mateo County Planning Department for the removal of a heritage tree.

San Mateo County Significant Tree Ordinance: The San Mateo County *Significant Tree Ordinance* requires a permit for the removal of any native or non-native tree with a circumference of 38 inches (12.1 inches in diameter) as measured at breast height or immediately below the lowest branch, whichever is lower, and having the inherent capacity of

naturally producing one main axis continuing to grow more vigorously than the lateral axes (San Mateo County, 2010). A permit is also required for the removal of part of a community of trees, which is defined as a group of trees of any size which are ecologically or aesthetically related to each other such that loss of several of them would cause a significant ecological, aesthetic, or environmental impact in the immediate area. Permitting under this ordinance applies to private property only; however, within the Resource Management District, the criteria outlined in sections 6324 through 6326.4 of the County Zoning Regulations shall apply to projects on public lands (see *Section 12,020.3* of the *San Mateo County Significant Tree Ordinance*). Development that would involve tree removal is required to adhere to the following criteria:

> *Removal of living trees with trunk circumference of more than 55 inches measured 4-1/2 feet above the average surface of the ground is prohibited, except as may be required for development permitted under this Ordinance, or permitted under the timber harvesting ordinance, or for reason of actual or potential danger to life or property.*

Pacifica Preservation of Heritage Trees: Title 4, Chapter 12 of the Pacifica Municipal Code (Preservation of Heritage Trees) stipulates regulations designed to preserve and protect heritage trees on private or City-owned property. Heritage trees are defined as any trees, exclusive of eucalyptus (*Eucalyptus* spp.), which have a trunk with a circumference of 50 inches (approximately 16 inches in diameter) or more, measured at 24 inches above the natural grade. A heritage tree or trees are also defined as a tree or grove of trees, including eucalyptus (*Eucalyptus* spp.), designated by resolution of the Council to be of special historical, environmental, or aesthetic value. A tree removal permit is often required for the removal, substantial trimming, or construction work within the drip-line of a heritage tree.

Would the Project:

		Potentially Significant Impacts	***Significant Unless Mitigated***	***Less Than Significant Impact***	***No Impact***
4.a.	Have a significant adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?		X		

Discussion:

Special Status Plants. Michael's rein orchid, a CRPR 4 species, is the only documented special status plant on the Project site. There are two special status plant species that have a moderate potential to occur on the Project site (CRPR 4 coast rockcress and San Francisco wallflower) and 35 special status plants that have a low potential to occur on-site.

The Project could potentially directly impact special status plants by removing or damaging them. Project activities would result in temporary and permanent impacts to 6.42 acres of vegetation in the Project site (**Table 6**). All of the vegetation types that are present on-site would be impacted except for eucalyptus groves. Most of the impacts would result from narrowing trails to five feet and

revegetating their edges, or abandoning existing main trails and informal trails and revegetating them. Although some trail improvement activities would result in the permanent loss of habitat by creating new trail alignments through existing vegetation, other activities would result in the creation of new habitat by narrowing trails and creating vegetation buffers and by abandoning existing trails and revegetating them. A minor permanent impact to vegetation communities would result from the installation of interpretative overlooks. Temporary impacts include the footprints of staging areas, stockpiles, sign installation areas, a borrow pit and temporary native plant nursery, and construction access routes.

Table 6
Impacts to Vegetation Communities on the Project Site

Vegetation Community	Approximate Acreage
Coyote brush scrub - California sagebrush scrub (*Baccharis pilularis – Artemisia californica* Association)	5.41
Monterey pine forest (*Pinus radiata* Alliance)	0.62
Pacific reed grass meadows (disturbed) (*Calamagrostis nutkaensis* Alliance)	0.30
Red fescue grassland (disturbed) (*Festuca rubra* Alliance)	0.09
Total	**6.42**

Indirect impacts to special status plants could occur due to the spread of invasive, non-native species from vegetation removal and disturbing habitats, and from the spread of seeds on construction equipment. All fill for the Project would be sourced on-site, thus reducing the threat of invasive species via imported fill. However, excavation and fill activities still hold potential to propagate invasive species throughout the site. Invasive, non-native plant species can out-compete native species and/or alter the quality of habitat so that it is unsuitable for special status species.

Special Status Animals. Eleven special status animal species have potential to occur in the Project site based upon known ranges, habitat preferences for the species, species occurrence records from the CNDDB, and previous reports for areas in the vicinity of the site. These eleven species are: American peregrine falcon (*Falco peregrinus anatum)*, California brown pelican (*Pelecanus occidentalis californicus*), California red-legged frog (*Rana draytonii*), bank swallow (*Riparia riparia*), San Francisco dusky-footed woodrat (*Neotoma fuscipes annectens*), pallid bat (*Antrozous pallidus*), big free-tailed bat (*Nyctinomops macrotis*), short-eared owl (*Asio flammeus*), Monarch butterfly (*Danaus plexippus*), loggerhead shrike (*Lanius ludovicianus*), and Mission blue butterfly (*Plebejus icarioides missionensis*).

The Project could potentially directly impact special status animals through a direct take or injury. Additionally, the Project activities could reduce habitat for special status species. On the other hand, trail improvement and restoration activities would improve the quality of habitats by creating a more stable trail system and stabilizing eroding hillsides. The Project would not result in any fragmentation or permanent change of critical habitat for special status species.

Suitable nesting habitat for birds protected under the MBTA and CFGC, as well as for special status birds, occurs within or in the vicinity of the Project site. Direct impacts to nesting birds may occur due to removal of trees and shrubs. Construction on-site may result in indirect impacts to nesting bird species, such as nest abandonment, should they be present near areas of disturbance at the time of construction.

The Project would grade, fill, and eliminate existing gullies and trail scars, re-establish natural topography and positive drainage, restore disturbed trails and gullies, create vegetative buffers by narrowing existing trails, and construct and rehabilitate sustainable trails. While the Project would improve the overall suitability of the special status species' habitats and create additional habitat

over the long term, construction activities could impact both plant and animal special status species that potentially occur on-site.

Impacts to special status plants and animals due to construction of the Project are potentially significant and would be reduced to a less than significant level with the following mitigation measures incorporated.

Mitigation Measure BIO-1: **Botanical Special Status Plant Surveys.** The following mitigation measures are required:

- Prior to the commencement of any ground-disturbing activities, surveys for special status plants shall be conducted in all areas of the Project site that would be potentially impacted and within a 50-foot buffer. The surveys shall be conducted in general accordance with CDFW (CDFG, 2009), California Native Plant Society (CNPS, 2001), and U.S. Fish and Wildlife Service (USFWS, 2000) protocols for conducting special status plant surveys. The surveys shall be seasonally timed to coincide with the blooming periods for the 38 species that have potential to occur on-site or that are known to occur on-site. A list of these 38 species is provided in Appendix D of the BRA (see Appendix C). All plant surveys shall be conducted by a qualified biologist before initial ground disturbance so that sufficient time is allotted to develop a restoration plan and complete agency consultations, if necessary. All special status plant species identified on-site shall be mapped onto a site-specific aerial photograph and their location shall be recorded with a Global Positioning System (GPS). CNDDB form field data shall be recorded and submitted concerning the population size, cover, and associated species.
- If feasible, measures shall be implemented to avoid special status plants within the limits of disturbance. Michael's rein orchard in the Project site boundaries shall be relocated during the appropriate blooming period for this species. If other special status plants cannot be avoided, each species shall be restored on-site at a minimum of a 2:1 (number of acres/individuals restored to number of acres/individuals impacted) ratio. A mitigation and monitoring plan shall be prepared and submitted to the jurisdiction overseeing the Project for approval. If a state-listed plant species would be impacted, the restoration plan shall be submitted to CDFW for review. If a federally listed plant species would be impacted, the restoration plan shall be submitted to USFWS for review. The plan shall be in place for no less than three (3) years. The restoration plan shall include specific descriptions of the mitigation site, rationale for expecting successful restoration, site preparation, planting plan, maintenance activities during the monitoring period, success criteria based on the goals and measurable objectives, adaptive management plan, and notification of completion of compensatory mitigation and agency confirmation.
- Prior to ground disturbance, special status plant occurrences that are not within the immediate disturbance footprint, but are located within 50 feet of the disturbance limits shall have brightly colored protective fencing installed at least 30 feet beyond their extent, or other distance as approved by a qualified biologist, to protect them from damage during construction.

Mitigation Measure BIO-2: Invasive Weed Management. The following mitigation measures shall be implemented to prevent the spread of invasive weeds on the Project site that could potentially displace habitats for special status species or reduce the quality of their habitats.

- The removal or disturbance of all non-native plant species that are listed by the California Invasive Plant Council (Cal-IPC, 2007) as having a high, moderate, or limited invasiveness shall be conducted in a manner that does not increase the risk of spreading these species within the Project site or adjacent areas. An Invasive Weed Management Plan shall be prepared and implemented prior to ground disturbing activities.

- All construction equipment shall be power-washed prior to entering the site so that it is free of soil, seeds, and vegetation that could translocate invasive species into the site from elsewhere. The Inspection & Cleaning checklist from the California Invasive Plant Council's *Preventing the Spread of Invasive Plants: Best Management Practices for Land Managers*, 3rd Edition, (2012) shall be utilized to verify compliance with invasive species minimization measures.

Mitigation Measure BIO-3: Preservation and Restoration of Native Vegetation Communities. The following mitigation measures shall be implemented to prevent the degradation of existing vegetation communities that provide habitat for special status species.

- All areas temporarily disturbed by the Project shall be returned to their original configuration at the end of Project activities. Native plant species that are known to occur at the site and that are appropriate for each specific vegetation community shall be used to restore any temporarily disturbed areas and to revegetate new habitats. To the extent that is feasible, native plants that are propagated from on-site propagules shall be used for revegetating the Project site.
- A revegetation plan shall be prepared that describes the restoration of disturbed areas and revegetation of the trail buffers and newly created trails. The plan shall include the acreages of each constructed habitat (including Pacific reed grass meadows and red fescue grassland), a plant palette, planting plans, irrigation methods, and maintenance activities.

Mitigation Measure BIO-4: General Wildlife Best Management Practices. The following general wildlife BMPs shall be required:

- The number of access routes, number and size of staging areas, and the total area of the activity shall be limited to the minimum necessary to achieve the goals of the Project. All vehicles and equipment shall be parked and operated only within the designated access routes, staging areas, and work areas. All Environmentally Sensitive Areas that are marked by orange temporary fencing shall be avoided.
- All vehicles shall be in good working condition and free of leaks. All leaks shall be contained and cleaned up immediately to reduce the potential or soil/vegetation contamination.
- Drip pans shall be placed under all stationary vehicles and mechanical equipment.
- All trash that may attract predators must be properly contained and removed from the work site. All such debris and waste shall be picked up daily and properly disposed of at an appropriate site.
- All refueling, maintenance, and staging of equipment and vehicles shall occur at least 60 feet from the ephemeral/intermittent stream and in a location where a spill would not drain toward the channel. A plan must be in place for prompt and effective response to any accidental spills prior to the onset of work activities. All workers shall be informed of the appropriate measures to take should an accidental spill occur.
- To control sedimentation during and after Project implementation, appropriate erosion control best management practices (i.e., use of coir rolls, jute netting, etc.) shall be implemented. Fiber rolls (straw wattles) and other erosion control materials that are proposed for the Project shall not have monofilament netting.
- All trenches, pipes, culverts or similar structures shall be inspected for animals prior to burying, capping, moving, or filling. All excavations in excess of two feet deep shall be sloped, have escape ramps installed that are suitable for the escape of wildlife, or be thoroughly covered at the end of the day. All trenches and excavations shall be inspected for wildlife at the beginning of the work day and prior to backfilling. If a special status species is discovered in a trench or excavation, work in the area shall be redirected, and the special status species shall be allowed to leave the trench and the area of its own accord. In the event any special-status species is trapped in a trench or an excavation and unable to leave

on its own accord, USFWS and CDFW shall be contacted to relocate the special-status species or an individual with appropriate permits (e.g. a CDFW collecting permit) shall relocate the special status species.

- No exposed hollow open-ended posts or pipes in a vertical, skyward orientation shall be installed as part of the Project or stored/staged on-site. All pipes or posts on the Project site during construction which are exposed to the environment shall be capped, screened or filled with material.
- Any post with exposed perforations installed on the Project site and exposed to the environment shall have the holes permanently filled within the top six inches of the post upon installation.
- No pets shall be allowed at the Project site.

Mitigation Measure BIO-5: Worker Environmental Awareness Program (WEAP). The following steps to reduce the potential impacts to all special-status species are required:

- Prior to initiation of construction activities (including staging and mobilization), all personnel associated with Project construction shall attend WEAP training, conducted by a qualified biologist, to aid workers in recognizing special status resources that may occur on-site. The specifics of this program shall include identification of the special status species and their habitats, a description of the regulatory status and general ecological characteristics of sensitive resources, and review of the limits of construction and mitigation measures required to reduce impacts to biological resources within the work area. The fenced boundaries for all Environmentally Sensitive Areas (ESAs) shall be discussed, including ESAs for special status species, nesting birds, the ephemeral/intermittent stream, Pacific reed grass meadow, red fescue grasslands, and the Tree Protection Zone (TPZ) for protected trees. A fact sheet conveying this information shall also be prepared for distribution to all contractors, their employers, and other personnel involved with construction of the Project. All employees shall sign a form documenting that they have attended the WEAP and understand the information presented to them. The form(s) shall be submitted to the implementing agency to document compliance.

Mitigation Measure BIO-6: California Red-legged Frog Avoidance and Minimization Measures.

The following steps to reduce the potential impacts to California red-legged frogs (CRLF) are required:

- If feasible, initial ground disturbing activities and any work associated with the Project site shall be conducted between May 1 and October 31 during dry weather conditions to minimize the potential for encountering CRLF. Work shall be restricted to daylight hour.
- Water shall not be impounded in a manner that may attract CRLF.
- To ensure that diseases are not conveyed between work sites by the qualified biologist, the fieldwork code of practice developed by the Declining Amphibian Populations Task Force shall be followed at all times.

Mitigation Measure BIO-7: Mission Blue Butterfly Avoidance and Minimization Measures. The following to steps reduce the potential impacts to Mission Blue Butterfly are required:

- Special status plant surveys as described in Mitigation Measure BIO-1 shall include surveys for the known host plants for this species: varied lupine (*Lupinus variicolor*), silver bush lupine (*L. albifrons*), and western lupine (*L. formosus*). These lupine species shall be avoided if possible. If avoidance is not feasible, then the location of any plants that would be removed or disturbed during construction shall be recorded with a Global Positioning System and flagged in the field. An entomologist shall then conduct appropriately timed surveys of these plants for evidence of mission blue butterfly occupation. Since this species has an adult flight period that typically lasts from March to June, surveys in the summer months shall be

focused on larval stages (e.g., caterpillars). If mission blue butterflies are detected, work shall cease in the immediate area and a 50-foot buffer shall be established. USFWS shall be notified and consulted regarding appropriate compensatory mitigation for the loss of habitat, including possible salvage and translocation of impacted plants. This measure includes development of specific performance standards as part of a salvage and relocation plan to ensure that if translocation of impacted plants is approved as a component of compensatory mitigation, the transplantation would be effective.

Mitigation Measure BIO-8: San Francisco Dusky-Footed Woodrat Avoidance and Minimization Measures. A qualified biologist shall conduct a pre-construction survey for San Francisco dusky-footed woodrat middens within 50 feet of the work limits within 30 days of proposed construction activity. At the discretion of a qualified biologist, an exclusion buffer shall be established around any woodrat middens that can be avoided, and these exclusion zones shall be fenced as Environmentally Sensitive Areas to protect the nest during the breeding season (October through June). If a woodrat midden cannot be avoided, potential relocation strategies (e.g., use of a back-hoe or similar mechanized equipment to pick up and move intact midden) shall be developed and presented to the County and/or CDFW, as appropriate, by a qualified biologist, for review and/or approval.

Mitigation Measure BIO-9: Roosting Bats Avoidance and Minimization Measures.

- A qualified biologist shall conduct a pre-construction survey for roosting pallid bats and big-free tailed bats. These species could potentially roost in rocky outcrops. The pallid bat could also potentially roost in hollow trees. The survey shall be conducted within 200 feet of Project activities within 15 days prior to any grading of rocky outcrops or removal of trees (particularly trees 12 inches in diameter or greater at 4.5 feet above grade with loose bark or other cavities).
- A buffer zone of 100 feet that excludes construction activities or other disturbances should be established around active bat roosts.
- If active maternity roosts or non-breeding bat hibernacula are found in trees scheduled to be removed, relocation or other measures shall be determined in consultation with the County and/or CDFW, as appropriate, and a qualified biologist.

Mitigation Measure BIO-10: Monarch Butterfly Avoidance and Minimization Measures.

- Monterey pine forest and blue gum stands adjacent to the Project site could potentially provide overwintering and roosting habitat for monarch butterflies. No tree trimming or removal of trees within 100 feet of project activities and considered suitable for winter roosting shall be conducted between October 15 and February 28. Removal of trees shall be conducted between June 15 and October 15 to the extent feasible.

Mitigation Measure BIO-11: Nesting Birds Avoidance and Minimization Measures.

- If possible, trees and shrubs that would be impacted by Project construction shall be removed during the non-nesting season (between September 1 and January 31).
- If trees and shrubs are removed during the nesting season (February 1 to August 31), all suitable nesting habitat within the limits of work shall be surveyed by a qualified biologist prior to initiating construction-related activities. A pre-construction survey shall be conducted within 3-5 days prior to the start of work. If no nests are observed, construction activities shall be initiated within 3-5 days. If more than 3-5 days pass and construction has not been initiated, another survey shall be required.
- Nesting bird surveys shall include loggerhead shrike habitat and surveys of the western slope of the Project site for American peregrine falcon and bank swallow nests. Surveys for nesting short-eared owl and California brown pelican shall not be required because although these species could potentially be present on-site, suitable breeding habitat for these species is not present on-site.

- If, during the breeding season, an active nest is discovered in trees or shrubs to be removed, the shrubs shall be protected using orange construction fence or the equivalent. The protective fencing shall be placed around the shrubs at the following distance depending on species: 250 feet from the drip line of the shrubs for passerines and non-raptors; 300 feet from the drip line of the brush for raptors. No parking, storage of materials, or work would be allowed within this area until the end of the breeding season or until the young have fledged, as determined by a qualified biologist.
- The monitoring biologist, in consultation with the Project manager, shall determine the appropriate protection for active nests on a case-by-case basis using the criteria described above.

Conclusion: Incorporation of **mitigation measures BIO-1 through BIO-11** would reduce the potentially significant impact on special status species to a less than significant level.

Sources: Baldwin, B.G., D.H. Goldman, D.J. Keil, R. Patterson, T.J. Rosatti, and D.H. Wilken, editors, *The Jepson Manual: Vascular Plants of California, second edition*, 2012. Cal-IPC, California Invasive Plant Inventory, updated 2007. Cal-IPC, *Preventing the Spread of Invasive Plants: Best Management Practices for Land Managers*, 3rd Edition, 2012. CDFG, *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities*, 2009. CDFW, *List of Vegetation Alliances and Associations*, 2010. CDFW, California Natural Diversity Database (CNDDB), Rarefind 5 (online), 2015. CNPS, Inventory of Rare and Endangered Plants of California (sixth edition), 2001. *Annotated Pedro Point Headlands Bird List*. Donahue, P., *Annotated Pedro Point Headlands Bird List*, Preliminary list of 67 species as of 11 June 2010. Fellers, G. M. and P. M. Kleeman, *California red-legged frog (Rana draytonii) movement and habitat use: implications for conservation*, Journal of Herpetology, 41(2): 271-281, 2007. Holland, Robert F., Preliminary Descriptions of the Terrestrial Natural Communities of California, 1986. Kellerman, Kathy, Pacifica Land Trust, personal communications, July 20, 2015. Kellerman, Kathy, Pacific Land Trust, personal communication, February 17, 2016. Pedro Point Headlands (PPH), Pedro Point Headlands webpage, 2015a, accessed July 19, 2015. PPH, Preliminary Bird List for the Pedro Point Headlands (89 species as of May 2015), 2015b, accessed July 19, 2015. Project Plans, 2015. Sawyer, J. O., T. Keeler-Wolf, and J.M. Evens. *A Manual of California Vegetation, Second Edition*, 2009. USFWS, *Guidelines for Conducting and Reporting Botanical Inventories for Federally Listed, Proposed and Candidate Plants*, 2000. Vasey, M., *Biological Assessment of Pedro Point Headlands, San Mateo County, California*, prepared for the Pacifica Land Trust, December 16, 1994.

4.b.	Have a significant adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?		X		

Discussion: The Project would impact approximately 0.30 acre of restored Pacific reed grass meadow and 0.01 acre of red fescue grassland (both disturbed). These two vegetation communities are considered sensitive communities by CDFW and as ESHAs under the California Coastal Act. Other sensitive vegetation communities are potentially present on-site and could be impacted by Project activities.

Mitigation Measure BIO-12: Sensitive Vegetation Communities Mitigation Measures. The following measures shall be implemented:

- The special status plant survey described in Mitigation Measure BIO-1 shall include surveys for sensitive vegetation communities. If they are present in the Project site,

their location shall be mapped and details shall be recorded on the floristic and cover of the dominant plant species for each community. Acreages of each area shall be calculated based on detailed mapping.

- Impacts to sensitive vegetation communities shall be avoided to the extent that is feasible. If impacts are unavoidable, then compensatory mitigation shall be implemented as described below.
- The revegetation plan described in Mitigation Measure BIO-3 shall include compensatory mitigation of at least 1:1 for impacts to Pacific reed grass meadow (0.30 acre), red fescue grassland (0.01 acre), and any other sensitive community that is impacted by the Project. Because the current occurrence of Pacific reed grass meadow on the project site is restricted to previously restored areas, and the pacific reed grass within these areas is non-reproducing, restoration for Pacific reed grass shall be limited to those areas that preexisted previous restoration efforts, or areas where appropriate and suitable habitat is present to ensure successful restoration efforts (i.e. located on north-facing slopes). The plan shall include a three-year monitoring program to ensure the success of the revegetation plans. The plan shall include details on quantitative vegetation monitoring methods, performance standards, acreages to be established, success criteria based on goals and measurable objectives, and an adaptive management program.

Conclusion: The incorporation of **Mitigation Measures BIO-12** would reduce potentially significant impacts to sensitive vegetation communities to a less than significant level.

Sources: CDFW, *List of Vegetation Alliances and Associations*, 2010. Holland, Robert F., Preliminary Descriptions of the Terrestrial Natural Communities of California, 1986. Project Plans, 2015. Sawyer, J. O., T. Keeler-Wolf, and J.M. Evens. *A Manual of California Vegetation, Second Edition*, 2009.

4.c.	Have a significant adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?				X

Discussion: No jurisdictional wetlands or waters have been identified on-site. The small section of ephemeral/intermittent stream on-site is hydrologically connected to jurisdictional waters (San Pedro Creek and the Pacific Ocean). This ephemeral/intermittent stream is likely to qualify as jurisdictional non-wetland waters of the United States and waters of the State of California under the jurisdictions of the USACE, RWQCB, and CDFW, and potentially as an Environmentally Sensitive Habitat Area (ESHA) under the jurisdiction of the California Coastal Commission. However, no direct impacts to this ephemeral/intermittent stream would occur. The nearest construction activity to the ephemeral/ intermittent stream would take place at least 40 feet away on the Middle Ridge Trail north of its current intersection with the Arroyo Trail, where the existing trail would be abandoned, graded to fill the through cut, and revegetated, and where nearby dead tree trunks and branches would be placed over revegetated areas to slow the rate of storm water runoff. Any grading activity would be located outside of the 30 foot buffer zone for intermittent streams, as defined in Policy 7.11 for the establishment of riparian buffers in the County of San Mateo's Local Coastal Program Policies (June 2013). The *City of Pacifica GP/LCLUP* creek protection policy CO-I-1 requires that minimum creek setbacks be established for projects adjacent to creek, but the policy does not specify a general setback that would be applicable to all projects.

Conclusion: Less than significant impacts to jurisdictional waters would occur.

Sources: San Mateo County, Local Coastal Program Policies, 2013. Project Plans, 2015. Rincon, 2015.

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

Discussion: The Project site lacks perennial channels that could support fish on-site, but wildlife may use the existing trail system or the ephemeral/intermittent stream corridor. The Project is unlikely to adversely affect the movement of wildlife through these corridors. The proposed improvements and stabilization on the trail system could potentially facilitate the use of these corridors by wildlife.

Conclusion: The Project would have a less than significant impact on the movement of any native resident or migratory fish or wildlife species or on established native resident or migratory wildlife corridors, and would not impede the use of native wildlife nursery sites.

Source: Project Plans, 2015.

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

Discussion: The Project would require the removal of up to nine (9) Monterey pine (*pinus radiata*) trees, all within the City of Pacifica. No trees would be removed within the County of San Mateo. Chapter 12 of the Pacifica Municipal Code (Preservation of Heritage Trees) stipulates regulations designed to preserve and protect heritage trees on private or city-owned property. Heritage trees are defined as any trees within the City of Pacifica, exclusive of eucalyptus, which have a trunk with a circumference of fifty (50") inches [approximately sixteen (16") inches in diameter] or more, measured at twenty-four (24") inches above the natural grade. Of the nine trees to be removed, seven have a circumference greater than twenty-four (24) inches. A tree removal permit from the City of Pacifica would be required for the removal of these seven trees. Because no trees would be removed within the County of San Mateo, the County's Significant Tree Ordinance and Heritage Tree Ordinance do not apply.

Pursuant to Section 4-12.05 of the City's Municipal Code, a permit for the removal of heritage trees may be conditioned upon tree relocation on-site, planting of replacement trees, or payment of fees in lieu thereof if on-site replacement is not feasible. If on-site replacement is not feasible, the Director may condition the permit on payment of such a fee in order to mitigate the tree loss without replacement plantings off-site. The applicant may be required to submit an evaluation, appraisal or replacement plan prepared by a qualified horticulturist, arborist or licensed landscape architect. In addition, Section 4-12.07 requires that any development proposal which would remove or engage in construction within the dripline of a heritage tree be accompanied by a tree protection plan which shall insure the preservation of trees where possible and the protection of trees during construction so as to maximize chances for their survival.

The applicant would be required to comply with the City's Municipal Code, including obtaining a tree removal permit and preparing a tree protection plan. Compliance with these existing requirements

would reduce impacts related to tree removal and indirect impacts to protected trees in the City of Pacifica. Although no trees would be removed within the County of San Mateo, construction work within the dripline of trees within the County of San Mateo could result in indirect impacts to heritage or significant trees in the County. Therefore, mitigation is required to reduce indirect impacts to trees in the County.

Mitigation Measure BIO-13: Tree Protection Plan. A tree protection plan shall be prepared by a certified arborist or professional botanist that describes the location and measures to protect trees within the County of San Mateo during construction, and the methods of delineating and fencing tree protection zones. The tree protection plan shall include the following measures:

- The entire dripline area of protected heritage trees shall be marked and fenced prior to grading, paving, movement of heavy equipment, or other construction activity.
- The existing ground surface within the dripline of any heritage tree shall not be cut, filled, or compacted unless there is no other reasonable design alternative.
- All cuts or trenching within the dripline of a heritage tree and all root cuttings are to be made by hand. No backhoes or graders shall be used. Appropriate measures shall be taken to prevent soil upon exposed roots from drying out.

Conclusion: Incorporation of **Mitigation Measure BIO-13** to protect heritage or other protected trees within the County of San Mateo would reduce potentially significant impacts from conflicts with local policies or ordinances protecting biological resources to a less than significant level.

Sources: Pacifica, City of, Municipal Code, 2015. Project Plans, 2015. San Mateo County, General Plan, 1986. San Mateo County, Regulation of the Removal and Trimming of Heritage Trees on Public and Private Property (Ordinance 2727, April 5, 1977). San Mateo County, The Significant Tree Ordinance of San Mateo County (Part Three of Division VIII of the San Mateo County Ordinance Code), 2010. San Mateo County, Zoning Regulations, 2012.

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

Discussion: The Project site is not located within any adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

Conclusion: No impact on such plans would occur.

Source: California Department of Fish and Wildlife, California Regional Conservation Plans Map, August 2015. San Mateo County Parks Department, *San Bruno Mountain Habitat Management Plan*, revised March 2008.

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

Discussion: The nearest marine reserve to the Pedro Point Headlands is the Montara State Marine Reserve, located approximately three miles to the south. No wildlife reserves are located in the vicinity of the Project site. Therefore, no marine or wildlife reserves occur within 200 feet of the site.

Conclusion: No impact on marine or wildlife reserves would occur.

Source: CDFW, San Francisco Bay Marine Protected Areas, September 2013.

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

Discussion: The Project would require the removal of up to ten trees, some of which may be protected under the Pacifica Municipal Code (Preservation of Heritage Trees). However, the project site does not contain oak woodlands or other non-timber woodlands.

Conclusion: No impact to oak woodlands or other non-timber woodlands would occur.

Source: Project Plans, 2015.

5. CULTURAL RESOURCES.

Environmental Setting: A Cultural Resources Study was prepared for the Project site by Rincon Consultants in August 26, 2015. The study identified surface soils at the Pedro Point Headlands as silty-sand and clays derived from Paleocene marine fan deposits and occasional grus sand from sporadic granitic outcrops. This study does not identify any previously unrecorded cultural resources within the Project site. Few indications of cultural resources were found. Two disused fence posts, a rusted drainage pipe found embedded in and cross-cutting Middle Ridge Trail, and various modern trail signs were the only indications of human use.

Would the Project:

		Potentially Significant Impacts	*Significant Unless Mitigated*	*Less Than Significant Impact*	*No Impact*
5.a.	Cause a significant adverse change in the significance of a historical resource as defined in CEQA Section 15064.5?				X

Discussion: The Cultural Resources Study did not identify any potential historic resources within the Project site. A search of the cultural resource records housed at the California Historical Resources Information System (CHRIS) was conducted as part of the Cultural Resources Study to identify all previous cultural resources work and previously recorded cultural resources within a one-half mile radius of the Project site. An intensive pedestrian survey of the Project site was also conducted by Rincon Consultants archaeologists on July 23, 2015, by walking all segments of tails and as much exposed ground as could be found on-site.

The search of cultural records housed at CHRIS found 23 surveys conducted within a one-half mile radius of the Project site and 4 surveys intersecting the site. The search of records housed at CHRIS also found five previously recorded cultural resources within a one-half mile radius of the Project site but none within the site itself. A further search of the National Park Service's National Register of Historic Places found no cultural resources within the Project site.

The only evidence of historical human use of the land within the Project area identified by the intensive pedestrian survey were two disused fence posts, a rusted drainage pipe found embedded in and cross-cutting Middle Ridge Trail, and various modern trail signs. Therefore, the proposed Project to minimize sediment transport to waterways through restoration of areas scarred by past off-road motorcycle use, while improving the existing trail network at the Pedro Point Headlands, would have no effect on historical resources.

Conclusion: No impact on historical resources would occur.

Source: Rincon Consultants, August 26, 2015. National Park Service, National Register of Historic Places, September 2015.

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

Discussion: The Project would fill and eliminate existing gullies and trail scars, re-establish natural topography and positive drainage, restore disturbed trails and gullies to coastal prairie and coastal scrub vegetation, propagate and salvage native plants and construct and rehabilitate sustainable trails in place of decommissioned ones. The construction of this Project would require an estimated 1,200 cubic yards of cut and 2,316 cubic yards of fill. The Cultural Resources Study found no indication of any archaeological resources in the Project area. However, it is possible that unanticipated (previously unrecorded) archaeological resources would be unearthed in the process of construction. In the case of an unanticipated discovery of archaeological resources, the following mitigation measure would reduce the potential impact to less than significant.

Mitigation Measure CUL-1: Unanticipated Discovery of Cultural Resources. If cultural resources are encountered during ground-disturbing activities, work within a 50-foot (15 meters) radius shall be halted and an archaeologist meeting the Secretary of the Interior's Professional Qualifications Standards for archaeology shall be contacted immediately to assess the nature, extent, and potential significance of the cultural resources. If necessary, the evaluation may require preparation of a treatment plan and archaeological testing for CRHR eligibility. If the discovered cultural resources are determined to be significant under CEQA, appropriate actions to mitigate impacts to the remains shall be identified in consultation with the qualified archaeologist. Depending upon the nature of the find, such mitigation may include, but would not be limited to: avoidance, documentation, or other appropriate actions to be determined by the qualified archaeologist. For example, if significant archaeological resources cannot be avoided, impacts may be reduced by filling on top of the sites rather than cutting into the cultural deposits. Alternatively and/or in addition, a data collection program may be warranted, including mapping the location of artifacts, surface collection of artifacts, or excavation of the cultural deposit to characterize the nature of the buried portions of sites. Curation of the excavated artifacts or samples would occur as specified by the archaeologist.

Conclusion: Incorporation of **Mitigation Measure CUL-1** would reduce the potentially significant impact to less than significant.

Source: Rincon Consultants, August 26, 2015.

5.c.	Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?			X	

Discussion: The Project site is underlain by two mapped geologic units: Paleocene-aged turbidite deposits and Holocene-aged colluvium (Brabb et al., 1998; Pampeyan, 1994). The majority of the site is underlain by the Pleistocene turbidite deposits, consisting of submarine fans composed of sandstone, shale, and conglomerate. These rocks have produced marine invertebrate fossils, but only in a limited number of shale beds within the unit (Brabb et al., 1998). Fossils in Pleistocene turbidite deposits have been strictly marine invertebrates and are typically crushed or fragmentary as a result of the high energy depositional environment within which submarine fans are deposited. These common and typically fragmentary marine invertebrate fossils do not represent a unique or

scientifically significant paleontological resource, and these deposits are unlikely to contain significant fossil resources. The mapped Holocene-aged deposits within the Project site are derived from the turbidites, accumulating at the base of hillslopes and in gullies. These sediments are generally too young to contain fossils, and even early Holocene deposits are unlikely to yield intact, identifiable and scientifically significant fossils. Therefore, ground-disturbing construction activity associated with the Project would not directly or indirectly destroy a known unique paleontological resource or site.

Conclusion: Impacts would be less than significant.

Sources: Brabb, E.E., R.W. Graymer, and D.L. Jones, Geology of the onshore part of San Mateo County, California: a digital database, U.S. Geological Survey, Open-File Report 98-137, 1998. Pampeyan, E.H., Geologic map of the Montara Mountain and San Mateo 7-1/2" quadrangles, San Mateo County, California, 1994.

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

Discussion: The Cultural Resources Study found no indication of any human remains in the project area. However, it is possible that previously unknown buried human remains would be unearthed in the process of construction. In the case of an unanticipated discovery of human remains, **Mitigation Measure CUL-2** would require compliance with the applicable requirements of State law. Implementation of this measure would mitigate any potentially significant impact to interred human remains to a less than significant level.

Mitigation Measure CUL-2: Unanticipated Discovery of Human Remains. The discovery of human remains is always a possibility during ground disturbing activities. If human remains are found, the State of California Health and Safety Code Section 7050.5 states that no further disturbance shall occur until the County coroner has made a determination of origin and disposition pursuant to PRC Section 5097.98. In the event of an unanticipated discovery of human remains, the County coroner shall be notified immediately. If the human remains are determined to be prehistoric, the coroner shall notify the Native American Heritage Commission (NAHC), which will determine and notify a Most Likely Descendant (MLD). The MLD shall complete the inspection of the site within 48 hours of notification and may recommend scientific removal and nondestructive analysis of human remains and items associated with Native American burials.

Conclusion: Incorporation of **Mitigation Measure CUL-2** would reduce the potentially significant impact on human remains to a less-than-significant level.

Source: Rincon Consultants, August 26, 2015.

6. GEOLOGY AND SOILS.

Environmental Setting: A Geologic and Geotechnical Evaluation and Plan Review was prepared by Geo-Logic Associates in September 2015 to evaluate potential geologic constraints for the proposed trail improvement and restoration Project. The geotechnical report prepared by Geo-Logic Associates identified an existing landslide along the South Ridge Trail that appears to be dormant but could possibly be reactivated during wet conditions. This report also found that steep slopes to the west of the Bluff Trail between Stations 10+25 and 12+00 are undergoing bluff retreat, although an existing "fin" of severely weathered rock and soil approximately three to eight feet wide on the coastal side of this trail forms a buffer from exposed slopes. The following analysis of impacts related to geology and soils is partly based on the Geo-Logic Associates report.

Would the Project:				
	Potentially Significant Impacts	***Significant Unless Mitigated***	***Less Than Significant Impact***	***No Impact***
6.a. Expose people or structures to potential significant adverse effects, including the risk of loss, injury, or death involving the following, or create a situation that results in:				
i. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other significant evidence of a known fault? *Note: Refer to Division of Mines and Geology Special Publication 42 and the County Geotechnical Hazards Synthesis Map.*				X
Discussion: The Project site is not located within a mapped Alquist-Priolo Earthquake Fault Zone (DOC, 1982). The Project does not include any proposed habitable structures nor would it expose people or structures to significant adverse effects associated with rupture of earthquake faults. **Conclusion:** Given that the Project site is not within an Alquist-Priolo Earthquake Fault Zone, no impact would occur. **Source:** DOC, Division of Mines and Geology, *Special Studies Zones: Montara Mountain Quadrangle*, January 1982.				
ii. Strong seismic ground shaking?				X
Discussion: Strong seismic ground shaking resulting from movement on nearby active faults, including the San Andreas Fault located more than four miles to the east, could occur within the vicinity of the Project area. However, the Project does not include any proposed habitable structures nor would it expose people or structures to significant adverse effects associated with seismic ground shaking. **Conclusion:** No impact related to strong seismic ground shaking would occur. **Source:** DOC, Division of Mines and Geology, *Special Studies Zones: Montara Mountain Quadrangle*, January 1982. Google Earth, 2015.				
iii. Seismic-related ground failure, including liquefaction and differential settling?				X
Discussion: Liquefaction, which is primarily associated with loose, saturated materials, is most common in areas of sand and silt or on reclaimed lands. The Pedro Point Headlands is located in an area where liquefaction susceptibility has been mapped as very low (Association of Bay Area Governments [ABAG], 2010). Differential settlement of the ground surface can occur if buildings other improvements were built on low-strength foundation materials or if improvements cross the				

boundary between different types of surface materials. However, the Project does not include any proposed habitable structures, and would not expose people or structures to risks associated with liquefaction or differential settling.

Conclusion: No impact from seismic-related ground failure would occur.

Source: ABAG, *Taming Natural Disasters: Multi-Jurisdictional Local Hazard Mitigation Plan for the San Francisco Bay Area*, 2010 update.

iv. Landslides?			X	

Discussion: Landslide potential is influenced by physical factors, such as slope, soil, vegetation, and precipitation. Landslides require a slope, and can occur naturally from seismic activity, excessive saturation, and wildfires, or from human-made conditions such as construction disturbance or vegetation removal. The Project site has steep slopes throughout, and the Pedro Point Headlands is mapped as a source area for debris flows, which are triggered by winter rain storms (ABAG, 2010). The geotechnical report prepared by Geo-Logic Associates also identifies an existing landslide along the South Ridge Trail that appears to be dormant but could possibly be reactivated during wet conditions. To ensure the stability of South Ridge Trail, the geotechnical report recommends that the trail be setback horizontally from the top of the landslide scarp by at least ten feet and that the discharge of water from the trail to the landslide area be minimized. The Project would conform to these recommendations. Furthermore, the Project does not include any habitable structures that could be susceptible to landslides.

Conclusion: Impacts from landslides would be less than significant.

Sources: ABAG, *Taming Natural Disasters: Multi-Jurisdictional Local Hazard Mitigation Plan for the San Francisco Bay Area*, 2010 update. Geo-Logic Associates, *Draft Geologic and Geotechnical Evaluation and Plan Review: Pedro Point Headlands Trail Restoration*, September 2015.

v. Coastal cliff/bluff instability or erosion? *Note to reader: This question is looking at instability under current conditions. Future, potential instability is looked at in Section 7 (Climate Change).*			X	

Discussion: The Bluff Trail, as its name suggests, is located on a coastal bluff that descends steeply toward the coastline to the west. The geotechnical report finds that steep slopes to the west of the Bluff Trail between Stations 10+25 and 12+00 are undergoing bluff retreat, although an existing "fin" of severely weathered rock and soil approximately three to eight feet wide on the coastal side of this trail forms a buffer from exposed slopes. In accordance with the recommendations of the geotechnical report, the Bluff Trail would be biased toward the eastern side of the trail alignment as it is narrowed to provide a greater setback from slopes undergoing bluff retreat. This design measure would enhance the longevity of the trail and protect trail users from unstable bluffs. Furthermore, the Project does not include any habitable structures that could be susceptible to bluff instability.

Conclusion: Impacts from bluff instability would be less than significant.

Source: Geo-Logic Associates, *Draft Geologic and Geotechnical Evaluation and Plan Review: Pedro Point Headlands Trail Restoration*, September 2015.

6.b. Result in significant soil erosion or the loss of topsoil?			X	

Discussion: The purpose of the Project is to restore eroding trails at Pedro Point Headlands and prevent further erosion in the future. Although the intent of the Project is to improve existing erosive conditions, there is potential for soil erosion to occur at the site during construction activities associated with the Project. The timing of construction and erosion control measures would minimize the risk of soil erosion. Construction is expected to conclude by mid-October, before the onset of winter storms that increase the risk of erosion, and erosion control measures would be applied during any inclement weather. Silt traps, filter berms, or other measures would prevent discharge of turbid water to nearby waterways. Any material stockpiled on-site would be covered with plastic, especially during the winter months or periods of rain. Erosion control measures would be held in place until native vegetation has been established and provides necessary slope cover (minimum 70% cover). All slopes disturbed and exposed during construction, if not permanently landscaped, would be protected from erosion by mulching and/or hand-broadcasting of the following seed mix:

- *Bromus carinatus*;
- *Danthonia californica;*
- *Elymus glaucus*;
- *Festuca rubra*;
- *Stipa pulchra*;
- *Stipa lepida*; and
- *Koeleria macrantha.*

For any construction taking place after October 15, exposed soil not involved in immediate construction activity would be protected from erosion at all times. Furthermore, during operation of the Project, the proposed erosion control blankets, fiber rolls, rolling dips, out slopes, and revegetation of abandoned trails all would reduce the amount of erosion relative to existing conditions.

Because the Project would involve disturbance of soil on more than one acre, it would also be required to adhere to erosion control requirements stipulated in the National Pollutant Discharge Elimination System (NPDES) Permit issued by the San Francisco Bay Regional Water Quality Control Board. These requirements include the preparation and implementation of a Storm Water Pollution Prevention Plan (SWPPP) that contains Best Management Practices (BMPs) for reducing storm water impacts. The purpose of a SWPPP is to identify potential sediment sources and other pollutants and prescribe BMPs to ensure that potential adverse erosion, siltation, and contamination impacts would not occur during construction activities.

Conclusion: The Project is intended to reduce existing erosive conditions, and implementation of a SWPPP with BMPs and the proposed erosion control measures would minimize soil erosion and loss of topsoil. Therefore, the Project would have less than significant impacts from erosion and loss of topsoil during construction and operation.

Source: Project Plans, 2015.

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

Discussion: The Project would not involve construction of any habitable structures that could expose people to hazardous conditions from landslides, lateral spreading, subsidence, liquefaction, or collapse. In addition, the installation of erosion control measures and full-bench construction of realigned trails would improve the stability of the trail network. As discussed in Item 6.a.iv, the South Ridge Trail would be setback from an identified landslide area, minimizing the hazard to trail users from unstable soils.

Conclusion: Impacts from unstable geologic units or soils would be less than significant.

Source: Project Plans, 2015.

6.d.	Be located on expansive soil, as noted in the 2010 California Building Code, creating significant risks to life or property?				X

Discussion: Expansive soils tend swell with increases in soil moisture and shrink as the soil moisture decreases. The volume changes that the soils undergo in this cyclical pattern can stress and damage slabs and foundations if precautionary measures are not incorporated into construction. However, the Project does not involve construction of any habitable structures that could expose people to hazards from instability caused by expansive soil. In addition, the Geo-Logic Associates report did not identify unstable soils subject to shrinking and swelling on the Project site.

Conclusion: No impact from expansive soils would occur.

Source: Geo-Logic Associates, *Draft Geologic and Geotechnical Evaluation and Plan Review: Pedro Point Headlands Trail Restoration*, September 2015.

6.e.	Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?				X

Discussion: The Project would not require use of septic tanks or any other wastewater disposal systems.

Conclusion: No impact from septic tanks or wastewater disposal systems would occur.

Source: Project Plans, 2015.

7. CLIMATE CHANGE.

Environmental Setting: Gases that trap heat in the atmosphere are often called greenhouse gases (GHGs), analogous to the way in which a greenhouse retains heat. Common GHG include water vapor, carbon dioxide (CO_2), methane (CH_4), nitrous oxides (N_2O_x), fluorinated gases, and ozone. GHGs are emitted by both natural processes and human activities. Of these gases, CO_2 and CH_4 are emitted in the greatest quantities from human activities. Emissions of CO_2 are largely by-products of fossil fuel combustion, whereas CH_4 results from off-gassing associated with agricultural practices and landfills.

Man-made GHGs, many of which have greater heat-absorption potential than CO_2, include fluorinated gases, such as hydrofluorocarbons (HFCs), perfluorocarbons (PFC), and sulfur hexafluoride (SF_6) (Cal EPA, 2006).

The accumulation of GHGs in the atmosphere regulates the earth's temperature. Without the natural heat trapping effect of GHGs, Earth's surface would be about 34° C cooler (Cal EPA, 2006). However, it is believed that emissions from human activities, particularly the consumption of fossil fuels for electricity production and transportation, have elevated the concentration of these gases in the atmosphere beyond the level of naturally occurring concentrations.

Pursuant to the requirements of SB 97, the Resources Agency adopted amendments to the *CEQA Guidelines* for the feasible mitigation of GHG emissions and analysis of the effects of GHG emissions. The adopted *CEQA Guidelines* provide regulatory guidance on the analysis and mitigation of GHG emissions in CEQA documents, while giving lead agencies the discretion to set quantitative or qualitative thresholds for the assessment and mitigation of GHGs and climate change impacts. The Bay Area Air Quality Management District (BAAQMD)has adopted significance thresholds for GHGs

On March 5, 2012, the Alameda County Superior Court issued a judgment finding that the BAAQMD had failed to comply with CEQA when it adopted the greenhouse gas thresholds contained in the BAAQMD's 2010 CEQA Guidelines (BAAQMD 2015). As such, lead agencies need to determine appropriate thresholds of significance for GHG emissions based on substantial evidence in the record. Lead agencies may rely on the BAAQMD's CEQA Guidelines (updated May 2012) for assistance in calculating air pollution emissions, obtaining information regarding the health impacts of air pollutants, and identifying potential mitigation measures. This analysis applies the BAAQMD's GHG thresholds to the Project.

Would the Project:

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

Discussion: Calculations of CO_2 emissions are provided to identify the magnitude of potential Project effects. The analysis focuses on CO_2 because it is the GHG that the Project would emit in the largest quantities during construction. Fluorinated gases, such as HFCs, PFCs, and SF_6, were also considered for the analysis. However, because the Project would not result in any operational emissions, the quantity of fluorinated gases would not be significant since fluorinated gases are primarily associated with industrial processes. Emissions of all GHGs are converted into their equivalent weight in CO_2 (CO_2e).

The California Air Pollution Control Officers Association (CAPCOA) *CEQA and Climate Change* white paper (January 2008) finds that "more study is needed to make this assessment or to develop separate thresholds for construction activity" (CAPCOA, 2008). Additionally, the BAAQMD has not established a threshold of significance for construction-related GHG emissions. Nevertheless, other air districts have recommended amortizing construction-related emissions over a 30 or 50-year period in conjunction with the Project's operational emissions. Emissions associated with the construction period were estimated using the CalEEMod computer model, based on the projected

maximum amount of equipment that would be used on-site at one time. Complete CalEEMod results and assumptions are included in Appendix B.

As discussed in Section 3, *Air Quality*, the CalEEMod analysis assumes that construction activity for the Project would last for approximately 15 months, which is a shorter timeframe than the anticipated 1.5 years (or 18 months) of construction and therefore a conservative assumption. Based on the CalEEMod results, construction activity of the Project would generate an estimated 293.6 metric tons of CO_2e. This is approximately 26.7% of the BAAQMD adopted significance threshold, which considers operational emissions of over 1,100 metric tons carbon dioxide equivalent CO_2e per year to be significant.

Conclusion: Impacts from GHG emissions would be less than significant.

Source: South Coast Air Quality Management District, CalEEMod, version 2013.2.2. California Environmental Protection Agency (Cal EPA), *Climate Action Team Report to Governor Schwarzenegger and the Legislature*, March 2006. CAPCOA, *CEQA and Climate Change*, January 2008.

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

Discussion: The Project would not contribute to urban growth or introduce new long-term sources of air pollutants or greenhouse gas emissions in the SFBAAB. The Project would not conflict with the BAAQMD Clean Air Plan (CAP) due to the temporary nature of construction activities and the small scale of the Project improvements.

Conclusion: Impacts from conflicts with applicable plans to reduce GHG emissions would be less than significant.

Source: South Coast Air Quality Management District, CalEEMod, version 2013.2.2. BAAQMD, 2010 Clean Air Plan.

7.c.	Result in the loss of forestland or conversion of forestland to non-forest use, such that it would release significant amounts of GHG emissions, or significantly reduce GHG sequestering?			X	

Discussion: Although the Project would involve the removal of individual trees, it would not result in a substantial loss of forestland or conversion of forestland to non-forest use (refer to Section 2.f, *Agricultural and Forest Resources*, and Section 4.h, *Biological Resources*).

Conclusion: Impacts from the loss of forestland or conversion of such land would be less than significant.

Source: Appendix B.

7.d.	Expose new or existing structures and/or infrastructure (e.g., leach fields) to accelerated coastal cliff/bluff erosion due to rising sea levels?			X	

Discussion: The Project would involve the installation of educational signs at seven overlooks, including three overlooks on the Bluff Trail near steep coastal bluffs. As noted in Section 6, *Geology and Soils*, a portion of the Bluff Trail is located near a bluff subject to erosion. According to the Pacific Institute's report *The Impacts of Climate Change on the California Coast* (2009), "large sections of the Pacific coast, especially those with rocky headlands or sea cliffs, are not vulnerable to flooding, but are highly susceptible to erosion." In erodible areas, higher sea levels are likely to result in accelerated shoreline erosion from wave action at the toe of bluffs. The Pacific Institute studied 97% of San Mateo County's 59.6 miles of shoreline for erosion hazards under sea level rise. Coastal cliffs in San Mateo County are projected to erode by an average of 31 meters (or 101.7 feet) by the year 2100, or 1.2 feet a year. However, the Pacific Institute report does not estimate the amount of erosion on coastal bluffs and slopes, which are not as steep as cliffs and would be less exposed to erosion from wave action. In the near term, it is unlikely that the Bluff Trail would be subject to erosion caused by rising sea levels because it is elevated at least 500 feet above sea level and located at least 800 feet away from the coastline. Ongoing trail maintenance and inspections would identify areas that are experiencing excessive coastal erosion as a result of sea level rise. As areas are identified, appropriate action such as realignment away from bluffs could be taken to minimize the risk of loss, injury or death. The location of any such realignments would be speculative, and therefore it is not feasible to provide an evaluation of associated physical impacts. Future trail realignments may require additional CEQA review. Furthermore, the Project would not involve construction of structures or infrastructure that could be subject to accelerated bluff erosion from rising sea levels.

Conclusion: Impacts would be less than significant.

Source: Pacific Institute, *The Impacts of Climate Change on the California Coast*, 2009. Google Earth, 2015.

7.e.	Expose people or structures to a significant risk of loss, injury or death involving sea level rise?				X

Discussion: It is projected that climate change may cause mean sea level on the California coastline to rise by 1.0 to 1.4 meters (or 3.3 to 4.6 feet) by the year 2100 (Pacific Institute, 2009). As discussed in Item 7.d, the nearest portion of the Project site to the coastline, the Bluff Trail, is elevated at least 500 feet above sea level and is approximately 800 feet from the coastline. At this elevation and distance from the coastline, trail users on the Bluff Trail would not be at risk to flooding from sea level rise in the next century. The remainder of the Pedro Point Headlands is protected from sea level rise by the coastal bluffs.

Conclusion: No impact would occur.

Source: Google Earth, 2015.

7.f.	Place structures within an anticipated 100-year flood hazard area as mapped on a Federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?				X

Discussion: The Project site is not located within a 100-year flood hazard area (FEMA, 2012). Furthermore, the Project would not involve construction of structures that could be subject to flooding.

Conclusion: No impact would occur.

Source: FEMA, Flood Insurance Rate Map Number 06081C0109E, October 2012. Project Plans, 2015.

7.g.	Place within an anticipated 100-year flood hazard area structures that would impede or redirect flood flows?				X

Discussion: The Project site is not located within a 100-year flood hazard area (FEMA, 2012). Furthermore, the Project would not involve placement of structures within a 100-year flood hazard area that could impede or redirect flood flows.

Conclusion: No impact would occur.

Source: FEMA, Flood Insurance Rate Map Number 06081C0109E, October 2012. Project Plans, 2015.

8. HAZARDS AND HAZARDOUS MATERIALS

Environmental Setting: Hazardous materials include all flammable, reactive, corrosive, or toxic substances which, because of these properties, pose potential harm to the public or environment. The California Department of Environmental Protection (CALEPA) has the responsibility for compiling (pursuant to Government Code §65962.5) information on hazardous material sites in California that together are known as the "Cortese" list. The following databases compiled pursuant to Government Code §65962.5 were checked (November 14, 2015) for known hazardous materials contamination at the project site:

- *Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS) database;*
- *State Water Resources Control Board's GeoTracker database;*
- *Department of Toxic Substances Control's EnviroStor database; and*
- *California Environmental Protection Agency's Cortese list.*

A review of these databases found there are no known hazardous sites on or within 1,000 feet of the Project site. Although the site was formerly used by an off-road motorcycle club, a Preliminary Site Assessment prepared for the Pedro Point Headlands by Environmental Investigations in September 1992 identified no mechanics corps yard or other storage area that could have included hazardous materials associated with the operation of motorcycles on-site (Environmental Investigations, 1992). This report found a low possibility that detectable concentrations of hazardous materials from off-road motorcycle use had been released at the Pedro Point Headlands. A Phase I Environmental Site Assessment prepared by Essel Environmental Consulting in October 2015 found that residual soil-borne contaminants may occur in the immediate vicinity of historical railroad tracks for the Ocean Shore Railroad, which operated from approximately 1907 until 1920 along the western-most edge of the coastal bluffs (Essel, 2015). These potential residual contaminants include metals, oils, creosote, and pesticides. However, the historical railroad was located outside of the Project site to the west, and the Phase I report did not identify the potential residual contaminants as a hazardous concern. No other hazardous conditions were identified on-site.

The Project site also is not within an airport land use plan; it is located approximately 4.6 miles north of Half Moon Bay Airport, a local public-use airport, and 6.5 miles west of San Francisco International Airport. The site is located in a moderate to very high fire hazard severity zone as determined by CAL FIRE (2007). The nearest school, Linda Mar

	Educational Center/Home School Program, is located approximately 0.3 miles east of the site in the City of Pacifica.				
		Potentially Significant Impacts	***Significant Unless Mitigated***	***Less Than Significant Impact***	***No Impact***
8.a.	Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials (e.g., pesticides, herbicides, other toxic substances, or radioactive material)?				X
	Discussion: The proposed trail improvements and restoration activities would not involve the transport, use, or disposal of hazardous materials other than routine temporary use of fuel and engine fluids for grading and construction equipment. **Conclusion:** No impact would occur. **Source:** Project Plans, 2015.				
8.b.	Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?				X
	Discussion: The Project would not involve the transport or use of hazardous materials that could be subject to upset and accident conditions. Trail users on the Project site would be subject to a miniscule risk of such conditions from an accident on Highway 1, which is located less than 100 feet from the southeastern boundary of the site. However, the Pedro Point Headlands are already open to public use, and the Project would not result in more exposure to hazards from increased visitorship. **Conclusion:** No impact would occur. **Sources:** Project Plans, 2015. Google Earth, 2015.				
8.c.	Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?				X
	Discussion: Because the Project site is located more than one-quarter mile away from the nearest school and the Project would not involve hazardous emissions or handing of hazardous materials beyond the routine temporary use of fuel and engine fluids for grading and construction equipment, the Project would not adversely affect nearby schools. **Conclusion:** No impact would occur. **Sources:** Project Plans, 2015. Google Earth, 2015.				

8.d.	Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?				X

Discussion: Based on a review of databases of hazardous material sites compiled pursuant to Government Code Section 65962.5, the Project site does not contain any known hazardous materials. In addition, there are no known hazardous sites on or within 1,000 feet of the Project site.

Conclusion: No impact from listed hazardous materials sites would occur.

Sources: California Department of Toxic Substances Control, EnviroStor Database, November 2015. Environmental Investigations, Preliminary Site Assessment: 246 Acres of Land, San Pedro Point, Pacifica, California, September 1992. Essel Environmental Consulting, Phase I Environmental Site Assessment: Pedro Point Headlands Property, October 2015. State Water Resources Control Board, GeoTracker Database, November 2015. Cal EPA, Cortese List, 2012. U.S. EPA, CERCLIS Database, 2015.

8.e.	For a project located within an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, result in a safety hazard for people residing or working in the project area?				X

Discussion: Airport-related hazards include aircraft accidents, particularly during takeoffs and landings, incompatible land uses, power transmission lines, wildlife hazards (e.g., bird strikes), and tall structures that penetrate the airspace surrounding an airport. The Project site is not susceptible to these hazards because of its distance from the nearest public airports: approximately 4.6 miles north of Half Moon Bay Airport, a local public-use airport, and 6.5 miles west of San Francisco International Airport. In addition, the project site is not located within the area covered by an airport land use plan.

Conclusion: No safety hazards from proximity to public airports would occur.

Source: Google Earth, 2015.

8.f.	For a project within the vicinity of a private airstrip, result in a safety hazard for people residing or working in the project area?				X

Discussion: The Pedro Point Headlands are not located in the vicinity of a private airstrip.

Conclusion: No safety hazards from proximity to private airstrips would occur.

Source: Google Earth, 2015.

8.g.	Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?			X	

Discussion: The proposed restoration and trail improvement project does not involve the development of structures that could potentially impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan. The Pedro Point Headlands would remain accessible to emergency vehicles from Highway 1. All construction activities associated with the project would occur within the boundaries of the Pedro Point Headlands, and work would not restrict access to or block any public road outside the immediate construction area. The site also is currently open to public use, and the Project would not generate additional visitors that could be involved in emergencies on-site.

Conclusion: Impacts would be less than significant.

Source: Project Plans, 2015.

8.h.	Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?			X	

Discussion: Although the project site is a wildland area that is located in a moderate to very high fire hazard severity zone as determined by CAL FIRE, the project does not include any new habitable structures that would be susceptible to wildfires (CAL FIRE, 2007). In the event of a fire at the Pedro Point Headlands, visitors would be within a one-mile walk on the trail network from the trailhead at Highway 1 and could quickly evacuate the site. The Project also would not increase the exposure of people to wildfires, as it would not generate additional visitors beyond existing public use of the Pedro Point Headlands.

Conclusion: Impacts would be less than significant.

Source: CAL FIRE, Fire Hazard Severity Zones in SRA, November 2007.

8.i.	Place housing within an existing 100-year flood hazard area as mapped on a Federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?				X

Discussion: The Project would not involve construction of housing.

Conclusion: No impact would occur.

Source: Project Plans, 2015.

8.j.	Place within an existing 100-year flood hazard area structures that would impede or redirect flood flows?				X

Discussion: The Project would not involve construction of structures within a 100-year flood hazard area.

Conclusion: No impact would occur.

Source: Project Plans, 2015.

8.k.	Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?				X

Discussion: The Pedro Point Headlands are not located within an inundation area for dam failure, as mapped for San Mateo County (San Mateo County, 2005). No levees exist near the Project site.

Conclusion: No impact would occur.

Source: San Mateo County, Dam Failure Inundation Areas – San Mateo County, 2005.

8.l.	Inundation by seiche, tsunami, or mudflow?			X	

Discussion: The Project site is not located in a tsunami inundation area, according to the California Emergency Management Agency's map for emergency planning in the Montara Mountain Quadrangle (2009). The Project site also is not located near an inland body of water that is large enough to be subject to a seiche. Although the geotechnical report for the Project identified an unstable area near the Bluff Trail that could be subject to land sliding (or mudflows in wet weather), the proposed improvements in the area have been designed to realign the Bluff Trail away from potential landslides or mudflows.

Conclusion: Impacts from inundation by seiche, tsunami, or mudflow would be less than significant.

Source: California Emergency Management Agency, *Tsunami Inundation Map for Emergency Planning: Montara Mountain Quadrangle*, 2009.

9. HYDROLOGY AND WATER QUALITY.

Environmental Setting: The drainage pattern on the Project site is characterized by narrow valleys between three parallel ridges that run roughly in an east-west direction across the site. These ridges and valleys generally slope down from the western edge of the site toward Highway 1 to the east. An ephemeral/intermittent drainage runs adjacent to the Arroyo Trail.

Would the Project:

		Potentially Significant Impacts	*Significant Unless Mitigated*	*Less Than Significant Impact*	*No Impact*
9.a.	Violate any water quality standards or waste discharge requirements (consider water quality parameters such as temperature, dissolved oxygen, turbidity and other typical storm water pollutants (e.g., heavy metals, pathogens, petroleum derivatives, synthetic organics, sediment, nutrients, oxygen-demanding substances, and trash))?			X	

Discussion: Storm water runoff during grading activity could cause erosion and sedimentation. The Project includes erosion control measures to reduce discharge of storm water runoff during

construction and would improve water quality over the long term. The timing of construction and erosion control measures would minimize the risk of soil erosion. Construction is expected to conclude by mid-October, before the onset of winter storms that increase the risk of erosion, and erosion control measures would be applied during any inclement weather. Silt traps, filter berms, or other measures would prevent discharge of turbid water to nearby waterways. Any material stockpiled on-site would be covered with plastic, especially during the winter months or periods of rain. Erosion control measures would be held in place until native vegetation has been established and provides necessary slope cover (minimum 70% cover). All slopes disturbed and exposed during construction, if not permanently landscaped, would be protected from erosion by mulching and/or hand-broadcasting of the following seed mix:

- *Bromus carinatus*;
- *Elymus glaucus*;
- *Festuca rubra*;
- *Stipa pulchra*;
- *Stipa lepida*; and
- *Koeleria macrantha.*

For any construction taking place after October 15, exposed soil not involved in immediate construction activity would be protected from erosion at all times. Furthermore, during operation of the project, the proposed erosion control blankets, fiber rolls, rolling dips, out slopes, and revegetation of abandoned trails all would reduce the amount of erosion relative to existing conditions. These proposed measures during construction and operation of the Project would be features of the Project, functionally equivalent to mitigation measures, and no additional mitigation measures would be necessary to minimize erosion and storm water runoff.

Because the Project would involve disturbance of soil on more than one acre, it would also be subject to erosion control requirements stipulated in the NPDES Permit issued by the San Francisco Bay Regional Water Quality Control Board. These requirements include the preparation and implementation of a SWPPP that contains BMPs for reducing storm water impacts. The purpose of a SWPPP is to identify potential sediment sources and other pollutants and prescribe BMPs to ensure that potential adverse erosion, siltation, and contamination impacts would not occur during construction activities. Implementation of a SWPPP with BMPs would control erosion and protect water quality from potential contaminants in storm water runoff emanating from the construction site. BMPs to protect water quality may include, but are not limited to, damp street sweeping, providing appropriate covers for outdoor material storage areas, and temporary cover of disturbed surfaces. Once operational, portions of the trail system would be open to bicyclists and equestrian users. These types of trail uses are more erosive than hikers. However, the Project is intended to minimize sediment transport to waterways and has been designed to restore areas scarred by past off-road motorcycle use. In addition, bicyclists and equestrian users would only be able to access a portion of the trail system. The proposed improvements would improve water quality relative to existing conditions, regardless of the type of users on the trail. Further, no motor vehicle use by the public would be permitted, and the only motorized vehicles on the trail network would be all-terrain Kubotas used for maintenance purposes. The existing over-steepened trails serve as conduits for concentrated storm water runoff which travels at a relatively high speed down steep slopes. The realignment of these over-steepened trails would reduce the concentration of storm water runoff. The installation of erosion control blankets on all disturbed slopes with greater than 20% grades, fiber rolls along the contour of slopes, and out sloping and rolling dips on trails also would minimize erosion. These restoration activities and other trail improvements would not cause heavy metal pollution on-site.

Equestrian use on the site may affect water quality. Equestrian manure and urine contain nutrients, such as phosphorous and nitrogen, and microorganisms, such as coliform bacteria. Microorganisms such as bacteria consume organic matter in manure along with the oxygen found in the water and release carbon dioxide. Excess bacteria in water can lead to asphyxiation or suffocation of aquatic animals in the receiving waters downstream. These impacts occur to water bodies when waste is deposited directly in a water body or indirectly through runoff. The project would not construct any trails within or immediately adjacent to the on-site ephemeral/intermittent stream, such that equestrian users would not be depositing waste into the stream directly. Some project improvements would be within 100 feet of this stream. This would include restoration such as installing straw wattles and planting, and may include some grading. However, there would not be trails within 100 feet of the ephemeral/intermittent stream. Furthermore, the installation of erosion control blankets, fiber rolls, and other restoration features would minimize runoff to the on-site ephemeral/intermittent stream. Although horse manure from new equestrian use on the South Ridge Trail and the lower portion of the Bluff Trail would introduce coliform bacteria to the San Pedro Creek watershed, which is currently impaired with this pollutant, the proposed erosion and stormwater control features would minimize the runoff of coliform bacteria to the on-site ephemeral/intermittent stream that drains to San Pedro Creek. Furthermore, a relatively low level of equestrian activity and associated waste is anticipated on-site because the Project would not provide a staging area for horse trailers or access to the complete trail network at the Pedro Point Headlands. Therefore, it is not anticipated that pollutants in equestrian waste would reach the on-site stream indirectly.

Therefore, the Project would not violate any water quality standards or waste discharge requirements.

Conclusion: Impacts would be less than significant.

Source: Project Plans, 2015. State Water Resources Control Board, Category 5: Final 2012 Integrated Report (CWA Section 303(d) List / 305(b) Report), 2012.

9.b.	Significantly deplete groundwater supplies or interfere significantly with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?				X

Discussion: The Project would involve minimal use of water to reduce fugitive dust emissions during construction, as required by **Mitigation Measure AQ-1**, and to establish native plants in revegetated areas. In addition, water would be required to maintain plants at the temporary plant nursery on-site. This water would be stored in two 1,500-gallon storage tanks at the plant nursery. Water would be supplied by NCCWD and trucked in from an off-site hydrant located 1,000 feet away from the nursery at the northern entrance to the Devil's Slide Trail. Because the NCCWD obtains all of its water from the Hetch Hetchy Reservoir (NCCWD, 2011), via the City and County of San Francisco's regional water supply system, the use of water on the Project site would not deplete local groundwater supplies. The Project also would not introduce new impervious surfaces and therefore would not interfere with groundwater recharge.

Conclusion: No impact would occur.

Source: North Coast County Water District, Urban Water Management Plan 2010-2015, 2011. Project Plans, 2015.

9.c.	Significantly alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner that would result in significant erosion or siltation on- or off-site?			X	

Discussion: Ground disturbance during construction would temporarily alter drainage patterns. As noted under Item 9.a, construction would be subject to a State NPDES General Construction Permit that imposes strict requirements to minimize erosion and siltation, and the proposed erosion control measures would reduce these impacts during construction and operation of the Project.

The Project would alter existing drainage patterns by abandoning, grading, and revegetating disturbed trails and by grading for realignment of existing trails. However, as discussed in Item 9.a, proposed restoration activities are intended to reduce erosion throughout the Pedro Point Headlands' trail network. The realignment of over-steepened trails would reduce the concentration of storm water runoff on steep slopes. The installation of erosion control blankets on all disturbed slopes with greater than 20% grades, fiber rolls along the contour of slopes, and out sloping and rolling dips on trails also would minimize erosion. Furthermore, the Project would not alter the course of any streams on-site.

Conclusion: Impacts from alteration of existing drainage patterns would be less than significant.

Source: Project Plans, 2015.

9.d.	Significantly alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or significantly increase the rate or amount of surface runoff in a manner that would result in flooding on- or off-site?			X	

Discussion: Ground disturbance of the Project site during construction would temporarily alter drainage patterns, but construction would be subject to a State NPDES General Construction Permit that imposes strict requirements that would reduce the volume of storm water runoff. The proposed restoration activities, including revegetation of trail scars and the edges of wide trails, also would reduce the amount of concentrated surface runoff from the trail network during operation of the Project. Furthermore, the Project would not add impervious surfaces that could increase surface runoff. **Conclusion:** Impacts would be less than significant.

Source: Project Plans, 2015.

9.e.	Create or contribute runoff water that would exceed the capacity of existing or planned storm water drainage systems or provide significant additional sources of polluted runoff?			X	

Discussion: As discussed in Item 9.a, the Project includes erosion control measures to reduce discharge of storm water runoff during construction, and compliance with the NPDES General Construction Permit would further reduce storm water runoff. The proposed restoration improvements also would result in a decrease in concentrated runoff during storm events over the

long term. Furthermore, no new water-intensive activities are proposed that would contribute substantial additional runoff that could exceed the capacity of storm water drainage systems downstream of the Pedro Point Headlands.

Conclusion: Impacts would be less than significant.

Source: Project Plans, 2015.

9.f.	Significantly degrade surface or ground-water water quality?			X	

Discussion: As discussed in Item 9.a, the Project would include standard measures to control erosion and runoff during construction and would improve water quality by reducing sedimentation over the long term. Additionally, compliance with the requirements of the NPDES General Construction Permit would ensure that no substantial degradation of surface or groundwater quality would occur.

Conclusion: Impacts would be less than significant.

Source: Project Plans, 2015.

9.g.	Result in increased impervious surfaces and associated increased runoff?				X

Discussion: The Project would maintain the Pedro Point Headlands as an undeveloped open space area without impervious surfaces. Therefore, it would not result in increased runoff from the introduction of impervious surfaces.

Conclusion: No impact would occur.

Source: Project Plans, 2015.

10. LAND USE AND PLANNING.

As shown in **Figure 2**, the Project site is located mainly in unincorporated San Mateo County and partly in the City of Pacifica. The site is zoned Resource Management/Coastal Zone (RM-CZ/CD) in San Mateo County and Agriculture/B-5 in the City of Pacifica. Surrounding areas are largely undeveloped with the exception of some single family residences at the end of Grand Avenue in the City of Pacifica to the north.

Would the Project:

		Potentially Significant Impacts	*Significant Unless Mitigated*	*Less Than Significant Impact*	*No Impact*
10.a.	Physically divide an established community?				X

Discussion: The Project would maintain the Pedro Point Headlands as an open space area with a trail network available for public use. It would not physically divide any established communities.

Conclusion: No impact would occur.

Source: Project Plans, 2015.

10.b.	Conflict with any applicable land use plan, policy or regulation of an agency with jurisdiction over the project (including, but not limited to, the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?			X	

Discussion: The proposed trail improvement and restoration activities would occur on unincorporated San Mateo County land, with the exception of the following elements on the Middle Ridge Trail within the city limits of Pacifica: abandoning and revegetating informal connections to the Arroyo Trail; narrowing, slightly realigning, and revegetating the edges of the existing trail; abandoning the southeastern through cut portion of trail connecting to Arroyo Trail; and constructing an overlook with educational signage.

The Project would maintain the existing recreational use on an open space area and would not change the nature of any land use in San Mateo County or the City of Pacifica. Therefore, it would not result in conflicts with existing zoning in either jurisdiction. The proposed trail improvements and restoration activities also would not conflict with applicable land use policies. Consistent with Policy 6.4 (Environmental Compatibility) in the San Mateo County General Plan (1986), the Project would "protect and enhance the environmental quality of San Mateo County when developing park and recreation facilities." The proposed scenic overlooks with educational signage would be consistent with Policy 6.50 (Outdoor Recreation and Programs) for County facilities to emphasize the enjoyment and appreciation of natural outdoor settings. The closure of over-steepened disturbed trails and revegetation of these areas and the margins of existing wide trails would be consistent with County goals to protect vegetative resources and sensitive habitats.

The Project would also be consistent with applicable policies in the City of Pacifica's General Plan (1980). Policy 6 in the City's Land Use Element would allow trails on visually prominent ridgelines provided that they "follow contours, minimize grading, and are unobtrusive in their design." Ridgetop trails on the Project site would be realigned to better conform to contours, grading would be to the minimum scale necessary to install trail improvements and restoration elements, and no obtrusive structures would be erected. As per Policy 3 in the City's Community Design Element, the Project also would protect "irreplaceable scenic and visual amenities" at the Pedro Point Headlands by preserving scenic views, substantially preserving existing vegetation, and revegetating trail scars.

Consistency with City and County zoning and policies would guarantee that the Project is in compliance with applicable regulations that protect the environment.

Conclusion: The Project would have a less than significant impact from conflicts with applicable land use plans, policies, and regulations.

Source: San Mateo County, General Plan, 1986. San Mateo County, Planning and Building Department, GIS, 2015.

10.c.	Conflict with any applicable habitat conservation plan or natural community conservation plan?				X

Discussion: San Bruno Mountain, located approximately seven miles northeast of the Project site, is the nearest area covered by a habitat conservation plan or natural community conservation plan. The Project site is not located within the boundaries of the San Bruno Mountain Habitat Conservation Plan or any other adopted or approved plan.

Conclusion: No conflict with an adopted or approved plan would occur. **Source:** California Department of Fish and Wildlife, California Regional Conservation Plans Map, August 2015. San Mateo County Parks Department, *San Bruno Mountain Habitat Management Plan*, revised March 2008.				
10.d. Result in the congregating of more than 50 people on a regular basis?				X
Discussion: The Project would maintain the Pedro Point Headlands as an open space area with a trail network accessible for public use and would not generate an increase in public use. Therefore, the Project would not result in the congregating of more than 50 people on a regular basis. **Conclusion:** No impact would occur. **Source:** Project Plans, 2015.				
10.e. Result in the introduction of activities not currently found within the community?				X
Discussion: The Project would maintain the Pedro Point Headlands as an open space area with a trail network accessible for public use by hikers, equestrians, and bicyclists, and would not introduce new activities not currently found within San Mateo County. **Conclusion:** No impact would occur. **Source:** Project Plans, 2015.				
10.f. Serve to encourage off-site development of presently undeveloped areas or increase development intensity of already developed areas (examples include the introduction of new or expanded public utilities, new industry, commercial facilities or recreation activities)?				X
Discussion: Given that the Project would maintain the Pedro Point Headlands as an open space area without increasing the intensity of use, it would not encourage off-site development. **Conclusion:** No impact would occur. **Source:** Project Plans, 2015.				
10.g. Create a significant new demand for housing?				X
Discussion: The Project would not generate a long-term increase in employment or otherwise create significant new demand for housing. **Source:** Project Plans, 2015.				

11. **MINERAL RESOURCES**. Would the Project:				
	Potentially Significant Impacts	***Significant Unless Mitigated***	***Less Than Significant Impact***	***No Impact***
11.a. Result in the loss of availability of a known mineral resource that would be of value to the region or the residents of the State?				X
Discussion: No regionally significant mineral resources have been identified at the Pedro Point Headlands. Furthermore, the area is set aside for open space, a land use which is incompatible with the extraction of mineral resources. **Conclusion:** No impact would occur. **Source:** San Mateo County, Planning and Building Department, GIS, 2015.				
11.b. Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?				X
Discussion: The Project would not involve the removal of known or locally important mineral resources. **Conclusion:** No impact would occur. **Source:** Project Plans, 2015.				

12. NOISE.

Environmental Setting: The Pedro Point Headlands are surrounded by preserved open space to the south, agricultural operations across Highway 1 to the east, and a residential neighborhood in the City of Pacifica as close as 350 feet to the north. Highway 1 runs on a steep grade approximately 100 feet east of the project site. Vehicle noise from Highway 1 and other roads in the City of Pacifica is the primary source of noise for this site.

Noise is defined as unwanted sound that disturbs human activity. Environmental noise levels typically fluctuate over time, and different types of noise descriptors are used to account for this variability. Noise level measurements include intensity, frequency, and duration, as well as time of occurrence. Noise level (or volume) is generally measured in decibels (dB) using the A-weighted sound pressure level (dBA).

Some land uses are considered more sensitive to ambient noise levels than other uses due to the amount of noise exposure and the types of activities involved. Residences, motels, hotels, schools, libraries, churches, nursing homes, auditoriums, parks and outdoor recreation areas are more sensitive to noise than are commercial and industrial land uses. The nearest sensitive receptors to the project site are single-family residences in the City of Pacifica to the north, located as close as approximately 350 feet away from proposed grading activity on the Middle Ridge Trail. The Linda Mar Education Center/Home School

Program also is located in the City of Pacifica approximately 1,500 feet east of the South Ridge Trailhead. In addition, grading activity on the South Ridge Trail would occur within approximately 350 feet of the Devil's Slide Trail in unincorporated San Mateo County land to the south; however, the noise ordinance in Section 4.88.330 of the County Municipal Code does not define outdoor recreational areas as sensitive to noise, so the trail would not be a noise-sensitive use.

Because the nearest recognized sensitive receptors are located in the City of Pacifica, the City's noise regulations would apply to potential noise impacts to these receptors. The City of Pacifica does not currently have guidelines for acceptable noise exposure levels for various land uses, although its draft General Plan Update proposes such guidelines; these draft noise compatibility guidelines have not yet been adopted and therefore are not considered in this analysis. Title 5, Chapter 10 of the Pacifica Municipal Code prohibits the use of pile drivers, steam shovels, pneumatic hammers, or similar equipment between 8 p.m. and 7 a.m. The County's noise standards for hours of construction also would apply to the Project. Section 4.88.360 of the County Code of Ordinances exempts construction noise from the County's noise standards, provided that it does not occur between 6 p.m. and 7 a.m. on weekdays, and between 5 p.m. and 9 a.m. on Saturdays.

On November 12, 2015, Rincon Consultants, Inc. performed one 15-minute weekday noise measurement at the entrance gate to the Pedro Point Headlands along Highway 1, using an ANSI Type II integrating sound level meter. As shown on **Table 7**, the existing ambient noise level at the project site was measured at 70.0 dBA Leq. During this measurement, the primary noise source was motor vehicles on Highway 1, including 11 trucks, one bus, 37 pickup trucks, 160 cars, and two motorcycles. The loudest individual vehicles were trucks traveling uphill on Highway 1 toward the Devil's Slide Tunnel to the southwest. Noise from motor vehicles on Highway 1 also is clearly perceptible on much of the trail network in the interior of the Pedro Point Headlands.

Table 7
Noise Measurement Results

Measurement Location	Distance from Highway 1	Primary Noise Source	dBA Leq[1]
Entrance gate to Pedro Point Headlands	30 feet from centerline	Motor vehicles	70.0

Source: Rincon Consultants, Inc. Recorded during field visit using ANSI Type II Integrating sound level meter. See Appendix D for complete noise measurement results.

[1] The equivalent noise level (Leq) is defined as the single steady A-weighted level that is equivalent to the same amount of energy as that contained in the actual fluctuating levels over a period of time (essentially, the average noise level). For this measurement the Leq was over a 15-minute period.

Vibration is a unique form of noise. It is unique because its energy is carried through buildings, structures, and the ground, whereas noise is simply carried through the air. Thus, vibration is generally felt rather than heard. Some vibration effects can be caused by noise; e.g., the rattling of windows from passing trucks. This phenomenon is caused by the coupling of the acoustic energy at frequencies that are close to the resonant frequency of the material being vibrated. Typically, groundborne vibration generated by manmade activities attenuates rapidly as distance from the source of the vibration increases. The ground motion caused by vibration is measured as particle velocity in inches per second and is referenced as vibration decibels (VdB) in the U.S.

The vibration velocity level threshold of perception for humans is approximately 65 VdB. A vibration velocity of 75 VdB is the approximate dividing line between barely perceptible and distinctly perceptible levels for many people. Most perceptible indoor vibration is caused by

sources within buildings such as operation of mechanical equipment, movement of people, or the slamming of doors. Typical outdoor sources of perceptible groundborne vibration are construction equipment, steel wheeled trains, and traffic on rough roads.

Vibration impacts would be significant if they exceed the following Federal Railroad Administration (FRA) thresholds:

- 65 VdB where low ambient vibration is essential for interior operations, such as hospitals and recording studios
- 72 VdB for residences and buildings where people normally sleep, including hotels
- 75 VdB for institutional land uses with primary daytime use, such as churches and schools
- 95 VdB for physical damage to extremely fragile historic buildings
- 100 VdB for physical damage to buildings

Construction-related vibration impacts would be less than significant for residential receptors if they are below the threshold of physical damage to buildings and occur during the City's normally permitted hours of construction, as described above, because these construction hours are during the daytime and would therefore not normally interfere with sleep.

Would the Project result in:

		Potentially Significant Impacts	*Significant Unless Mitigated*	*Less Than Significant Impact*	*No Impact*
12.a.	Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?			X	

Discussion: Project construction would generate temporary noise levels during the estimated up-to-1.5-year process that could be audible to sensitive receptors near the Project site. A backhoe and small excavator would be used for grading, and construction vehicles including haul trucks would access the site by an entrance on the north side of Highway 1. Noise from point sources generally decreases by about 6 dBA per doubling of distance for point source emitters. **Table 8** shows typical noise levels associated with equipment used for the construction of the Project, including backhoes, excavators, and trucks both at a reference distance of 50 feet from the source and at distances of 350 feet and 1,500 feet (corresponding to the nearest residential and school receptors, respectively).

Table 8
Typical Construction Noise Levels

Equipment	Typical Level (dBA) 50 Feet from the Source	Typical Level (dBA) 350 Feet from the Source	Typical Level (dBA) 1,500 Feet from the Source
Backhoe	80	63	51
Excavator[1]	82	65	53
Truck	88	N/A[2]	59

Source: Harris Miller, Miller & Hanson Inc. May 2006 for the Federal Transit Administration.

1. Excavators are identified as mechanical shovels in the above source.

2. Noise levels for trucks are not calculated at a distance of 350 feet from the source because the Project would not involve the use of trucks on the Middle Ridge Trail, approximately 350 feet from residential receptors. Trucks would operate in the southeastern corner of the site at the construction staging area, which is located approximately 0.4 miles away from the residential receptors.

As indicated, the maximum noise level during construction activities would be approximately 65 dBA Leq at the exterior of the nearest residences and 59 dBA Leq at the exterior of the nearest school. Such noise levels would occur during normal waking hours (7 a.m. to 6 p.m. on weekdays and 9 a.m. to 5 p.m. on Saturdays), consistent with Section 4.88.360 of the County Code of Ordinances, and would last for a period of up to 1.5 years, which would not cause a substantial disturbance to nearby residents. Furthermore, construction would not involve the use of heavy equipment such as pile drivers, steam shovels, pneumatic hammers, which are restricted by the City of Pacifica's noise ordinance. Operation of the Project would not generate additional traffic relative to existing use of the Pedro Point Headlands. Therefore, the Project would not exposure people to noise levels in excess of any standards established in the local general plan or noise ordinance.

Conclusion: Impacts would be less than significant.

Sources: Harris Miller, Miller & Hanson Inc., *Transit Noise and Vibration Impact Assessment*, May 2006. City of Pacifica, Municipal Code, 2015. San Mateo County, Code of Ordinances, 2015. Google Earth, 2015.

12.b.	Exposure of persons to or generation of excessive ground-borne vibration or ground-borne noise levels?			X	

Discussion: Construction activities that would occur on the Project site have the potential to generate groundborne vibration. **Table 9** identifies various vibration velocity levels for the types of vibration-producing construction equipment that would operate at the Project site during construction. Vibration levels are estimated at a reference distance of 25 feet and distances of 350 feet and 1,500 (corresponding to the nearest residential and school receptors, respectively).

Table 9
Vibration Source Levels for Construction Equipment

Equipment	Approximate VdB		
	25 Feet	350 Feet	1,500 Feet
Excavator[1]	94	71	58
Loaded Trucks	86	63	50

Source: Federal Railroad Administration, 1998.

1. Vibration source levels for excavators are derived from estimates for the "clam shovel drop," which is a type of excavator.

As shown in **Table 9**, vibration levels could be approximately 71 VdB at the nearest residences to construction activity on the Project site, located 350 feet to the north of the Middle Ridge Trail. However, it should be noted that a small excavator would be used in construction, which would likely generate lower vibration levels that estimated in **Table 9**. Furthermore, because the County's noise ordinance would restrict construction hours to the daytime, vibration levels would not approach the Federal Railroad Administration's threshold of 72 VdB at residences during recognized sleep hours. Vibration levels also would be less than 75 VdB at the nearest school, located approximately 1,500 feet east of the Project site. In addition, the project would not exceed vibration levels that could potentially damage nearby buildings.

Conclusion: Vibration impacts would be less than significant.

Source: Harris Miller, Miller & Hanson Inc., *Transit Noise and Vibration Impact Assessment*, May 2006. Federal Railroad Administration, *Human Response to Different Levels of Groundborne Vibration*, 1998. Google Earth, 2015.

12.c. A significant permanent increase in ambient noise levels in the project vicinity above levels existing without the project?				X

Discussion: Because the Project would not generate additional traffic or visitorship to the Pedro Point Headlands, relative to existing public use of the site, as discussed in Section 16, *Transportation/Traffic,* it would not result in a permanent increase in ambient noise levels in the Project vicinity.

Conclusion: No impact would occur.

Source: Project Plans, 2015.

12.d. A significant temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?			X	

Discussion: As discussed in Item 12.a, construction of the proposed trail improvements and restoration activities would involve the use of backhoes, excavators, and haul trucks. The maximum noise level from the use of this equipment during construction activities would be approximately 65 dBA Leq at the exterior of the nearest residences and 59 dBA Leq at the exterior of the nearest

school. Such noise levels during normal waking hours for a period of up to 1.5 years would not cause a substantial disturbance to nearby residents or students. Furthermore, construction would not involve the use of heavy equipment such as pile drivers, steam shovels, pneumatic hammers, which are restricted by the City of Pacifica's noise ordinance. The Project would not cause a significant temporary increase in ambient noise levels in the Project vicinity.

Conclusion: Impacts would be less than significant.

Source: Project Plans, 2015. City of Pacifica, Municipal Code, 2015.

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

Discussion: As discussed in Items 8.e and 8.f in Section 8, *Hazards and Hazardous Materials*, the Project site is not located within an area subject to an airport land use plan or within two miles of a public or private airport.

Conclusion: No noise conflicts with aircraft would occur.

Source: Google Earth, 2015.

12.f. For a project within the vicinity of a private airstrip, exposure to people residing or working in the project area to excessive noise levels?				X

Discussion: See Item 12.e. No private airstrips occur nearby.

Conclusion: No impact would occur.

Source: Google Earth, 2015.

13. POPULATION AND HOUSING.

Would the Project:

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

Discussion: The Project would not involve construction of new home and businesses, or the extension of roads or other infrastructure. Therefore, it would not directly or indirectly induce population growth.

Conclusion: No impact would occur.

Source: Project Plans, 2015.

13.b. Displace existing housing **(including low- or moderate-income housing)**, in an area that is substantially deficient in housing, necessitating the construction of replacement housing elsewhere?				X

Discussion: The Project would not displace any housing or people, as no residences are located on-site.

Conclusion: No impact would occur.

Source: Project Plans, 2015.

14. PUBLIC SERVICES.

Environmental Setting: The Pedro Point Headlands is currently an open space area with a trail network open to the public. The Pedro Point Headlands is accessible by a trailhead to the California Coastal Trail on the north side of Highway 1. Parking is available at nearby pull-offs on Highway 1 and to the west at the northern terminus of the Devil's Slide Trail.

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

	Potentially Significant Impacts	***Significant Unless Mitigated***	***Less Than Significant Impact***	***No Impact***
14.a. Fire protection?				X

Discussion: Currently, fire protection within the Pedro Point Headlands is provided by the Pacifica Fire Department in conjunction with the North County Fire Authority. The closest station to the Pedro Point Headlands is Pacifica Fire Department Station Number 2, located at 1100 Linda Mar Boulevard, approximately two miles to the north. The Pacifica Fire Department has an additional station located five miles north of the Project site at 616 Edgemar Avenue. The next closest fire station able to respond to the Pedro Point Headlands is the Coast Side Fire Protection District located at 501 Stetson Street in Moss Beach, approximately four miles to the south along Highway 1.

The Project would not result in an increase in population that would result in an increased demand for fire protection services. Additionally, the Project would not increase the need for fire protection services within the Pedro Point Headlands. The Project would not increase the need for fire protection services or create an adverse impact on fire protection services.

Conclusion: No impact related to fire protection would occur.

Sources: North County Fire Authority website, 2015. Coast Side Fire Protection District website, 2015.

14.b. Police protection?				X

Discussion: The San Mateo County Sheriff provides police protection to unincorporated San Mateo County. While a portion of the Pedro Point Headlands is within the Pacifica City Limits, the majority lays within unincorporated San Mateo County. The San Mateo County Sheriff would be the primary provider of police protection. The North Coast Substation of the San Mateo County Sheriff is located at 500 California Street in Moss Beach, approximately 4.5 miles to the south of the Pedro Point Headlands. This substation is staffed with 27 full time deputy sheriffs, four sergeants, and one lieutenant (San Mateo County Sheriff's Office, 2015).

The Project involves restoration of scarred areas to minimize sediment transport and the improvement of an existing trail network. Because the Pedro Point Headlands are currently open for public use, the Project would not result in additional users that would require police protection services or increase the need for police services on-site. The Project would not increase the need for police protection services or create an adverse impact on police protection services.

Conclusion: No impact related to police protection would occur.

Source: San Mateo County Sheriff's Office website, 2015.

14.c. Schools?				X

Discussion: The Project involves restoration of an open space area to minimize sediment transport and the improvement of an existing trail network. The Project would not affect the number of students served by local schools, nor bring in any new residents requiring the construction of additional school facilities.

Conclusion: No impact related to school facilities would occur.

Source: Project Plans, 2015.

14.d. Parks?			X	

Discussion: The Project involves restoration work and improvements to the existing trail network within the Pedro Point Headlands, which is an open space area currently owned by the City of Pacifica and the California Coastal Conservancy and is open to the public. In addition to improving the physical condition of the trails, improvements would also include interpretive nodes with educational signs to be constructed at five overlook points along the trail network. The improvements to the existing trail network would create more durable trails capable of accommodating public use. To reduce the impacts of the proposed trail improvement and restoration project to a less than significant level, measures would be taken to mitigate impacts to air quality and biological and cultural resources. These measures are discussed in Section 3, *Air Quality*, Section 4, *Biological Resources*, and Section 5, *Cultural Resources*. With implementation of the mitigation measures discussed for air quality, biological and cultural resources, impacts to the Pedro Point Headlands as a recreational facility would be less than significant. The Project also would not induce any population growth that would result in increased use of parks and other recreational facilities in the area.

Conclusion: Impacts related to parks would be less than significant.

Source: Project Plans, 2015.

14.e. Other public facilities or utilities (e.g., hospitals, or electrical/natural gas supply systems)?				X

Discussion: The Project would not affect other public facilities including hospitals or electrical/natural gas supply systems. Impacts to sewer systems, storm drains, and roadways are discussed in Section 16, *Transportation/Traffic*, and Section 17, *Utilities and Service Systems*, of this Initial Study.

Conclusion: No impact related to other public facilities or utilities would occur.

Source: Project Plans, 2015.

15. **RECREATION**. Would the Project:				
	Potentially Significant Impacts	***Significant Unless Mitigated***	***Less Than Significant Impact***	***No Impact***
15.a. Increase the use of existing neighborhood or regional parks or other recreational facilities such that significant physical deterioration of the facility would occur or be accelerated?				X

Discussion: The Project in itself would not substantially increase the use of existing recreational facilities. Currently, the trail network at Pedro Point Headlands is open to public use by hikers and equestrians. By allowing use by hikers, bicyclists, and equestrians on the South Ridge Trail and a portion of the Bluff Trail, while restricting the remainder of the trail network to hikers, the project would change the allowed trail uses on-site. However, as discussed in Section 16, *Transportation/Traffic*, this minor change in trail use on an existing trail network would not generate additional visitorship to the open space area. The property would be transferred to the County of San Mateo to operate as a regional park, directly adjacent to the Devil's Slide Trail to the south. Moreover, the proposed improvements to minimize erosion and the construction of durable, full-bench realigned trails would effectively reduce physical deterioration of the trail network.

Conclusion: The Project would have a beneficial impact related to physical deterioration of existing facilities.

Source: Project Plans, 2015.

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

Discussion: The Project includes improvements to existing recreational facilities at the Pedro Point Headlands, and a minor expansion of recreational facilities by building new educational nodes at five overlook points. As noted in Section 4, *Biological Resources*, construction of the Project has the potential to adversely affect special-status species, sensitive vegetation communities, and heritage trees. These potential impacts would be reduced to a less than significant level with implementation of **mitigation measures BIO-1 through BIO-13** for surveys, avoidance, and compensatory mitigation of biological resources. As discussed in Section 5, *Cultural Resources*, potential adverse impacts on unanticipated cultural would be reduced to a less than significant level with

implementation of **mitigation measures CUL-1 and CUL-2**. All other environmental impacts from construction of the proposed improvements would be less than significant without mitigation.

Conclusion: Overall environmental impacts from the construction of the proposed recreational facilities would be potentially significant but could be mitigated to a less than significant level.

Source: Project Plans, 2015.

16. TRANSPORTATION/TRAFFIC.

Environmental Setting: The Pedro Point Headlands is located off of Highway 1 at the southern limit of the City of Pacifica, approximately 15 miles south of San Francisco. The Pedro Point Headlands are accessible from Highway 1 as well as the California Coastal Trail. Parking is available for the Headlands along the northern portion of California Coastal Trail.

Would the Project:

		Potentially Significant Impacts	*Significant Unless Mitigated*	*Less Than Significant Impact*	*No Impact*
16.a.	Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including, but not limited to, intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?			X	

Discussion: Construction of the Project would generate vehicle trips on a temporary basis for the hauling of materials and equipment. All grading and fill material used over the course of the proposed project construction would be sourced and balanced on-site, eliminating the need for regular deliveries of fill material and debris removal. Some deliveries would be required for other materials associated with the restoration work and construction of educational nodes. Additionally, some passenger vehicle trips associated with workers completing restoration and trail improvement activities would occur over the anticipated construction period of up to 1.5 years. It is estimated that construction would generate a total of 498 vehicle trips to the site, spread over two construction seasons. This includes a total of 60 water truck trips, 32 equipment delivery trips, six tree removal trips, and 400 vehicle trips for the construction crew (Go Native and Pacifica Land Trust, February 2016). The on-site native plant nursery would also generate an estimated 360 vehicle trips from volunteers over approximately 18 months, and 36 trips for water delivery (Go Native and Pacifica Land Trust, February 2016). In total, construction and operation of the temporary native plant nursery would generate 894 trips. This number of trips, spread over a construction period of up to 1.5 years and restricted to non-peak hours on Highway 1, would not adversely affect the circulation system near the Project site.

The operational phase of the Project would not substantially increase visitorship at the Pedro Point Headlands or result in an increase in vehicle trips to and from the site. The Pedro Point Headlands'

existing trail network is currently open for public use, and the Project would only involve minor improvements to this network, including realignments of existing trails, closure of trail scars, installation of overlooks with educational signs, and revegetation. Although these improvements would make the open space area more appealing for public use, they would not drive a substantial increase in visitorship beyond existing public use after construction.

Conclusion: Impacts to any existing applicable plans, ordinances, or policies that establish a measure of effectiveness for the performance of the circulation system would be less than significant.

Source: Project Plans, 2015. Dave Sands, Go Native and Kathy Kellerman, Pacifica Land Trust, Personal Communication, February 2016.

16.b.	Conflict with an applicable congestion management program, including, but not limited to, level of service standards and travel demand measures, or other standards established by the County congestion management agency for designated roads or highways?				X

Discussion: As discussed in Item 16.a, the Project would maintain the existing recreational use at the Pedro Point Headlands without increasing vehicle trips after construction. Therefore, the Project would not generate traffic that could conflict with an applicable congestion management program.

Conclusion: No impacts related to a congestion management program would occur.

Source: Project Plans, 2015.

16.c.	Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in significant safety risks?				X

Discussion: The Pedro Point Headland is located approximately six miles north of the Half Moon Bay Airport, a public-use airport. The Project is not within an airport land use plan. Therefore, the Project would not affect airport operations, alter air traffic patterns or in any way conflict with established Federal Aviation Administration (FAA) flight protection zones.

Conclusion: No impact related to air traffic patterns would occur.

Source: Google Earth, 2015.

16.d.	Significantly increase hazards to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?				X

Discussion: The Project would not involve design features or incompatible uses that could increase traffic hazards. An existing gate on Highway 1 just east of the Devil's Slide Trail pull-off would remain the access point to the Pedro Point Headlands. No permanent changes in roadway design features such as sharp curves or dangerous intersections would be introduced to the site. Furthermore, the continuation of recreational use of the Pedro Point Headlands would be compatible with recreational use in the surrounding area including the Devil's Slide Trail to the south. The Project would not affect the amount or nature of use on any roads or highways.

Conclusion: No impact from hazardous design features or incompatible uses would occur. **Source:** Project Plans, 2015.				
16.e. Result in inadequate emergency access?				X
Discussion: The Project would not change existing access to the site from a gate on the north side of Highway 1. The site's trail network would remain accessible to emergency vehicles via an unpaved road from this gate to the future California Coastal Trail. **Conclusion:** No impact on emergency access would occur. **Source:** Project Plans, 2015.				
16.f. Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?				X
Discussion: The Project would not generate any permanent traffic or increased population. It would not increase demand for, conflict with, nor decrease the performance of any adopted alternative transportation policies, plans, or programs. Furthermore, the Project would improve the durability and user friendliness of the Pedro Point Headlands' trail facilities for pedestrian use. **Conclusion:** No adverse impact would occur. **Source:** Project Plans, 2015.				
16.g. Cause noticeable increase in pedestrian traffic or a change in pedestrian patterns?				X
Discussion: As discussed in Item 16.a, the Project would not generate additional use of the trail network at the Pedro Point Headlands. Therefore, it would not cause a noticeable increase or change in pedestrian patterns. **Conclusion:** No impact would occur. **Source:** Project Plans, 2015.				
16.h. Result in inadequate parking capacity?				X
Discussion: Because the Project would not generate additional use of the Pedro Point Headlands, it would not result in a shortage of parking capacity. Existing public parking at the adjacent Devil's Slide Trail would remain accessible to visitors of the Project site during daylight hours from 8 a.m. to 5 p.m. **Source:** Project Plans, 2015.				

17.	**UTILITIES AND SERVICE SYSTEMS.**
	Environmental Setting: Currently, no utilities or service systems are provided at the Pedro Point Headlands. The nearest restroom facility to the Pedro Point Headlands is a pit toilet

	located at the northern terminus of the Devils Slide Trail that is operated and maintained by the County of San Mateo Parks Department. Would the Project:				
		Potentially Significant Impacts	***Significant Unless Mitigated***	***Less Than Significant Impact***	***No Impact***
17.a.	Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?				X
Discussion: There are no existing wastewater treatment requirements for the Pedro Point Headlands. The proposed Project to minimize sediment transport to waterways through restoration of areas scarred by past off-road motorcycle use, while improving the existing trail network in the Pedro Point Headlands, would not generate wastewater at any restrooms or septic systems. Therefore, the Project would not increase demand for treatment or contribute to an exceedance of wastewater treatment requirements. **Conclusion:** No impact related to wastewater treatment requirements would occur. **Source:** Project Plans, 2015.					
17.b.	Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?				X
Discussion: The Project would not require construction of new or expanded water or wastewater treatment facilities. In addition, it would not generate any wastewater or require any wastewater disposal, as there are no existing domestic sewage facilities on-site and none proposed as part of the restoration and trail improvements. **Conclusion:** No impact would occur. **Source:** Project Plans, 2015.					
17.c.	Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?				X
Discussion: The proposed Project to minimize sediment transport to waterways through restoration of areas scarred by past off-road motorcycle use, while improving the existing trail network, would not add any impermeable surfaces to the Pedro Point Headlands. Furthermore, the proposed restoration activities would reduce the concentration of storm water from the trail network and would not generate additional storm water. Therefore, the Project would not require or result in the construction of any new storm water drainage facilities or expansion of any existing facilities. **Conclusion:** No impact related to storm water drainage facilities would occur. **Source:** Project Plans, 2015.					

17.d.	Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?			X	

Discussion: The Project involves the restoration of areas scarred by past off-roading motorcycle use and improvements to existing trail networks within the 255-acre Pedro Point Headlands. The Pedro Point Headlands is an undeveloped open space that currently has no water demand. Water would be required on a temporary basis for hand watering during restoration activities to establish drought tolerant plants, and for dust control pursuant to **Mitigation Measure AQ-1** during construction. This water would be transported by water truck, or similar device. In addition, water would be required to serve the temporary plant nursery on-site and would be stored in two 1,500-gallon storage tanks at the nursery. Water would be supplied by NCCWD and trucked in from an off-site hydrant located 1,000 feet away from the nursery at the northern entrance to the Devil's Slide Trail. The NCCWD obtains all of its water from the Hetch Hetchy Reservoir, and its existing maximum allocation of 4,299.2 acre-feet per year (AFY) from the San Francisco Public Utilities Commission is sufficient to meet projected demand in the Water District through the year 2035 (NCCWD, 2011). Because the Water District has an adequate long-term supply and water would only be used on temporary basis during the proposed construction period, the Project would not require new or expanded entitlements.

Conclusion: Impacts on water supplies would be less than significant.

Source: North Coast County Water District, Urban Water Management Plan 2010-2015, 2011. Project Plans, 2015.

17.e.	Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?				X

Discussion: Currently, the Project site has no wastewater service, and the Project would not involve construction of restroom facilities that would increase wastewater quantities. No addition of wastewater service would be required.

Conclusion: No impact would occur.

Source: Project Plans, 2015.

17.f.	Be served by a landfill with insufficient permitted capacity to accommodate the project's solid waste disposal needs?				X

Discussion: The proposed restoration and trail improvement work would not lead to a permanent increase in solid waste coming from the site. During construction, waste would be limited to removal of minimal excess materials from restoration activities. No trash cans occur on-site and none are proposed, so the operational phase of the Project would not generate solid waste for disposal at a landfill. Any waste from construction would be taken to the Ox Mountain Landfill, approximately 15 miles southeast of the Project site. The Ox Mountain Landfill has a remaining capacity of 26,898,089 cubic yards in May of 2011 and a maximum permitted throughput of 3,598 tons per day. The landfill is expected to remain open until 2018 (CalRecycle, 2015). Ox Mountain has remaining capacity that would ensure that the Project would not have a significant impact.

Conclusion: Impacts related to landfill capacity would be less than significant. **Sources:** CalRecycle, SWIS Facility/Site Search, 2015. Project Plans, 2015.				
17.g. Comply with Federal, State, and local statutes and regulations related to solid waste?				X
Discussion: As discussed in Item 17.f, the Project would generate a minimal amount of solid waste during construction and would not lead to a permanent increase in solid waste generation. Therefore, the Project would comply with existing regulations related to solid waste. **Source:** Project Plans, 2015.				
17.h. Be sited, oriented, and/or designed to minimize energy consumption, including transportation energy; incorporate water conservation and solid waste reduction measures; and incorporate solar or other alternative energy sources?				X
Discussion: The Project would maintain the Pedro Point Headlands as an undeveloped open space area. Operation of the Project would not require energy consumption or long-term water use after establishment of revegetated areas, and would not generate solid waste. **Discussion:** No impact would occur. **Source:** Project Plans, 2015.				
17.i. Generate any demands that will cause a public facility or utility to reach or exceed its capacity?				X
Discussion: The Project would not introduce any structures or features that place demands on public facilities or utilities. **Conclusion:** No impact would occur. **Source:** Project Plans, 2015.				

18. MANDATORY FINDINGS OF SIGNIFICANCE.				
	Potentially Significant Impacts	***Significant Unless Mitigated***	***Less Than Significant Impact***	***No Impact***
18.a. Does the project have the potential to degrade the quality of the environment, significantly reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?		X		
Discussion: As discussed in Section 4, *Biological Resources*, the Project has the potential to reduce the habitat of a fish or wildlife species and reduce the number or restrict the range of a rare or endangered plants and animals. Implementation of **Mitigation Measures BIO-1 through BIO-12** would reduce potentially significant impacts to a less than significant level through biological surveys and avoidance of or compensatory mitigation for sensitive species and vegetation communities. Furthermore, as discussed in Section 5, *Cultural Resources*, the Project would not impair or eliminate any known prehistoric or historic resources. Impacts on unanticipated cultural resources would be less than significant with implementation of **Mitigation Measures CUL-1 and CUL-2**, requiring adherence to existing local, state and federal regulations related to the discovery of any unanticipated cultural resources during construction activity. **Conclusion:** Impacts would be potentially significant unless mitigation is incorporated.				
18.b. Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.)		X		
Discussion: Cumulative impacts are generally considered in analyses of air quality, biological resources, cultural resources, noise, and traffic. As discussed in Section 3, *Air Quality*, emissions of air pollutants during construction of the Project would not exceed applicable thresholds but would contribute to regional non-attainment of particulate standards. Cumulative impacts on air quality would be less than significant with implementation of **Mitigation Measure AQ-1** to control fugitive dust emissions consistent with BAAQMD recommendations. As discussed in Section 4, *Biological Resources*, the Project has the potential to adversely affect sensitive species and vegetation communities; however, implementation of **Mitigation Measures BIO-1 through BIO-12** would reduce project-specific impacts to a less than significant level through biological surveys and avoidance of or compensatory mitigation for sensitive species and vegetation communities. With implementation of these measures, the Project would not have a considerable contribution to				

cumulative impacts on biological resources. The potential impacts of cumulative development on cultural resources would addressed on a case-by-case, site-specific basis in accordance with City and County requirements. In addition, as discussed in Section 5, *Cultural Resources*, the Project's impacts on unanticipated cultural resources during grading would be reduced to a less than significant level with incorporation of **Mitigation Measures CUL-1 and CUL-2**. As discussed in Section 8, *Noise*, and Section 16, *Transportation/ Traffic*, operation of the Project would not generate additional traffic relative to existing public access to the Pedro Point Headlands.

Conclusion: The project's contribution to cumulative impacts would be potentially significant unless mitigation is incorporated, but would not be cumulatively considerable with mitigation incorporated.

18.c.	Does the project have environmental effects which will cause significant adverse effects on human beings, either directly or indirectly?		X		

Discussion: As discussed in Item 18.b, implementation of **Mitigation Measure AQ-1** to control fugitive dust emissions during construction would reduce impacts to human health from air pollution to a less than significant level. As discussed in Section 11, *Noise*, the Project would not result in the exposure of persons to noise levels in exceedance of applicable standards; exposure of persons to excessive groundborne noise vibration; a significant increase above ambient noise levels in the project vicinity; or subject people to excessive noise from use of an airport or airstrip. As stated in Section 6, *Geology and Soils*, construction of the Project would not expose people to substantial adverse effects from fault rupture, ground shaking, ground failure, liquefaction, or landslides; result in soil erosion; or involve the construction of habitable structures that could be subject to unstable or expansive soils. Finally, as discussed in Section 8, *Hazards and Hazardous Materials*, the Project would not expose people to hazardous conditions.

Conclusion: Adverse environmental effects on human beings would be potentially significant unless mitigation is incorporated to protect air quality.

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		NPDES General Construction Permit
Regional Water Quality Control Board		X	
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*		*Encroachment Permit*
Bay Area Air Quality Management District		X	
U.S. Fish and Wildlife Service		X	
Coastal Commission		X	
City of Pacifica County of San Mateo	X		Coastal Development Permits
Sewer/Water District:		X	
Other		X	

MITIGATION MEASURES There needs to be a summary list prepared identifying all proposed mitigation measures which needs to be included with the Mitigated Negative Declaration. Could be a separate piece of paper.

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

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

Air Quality:

- AQ-1: measures recommended by BAAQMD to reduce the impacts on air quality from fugitive dust emissions during construction

Biological Resources:

- BIO-1: botanical surveys, avoidance, and restoration of special status plants
- BIO-2: preventing spread of invasive weeds to protect special status plants
- BIO-3: preserving and restoring native vegetation communities
- BIO-4: general best management practices for wildlife protection
- BIO-5: Worker Environmental Awareness Program (WEAP) to reduce potential impacts to special-status species
- BIO-6: avoidance and minimization of impacts on California red-legged frogs
- BIO-7: avoidance and minimization of impacts on mission blue butterflies
- BIO-8: avoidance and minimization of impacts on San Francisco dusky-footed woodrats
- BIO-9: avoidance and minimization of impacts on roosting bats in rocky outcrops and hollow trees
- BIO-10: avoidance and minimization of impacts on monarch butterflies in Monterey pine forest and blue gum stands
- BIO-11: avoidance and minimization of impacts on nesting birds by removal of trees and shrubs during non-nesting season and protection of active nests
- BIO-12: surveys, avoidance, and compensatory mitigation for sensitive vegetation communities (e.g., Pacific reed grass meadow and red fescue grassland).
- BIO-13: preparation of Arborist Report and protection of significant and heritage trees

Cultural Resources:

- CUL-1: protection of unanticipated significant cultural resources discovered during ground-disturbing activities
- CUL-2: protection of unanticipated human remains and notification of County coroner and Native American Heritage Commission

DETERMINATION (to be completed by the Lead Agency).

On the basis of this initial evaluation:

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

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

_____ I find that the proposed Project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

(Signature)

2/18/16 — Senior Planner

Date — (Title)

Initial Study Checklist 10.17.2013.docx

Appendix A

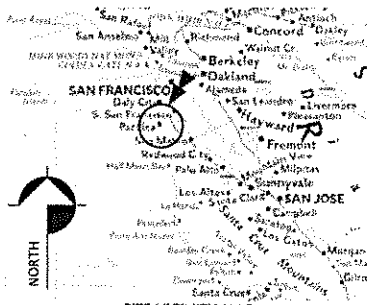
Site Plans

PEDRO POINT HEADLANDS

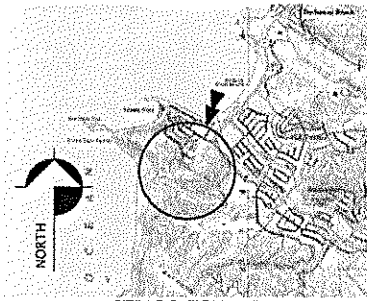
RESTORATION PLANS

75% DESIGN SUBMITTAL

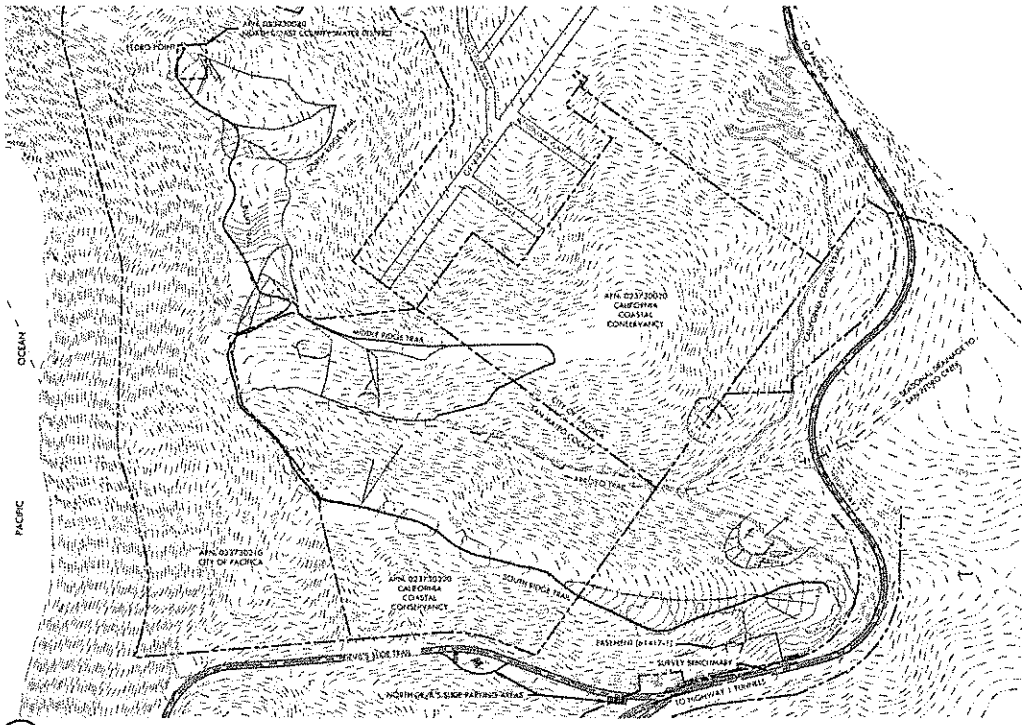
PACIFICA, CA



SITE VICINITY MAP



SITE LOCATION MAP



1 EXISTING SITE LAYOUT

SCALE: 1" = 250' @ 24"X36"

TECHNICAL REFERENCES

1. "SAN MATEO COUNTY 2001 TRAILS PLAN" PREPARED BY MIA ENVIRONMENTAL CONSULTING, INC.
2. COUNTY OF SAN MATEO WATERSHED PROTECTION PROGRAM VOLUME 3 MAINTENANCE STANDARDS, APRIL 14, 2004
3. PEDRO POINT HEADLANDS TRAIL DESIGN MATRIX, EMS CREEK ENGINEERING, JUNE 2015

GENERAL NOTES

1. THE PURPOSE OF THIS PROJECT IS TO REDUCE EROSION, MINIMIZE SEDIMENT TRANSPORT TO NEARBY WATERWAYS, AND ALLEVIATE NEGATIVE ENVIRONMENTAL IMPACTS TO THE PEDRO POINT HEADLANDS THROUGH RESTORATION OF THE EXISTING TRAIL NETWORK.
2. ALL WORK SHALL BE CONDUCTED IN ACCORDANCE WITH THE LATEST SAFETY RULES AND REGULATIONS OF ALL AUTHORITIES AND AGENCIES HAVING JURISDICTION OVER THE WORK.

SURVEY NOTES

1. SITE TOPOGRAPHIC CONTOURS ARE EXTRACTED FROM SAN MATEO COUNTY 2005 LIDAR.
2. THE CONTOUR INTERVAL IS 10 FOOT.
3. TOPOGRAPHIC/FIELD DATA COLLECTED THE WEEK OF OCTOBER 19, 2015 BY MICHAEL F. GOODHUE, PE, LS
4. ELEVATION DATUM IS ASSUMED, BENCH MARK IS A PK NAIL SET IN THE PAVEMENT NEAR THE MAIN GATE AT HWY 1, ELEVATION = 262.6'
5. PROPERTY BOUNDARY WAS EXTRACTED FROM SAN MATEO COUNTY GIS.

PROJECT DESCRIPTION

THE PROPOSED PROJECT IS INTENDED TO ALLEVIATE SEDIMENT TRANSPORT TO WATERWAYS THROUGH RESTORATION OF AREAS SCARRED BY PAST OFF-ROAD MOTORCYCLE USE, WHILE IMPROVING THE EXISTING TRAIL NETWORK FOR APPROXIMATELY 40 ACRES AT PEDRO POINT HEADLANDS. AN ABUNDANCE OF EROSIVE REMNANT TRAILS ARE SUSCEPTIBLE TO EROSION, ATTRIBUTED TO FORMER OFF-ROAD MOTORCYCLE USE WHEN THE PEDRO POINT HEADLANDS PROPERTY WAS LEASED TO THE PEDRO POINT MOTORCYCLE CLUB (1978, 1992).

THE SPECIFIC GOALS OF THE PROJECT INCLUDE THE FOLLOWING:

- PROPERLY FILL AND ELIMINATE EXISTING GULLIES AND TRAIL SCARS;
- RE-ESTABLISH THE NATURAL TOPOGRAPHY AND POSITIVE DRAINAGE WITHIN FRONT ENDED COASTAL BLUFF AREAS;
- RESTORE DISTURBED TRAILS AND GULLIES TO COASTAL PRAIRIE AND COASTAL SCRUB VEGETATION;
- PROPAGATE AND SALVAGE NATIVE PLANTS USING VOLUNTEERS AND/OR PLANTS PROPAGATED IN THE TEMPORARY NATIVE PLANT NURSERY

THIS SET OF RESTORATION PLANS ARE INTENDED TO SHOW THE IMPROVEMENTS FOR THE EXISTING TRAIL NETWORK. A SEPARATE TRAIL IMPROVEMENT PLAN SET REFERENCING THE TRAIL RE-ASSESSMENT IMPROVEMENT COMPONENTS OF THIS PROJECT.

RESTORATION PLAN AREAS OF DISTURBANCE

DESCRIPTION	AREA (SF)	AREA (AC)
SOUTH RIDGE TRAIL RESTORATION	34,426	0.79
BLUFF TRAIL RESTORATION	28,732	0.66
MIDDLE RIDGE TRAIL RESTORATION	72,551	1.67
TOTAL	137,709	3.16

AREA OF DISTURBANCE NOTES

1. THE AREAS OF DISTURBANCE SHOWN BY THE ABOVE TABLE ACCOUNT FOR AREAS WHERE ONLY RESTORATION ACTIVITIES ARE PROPOSED, AND DO NOT ACCOUNT FOR AREAS WHERE OTHER TRAIL IMPROVEMENTS ARE PROPOSED.
2. SEE TRAIL IMPROVEMENT PLANS FOR ADDITIONAL AREAS OF DISTURBANCE.

EROSION CONTROL AREA QUANTITIES

DESCRIPTION	QUANTITY	UNITS
SOUTH RIDGE TRAIL EROSION CONTROL	34,426	SF
BLUFF TRAIL EROSION CONTROL	28,732	SF
MIDDLE RIDGE TRAIL EROSION CONTROL	72,551	SF
TOTAL	137,709	SF

QUANTITIES OF MATERIALS

MATERIALS	QUANTITY	UNIT
EROSION CONTROL BLANKET	97,791	SF
MULCH & SEED (SEVETO)	222,381	SF
FIBER ROLL	1,830	LF

EROSION CONTROL QUANTITY NOTES

1. THE EROSION CONTROL AREAS ARE APPROXIMATELY EQUAL TO THE AREAS OF DISTURBANCE, SINCE ALL DISTURBED AREAS WILL BE RESTORED.
2. ALL DISTURBED AREAS SHOULD BE STABILIZED AFTER CONSTRUCTION IS COMPLETE.
3. SEE TRAIL IMPROVEMENT PLANS FOR STAGING, STABILIZED CONSTRUCTION ENTRANCE AND BORROW PIT AREAS.

RESTORATION GRADING VOLUMES

SOUTH RIDGE TRAIL		
CUT (CY)	FILL (CY)	NET
203	216	13 CY FILL
BLUFF TRAIL		
CUT (CY)	FILL (CY)	NET
164	173	9 CY FILL
MIDDLE RIDGE TRAIL		
CUT (CY)	FILL (CY)	NET
558	367	28 CY FILL

GRADING VOLUME NOTES

1. THE ABOVE GRADING QUANTITIES ONLY ACCOUNT FOR RESTORATION ACTIVITIES, AND DO NOT ACCOUNT FOR GRADING ASSOCIATED WITH TRAIL IMPROVEMENTS.
2. SEE TRAIL IMPROVEMENT PLANS FOR ADDITIONAL GRADING VOLUMES AND NOTES.
3. GRADING VOLUMES ARE PRELIMINARY.

SHEET LIST INDEX

SHEET TITLE: COVER SHEET

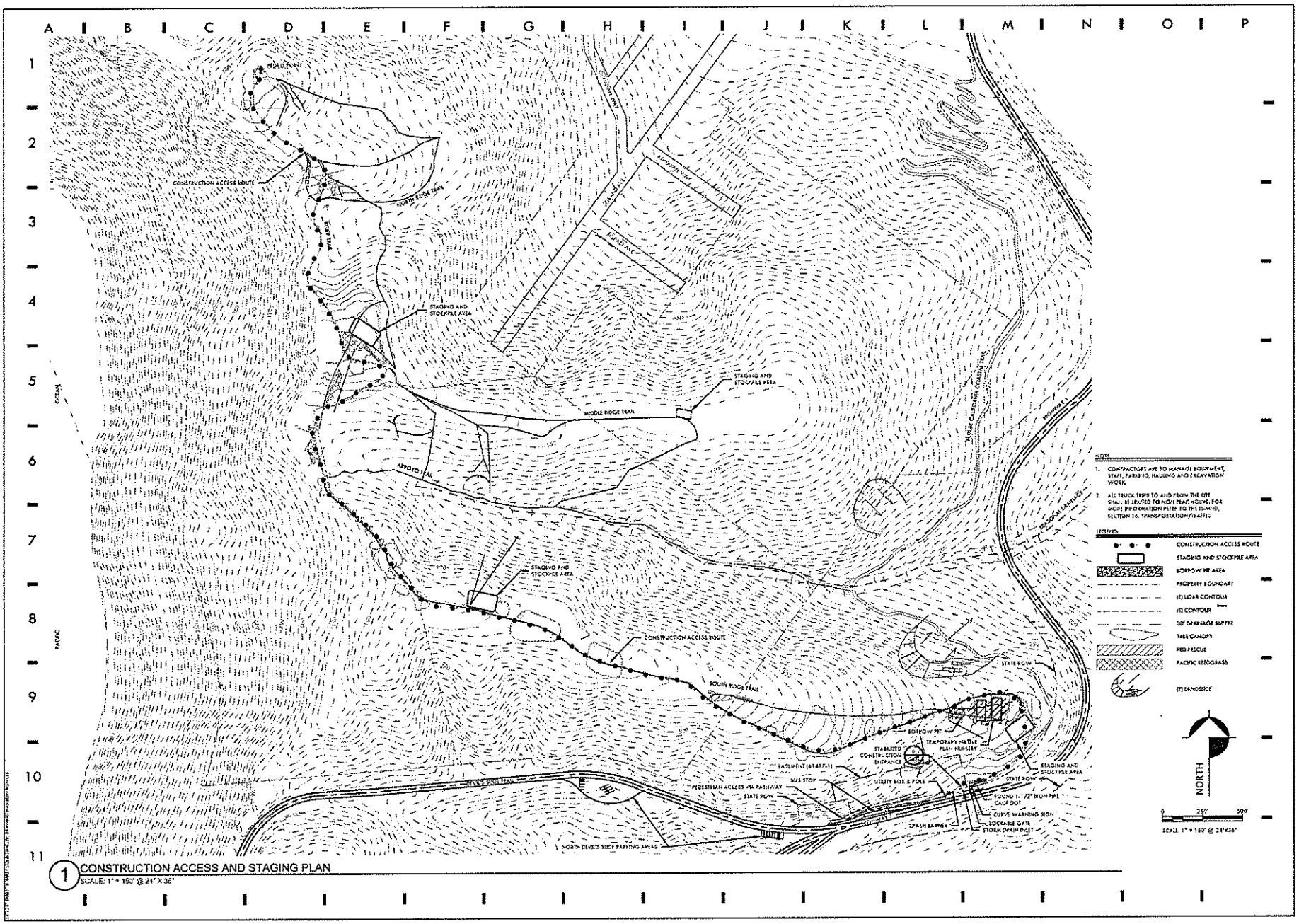
CLIENT: PACIFICA LAND TRUST
ATTN: SAMUEL CASILLAS
PRESIDENT OF BOARD OF DIRECTORS
P.O. BOX 1810
PACIFICA, CA 94044

PROJECT TITLE: PEDRO POINT HEADLANDS
RESTORATION PLANS
PACIFICA, CA

75% DESIGN SUBMITTAL

EMS CREEK ENGINEERING, INC.
Civil Engineering
Environmental Engineering
1070 SAMARITAN DRIVE
SAN JOSE, CA 95123
TEL: (831) 426-0554

DRAWN BY: JLS
CHECKED BY: PMH
DATE: APRIL 2016
JOB NO: 21329
SCALE: AS SHOWN
SHEET: C1.0
1 OF 11



1 CONSTRUCTION ACCESS AND STAGING PLAN
SCALE: 1" = 150' @ 24" X 36"

SHEET TITLE
CONSTRUCTION ACCESS AND STAGING PLAN

CLIENT
PACIFICA LAND TRUST
ATTN: SAMUEL CASELAS
PRESIDENT OF BOARD OF DIRECTORS
P.O. BOX 388
PACIFICA, CA 94044

PROJECT TITLE
PEDRO POINT HEADLANDS
RESTORATION PLANS
HIGHWAY 1
PACIFICA, CALIFORNIA

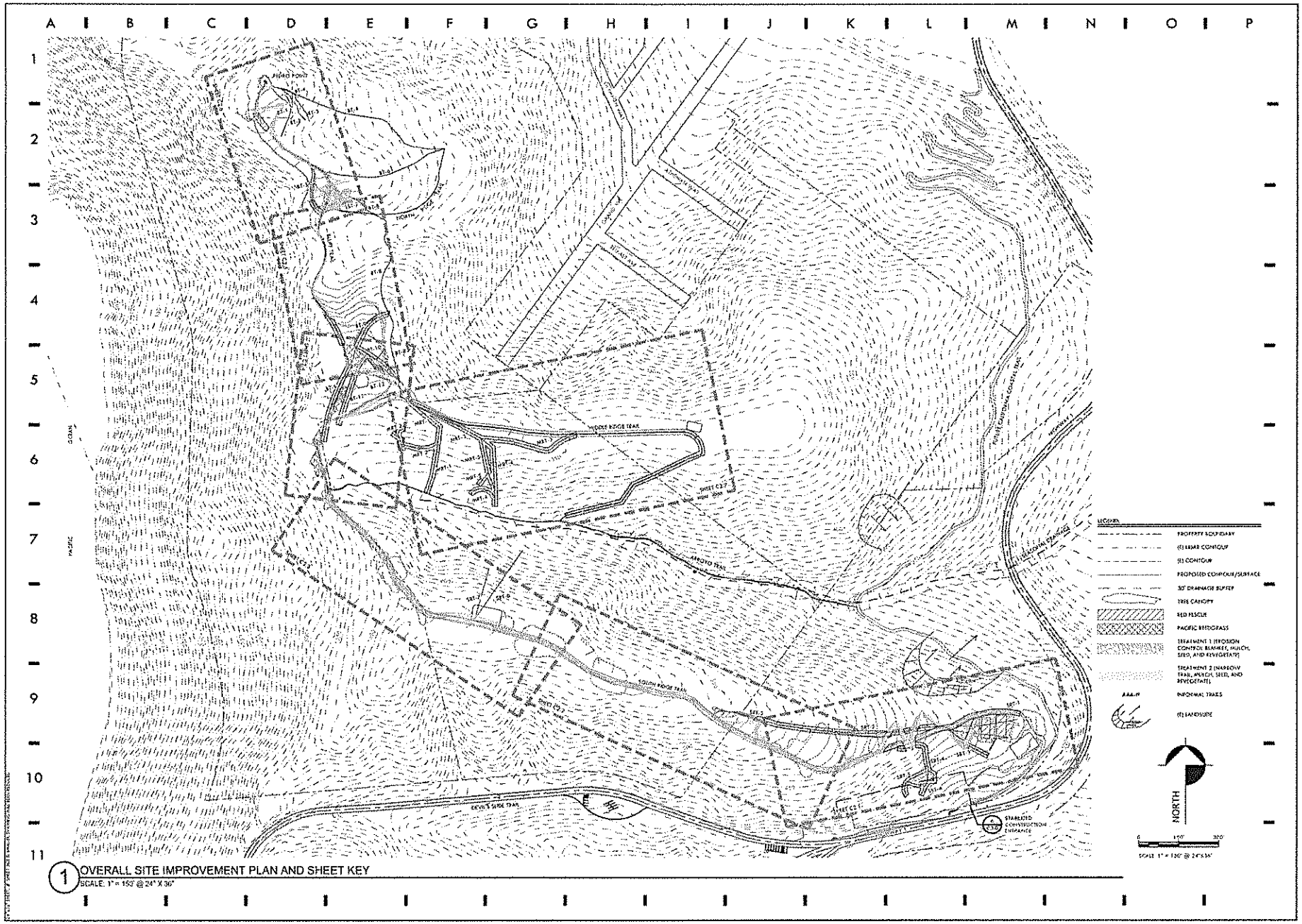
75% DESIGN SUBMITTAL

FALL CREEK ENGINEERING, INC
Consulting Engineers
Erosion control and Water Resources
1326 RAMONA AVE.
SANTA CRUZ, CA 95062
TEL: (831) 426-9054

REG. GRADING EXP. 12/31/16

DRAWN BY	JLS
CHECKED BY	PHK
DATE	APRIL 2016
JOB NO	21.574
SCALE	AS SHOWN
SHEET	C1.1

2 OF 11



1 OVERALL SITE IMPROVEMENT PLAN AND SHEET KEY
SCALE: 1" = 150' @ 24" X 36"

SHEET TITLE
OVERALL SITE IMPROVEMENT PLAN AND SHEET KEY

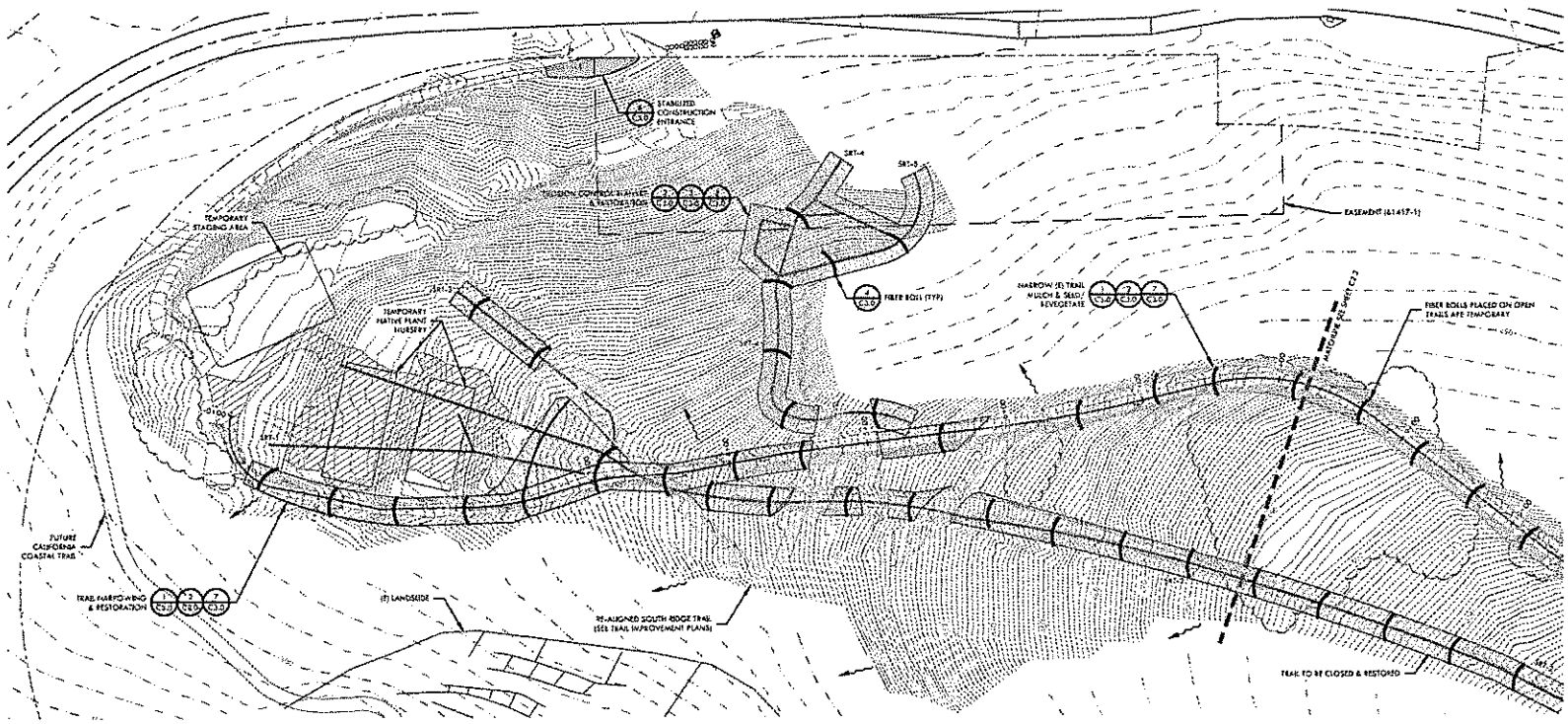
SUBMIT
PACIFICA LAND TRUST
ATTN: SAMUEL CASILLAS
PRESIDENT OF BOARD OF DIRECTORS
P.O. BOX 1966
PACIFICA, CA 94044

PROJECT TITLE
PEDRO POINT HEADLANDS
RESTORATION PLANS
PEDRO POINT
PACIFICA, CALIFORNIA

75% DESIGN SUBMITTAL

FALL CREEK ENGINEERING, INC.
Consulting Engineers
1535 PRAIRIE WAY
SANTA CRUZ, CA 95062
TEL (831) 426-5624

DRAWN BY	JLS
CHECKED BY	MHK
DATE	APRIL 2018
JOB NO	21529
SCALE	AS SHOWN
SHEET	C2.0



1 ALIGNMENT STATIONS 0+00 TO 10+00
SCALE: 1" = 40' @ 24" X 36"

SOUTH RIDGE TRAIL RESTORATION			
Sheet	Start Station	End Station	Trail Restoration Improvement
C2.1	0+00	0+50	Red Fence Station
	0+50	2+60	Fill Throughout, Narrow Trail, and Revegetate Disturbed Areas, See Trail Improvement Plans
	2+00	3+25	Fill Throughout and Revegetate Disturbed Areas
	3+25	3+50	Connection with Re-Aligned Trail, See Trail Improvement Plans
	3+50	4+10	Abandon (E) Trail, Fill Throughout & Revegetate Disturbed Area, Pull In North Edge Bank for Fill
	4+50	5+10	Connection with Realigned Trail, See Trail Improvement Plans
	5+10	5+75	Abandon (E) Trail, Fill Throughout & Revegetate Disturbed Area, Pull In North Edge Bank for Fill
	5+75	6+25	Connection with Realigned Trail, See Trail Improvement Plans
	6+25	10+00	Fill Throughout, Narrow Trail, and Revegetate Disturbed Areas, See Trail Improvement Plans
C2.2/C2.3	10+00	12+75	Abandon (E) Trail, Fill Throughout & Revegetate Disturbed Area, Pull In North and South Edge Banks for Fill
	12+75	21+50	Fill Throughout, Narrow Trail, and Revey Disturbed Areas, Scarify (E) Trail, See Trail Improvement Plans
C2.3	21+50	24+00	Abandon (E) Trail, Fill Throughout & Revegetate Disturbed Area, Pull In North and South Edge Banks for Fill
	24+00	30+36	Meandering Trail, Revegetate Edges, Pull In Edge (Approximate) / 5' Trail, END TRAIL

LEGEND:
- PROPERTY BOUNDARY
- (E) LIDAR CONTOUR
- (E) CONTOUR
- PROPOSED CONTOUR / SURFACE
- 30' DRAINAGE BUFFER
- TREE CANOPY
- RED FESCUE
- PACIFIC REEDGRASS
- TREATMENT 1 (EROSION CONTROL BLANKET, MULCH, SEED, AND REVEGETATE)
- TREATMENT 2 (NARROW TRAIL MULCH, SEED, AND REVEGETATE)
- FIBER ROLL
- SITE DRAINAGE DIRECTION
- AAA-## INFORMAL TRAILS
- (E) LANDSLIDE

NORTH
0 40' 80'
SCALE 1" = 40' @ 24"X36"

SHEET TITLE
RESTORATION PLAN SOUTH RIDGE TRAIL STATIONS 0+00 TO 10+00

CLIENT
PACIFICA LAND TRUST
ATTN: SAMUEL CASELLAS
PRESIDENT OF BOARD OF DIRECTORS
P.O. BOX 359
PACIFICA, CA 94044

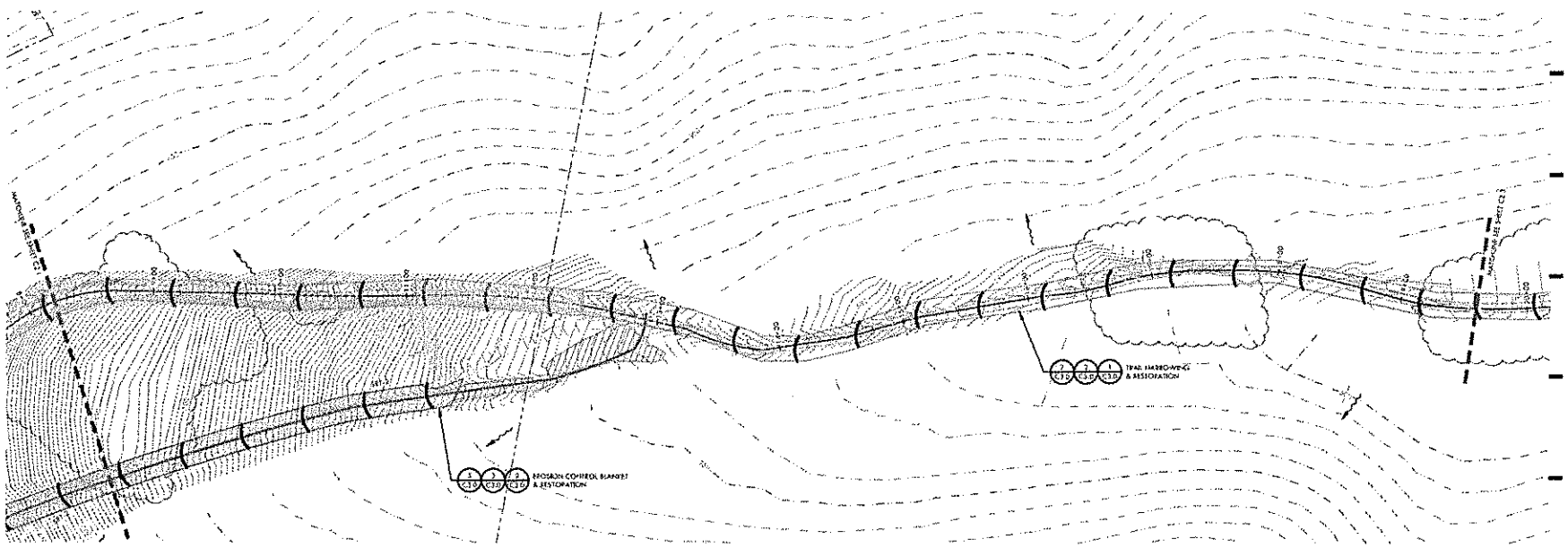
PROJECT TITLE
PEDRO POINT HEADLANDS
RESTORATION PLANS
HIGHWAY 1
PACIFICA, CALIFORNIA

75% DESIGN SUBMITTAL

FALL CREEK ENGINEERING, INC
Consulting Engineers
Civil and Environmental Water Resources
1221 SOQUEL AVE, SUITE 204
SANTA CRUZ, CA 95062
TEL: (831) 426-8054

DRAWN BY	JLS
CHECKED BY	PHH
DATE	APRIL 2016
JOB NO	21528
SCALE	AS SHOWN
SHEET	C2.1

4 OF 11



1 ALIGNMENT STATIONS 10+00 TO 20+00
SCALE: 1" = 40' @ 24" X 36"

SOUTH RIDGE TRAIL RESTORATION			
Sheet	Start Station	End Station	Trail Restoration Improvement
C2.1	0+00	0+55	Bird Fence Habitat
	0+50	2+00	Fill Throughout, Narrow Trail, and Revegetate Disturbed Areas, See Trail Improvement Plans
	2+00	3+25	Fill Throughout and Revegetate Disturbed Areas
	3+25	3+50	Connection with Realigned Trail, See Trail Improvement Plans
	3+50	4+50	Abandon (E) Trail, Fill Throughout & Revegetate Disturbed Area, Pull in North Edge Bank for Fill
	4+50	5+10	Connection with Realigned Trail, See Trail Improvement Plans
	5+10	5+75	Abandon (E) Trail, Fill Throughout & Revegetate Disturbed Area, Pull in North Edge Bank for Fill
	5+75	6+25	Connection with Realigned Trail, See Trail Improvement Plans
	6+25	10+00	Fill Throughout, Narrow Trail, and Revegetate Disturbed Areas, See Trail Improvement Plans
C2.2/C2.3	10+00	11+75	Abandon (E) Trail, Fill Throughout & Revegetate Disturbed Area, Pull in North and South Edge Banks for Fill
	12+75	21+50	Fill Throughout, Narrow Trail, and Revegetate Disturbed Areas, Shorten (E) Trail, See Trail Improvement Plans
C2.3	21+50	24+00	Abandon (E) Trail, Fill Throughout & Revegetate Disturbed Area, Pull in North and South Edge Banks for Fill
	24+00	30+36	Meandering Trail, Revegetate Edges, Pull in Edge (Approximately 3' Tall), Ends TRAIL

LEGEND:
- PROPERTY BOUNDARY
- (E) LIDAR CONTOUR
- (E) CONTOUR
- PROPOSED CONTOUR/SURFACE
- 30' DRAINAGE BUFFER
- TREE CANOPY
- RED FESCUE
- PACIFIC REEDGRASS
- TREATMENT 1 (EROSION CONTROL BLANKET, MULCH, SEED, AND REVEGETATE)
- TREATMENT 2 (NARROW TRAIL, MULCH, SEED, AND REVEGETATE)
- WATER ROLL
- SHEET DRAINAGE DIRECTION
- INFORMAL TRAILS
- (E) LANDSLIDE

NORTH
0 40' 80'
SCALE: 1" = 40' @ 24"X36"

TITLE: RESTORATION PLAN SOUTH RIDGE TRAIL STATIONING 10+00 TO 20+00

OWNER: PACIFICA LAND TRUST
ATTN: SAMUEL CASELLAS
PRESIDENT OF BOARD OF DIRECTORS
P.O. BOX 1855
PACIFICA, CA 94044

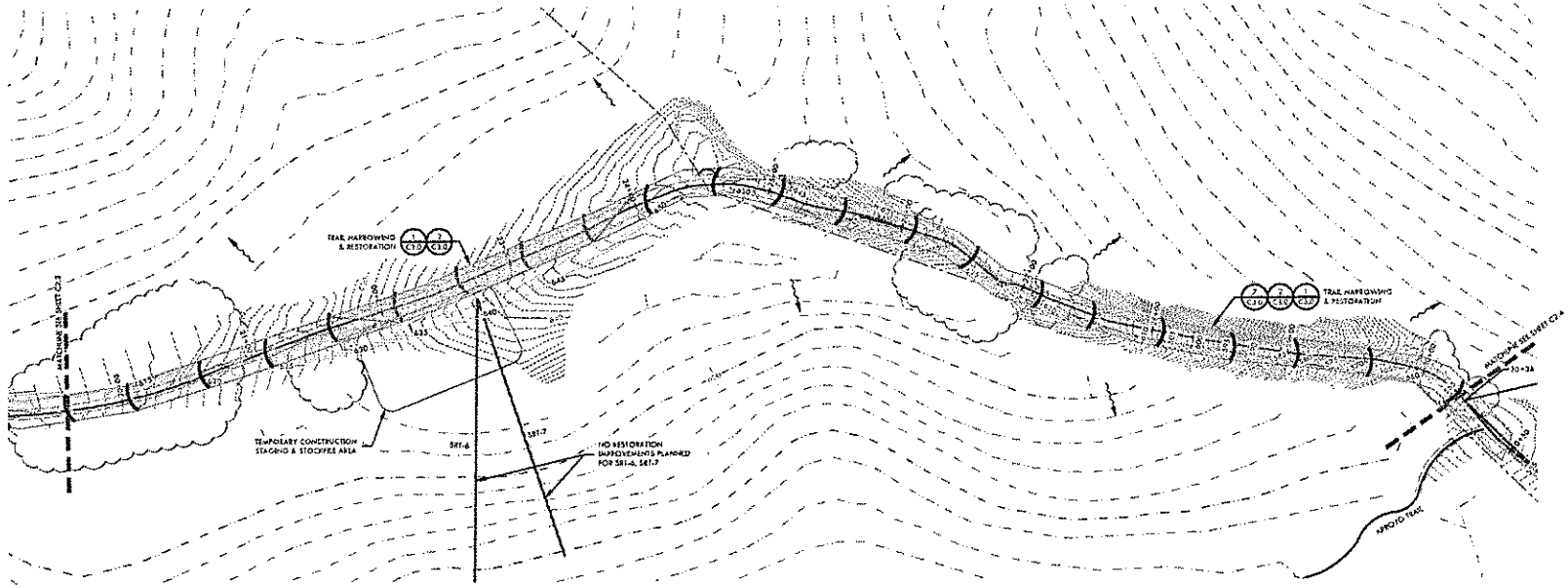
PROJECT SITE: PEDRO POINT HEADLANDS
RESTORATION PLANS
NORTHWEST
PACIFICA, CALIFORNIA

75% DESIGN SUBMITTAL

FALL CREEK ENGINEERING, INC.
Consulting Engineers
P.O.BOX 805, 1820 GATEWAY DRIVE, SAN MATEO, CA 94404
TEL (650) 638-1047

REGISTERED PROFESSIONAL ENGINEER
No. 69888
EXP. 12/31/19
CIVIL
STATE OF CALIFORNIA

DRAWN BY:	JLS
CHECKED BY:	PHH
DATE:	APRIL 2019
JOB NO:	21528
SCALE:	AS SHOWN
SHEET	C2.2
	5 OF 11



1 ALIGNMENT STATIONS 20+00 TO 30+00
SCALE: 1" = 40' @ 24" X 36"

SOUTH RIDGE TRAIL RESTORATION			
Sheet	Start Station	End Station	Trail Restoration Improvement
C2.1	0+00	0+50	Red Fescue Hydroseed
	0+50	2+00	Fill Throughout, Narrow Trail, and Revegetate Disturbed Areas, See Trail Improvement Plans
	2+00	3+25	Fill Throughout and Revegetate Disturbed Areas
	3+25	3+50	Connection with Re-Aligned Trail, See Trail Improvement Plans
	3+50	4+50	Abandon (E) Trail, Fill Throughout & Revegetate Disturbed Areas, Pull In North Edge Bank for Fill
	4+50	5+10	Connection with Re-Aligned Trail, See Trail Improvement Plans
	5+10	5+75	Abandon (E) Trail, Fill Throughout & Revegetate Disturbed Areas, Pull In North Edge Bank for Fill
	5+75	6+25	Connection with Re-Aligned Trail, See Trail Improvement Plans
	6+25	10+00	Fill Throughout, Narrow Trail, and Revegetate Disturbed Areas, See Trail Improvement Plans
C2.2/C2.3	10+00	12+75	Abandon (E) Trail, Fill Throughout & Revegetate Disturbed Areas, Pull In North and South Edge Banks for Fill
	12+75	21+50	Fill Throughout, Narrow Trail, and Reveg Disturbed Areas, Scarify (E) Trail, See Trail Improvement Plans
C2.3	21+50	24+00	Abandon (E) Trail, Fill Throughout & Revegetate Disturbed Area, Pull In North and South Edge Banks for Fill
	24+00	30+38	Intersecting Trail, Revegetate Edges, Pull In Edge (Approximately 5' Fill), END TRAIL

LEGEND:
- PROPERTY BOUNDARY
- (E) 1-FOOT CONTOUR
- (E) CONTOUR
- PROPOSED CONTOUR SURFACE
- 30' DRAINAGE BUFFER
- TREE CANOPY
- RED FESCUE
- PACIFIC REEDGRASS
- TREATMENT 1 (EROSION CONTROL BLANKET, MULCH, SEED, AND REVEGET.
- TREATMENT 2 (NARROW TRAIL, MULCH SEED, AND REVEGETATE)
- FIBER ROLL
- SITE DRAINAGE DIRECTION
- INFORMAL TRAILS
- (E) LANDSLIDE

NORTH

0 40' 80'
SCALE: 1" = 40' @ 24"X36"

RESTORATION PLAN SOUTH RIDGE TRAIL STATIONS 20+00 TO 30+00

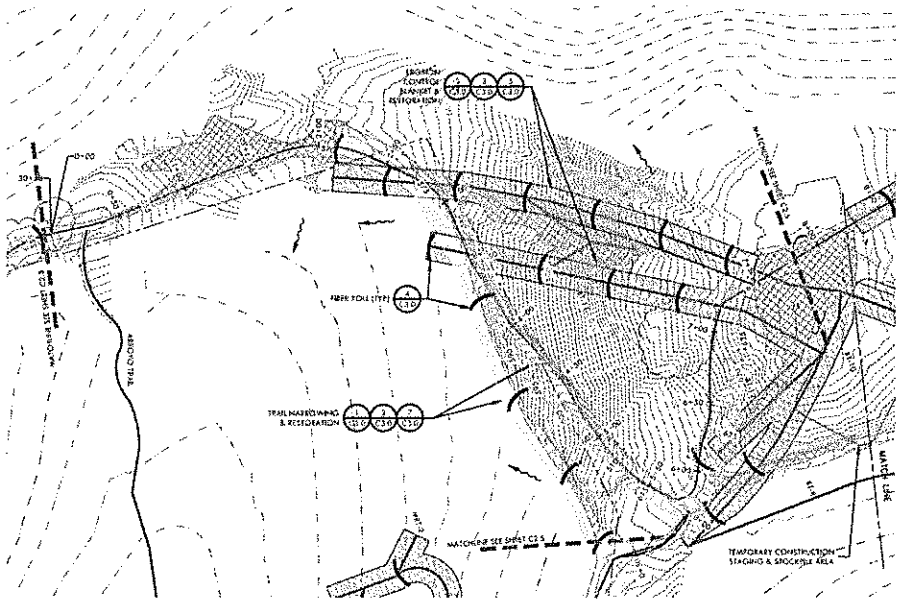
CLIENT
PACIFICA LAND TRUST
ATTN: SAMUEL CASILLAS
PRESIDENT OF BOARD OF DIRECTORS
P.O. BOX 388
PACIFICA, CA 94044

PROJECT TITLE
PEDRO POINT HEADLANDS
RESTORATION PLANS
HIGHWAY 1
PACIFICA, CALIFORNIA

75% DESIGN SUBMITTAL

FALL CREEK ENGINEERING, INC.
Consulting Engineers
Civil and Water Resource Engineers
1333 MARSH ST #18
SAN LUIS OBISPO, CA 93401
TEL: (805) 426-4054

DRAWN BY	JLS
CHECKED BY	PHH
DATE	APRIL 2016
JOB NO	21529
SCALE	AS SHOWN
SHEET	C2.3
	6 OF 11



1 ALIGNMENT STATIONS 0+00 TO 8+00
SCALE: 1" = 40' @ 24" X 36"

BLUFF TRAIL RESTORATION			
Sheet	Start Station	End Station	Trail Improvement
C2.4	0+00	0+50	Stairs & Narrow (E) Trail, Revegetate Edges
	0+50	2+00	Pacific Reedgrass Habitat, Form small depressions for stormwater retention
	2+00	7+50	Narrow (E) Trail, Revegetate Edges
	7+50	8+25	Pacific Reedgrass Habitat
C2.5	8+25	9+50	Abandon (E) Trail, Fill Edges into Trail to Fill Throughout, Revegetate
	9+50	13+60	Narrow (E) Trail, Revegetate Edges
	13+60	16+60	Pacific Reedgrass Habitat, See Trail Improvement Plan
C2.6	16+00	18+10	Fill Throughout, Revegetate Edges
	18+10	18+90	Abandon (E) Trail, Fill Edges in to Trail to Fill Throughout, Revegetate
	18+90	20+00	Fill Throughout, Revegetate Edges, Pedro Point Lookout, END TRAIL

LEGEND
- PROPERTY BOUNDARY
- (E) LIDAR CONTOUR
- (E) CONTOUR
- PROPOSED CONTOUR/SURFACE
- 50' DRAINAGE BUFFER
- TREE CANOPY
- SITE DRAINAGE DIRECTION
- INFORMAL TRAILS
- (E) LANDSLIDE

NORTH
0 40' 80'
SCALE: 1" = 40' @ 24"x36"

RESTORATION PLAN BLUFF TRAIL STATIONS 0+00 TO 8+00

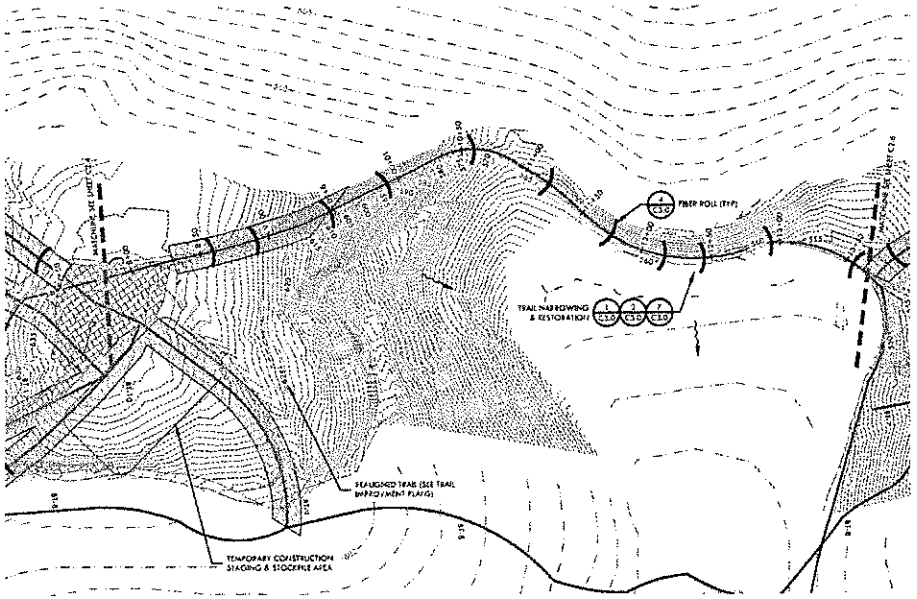
PACIFICA LAND TRUST
ATTN: SAMUEL CASTRO
PRESIDENT OF BOARD OF DIRECTORS
P.O. BOX 1998
PACIFICA, CA 94044

PEDRO POINT HEADLANDS
RESTORATION PLANS
PEDRO POINT
PACIFICA, CALIFORNIA

75% DESIGN SUBMITTAL

RAM CREEK ENGINEERING, INC.
Civil Engineering
Coastal and Environmental Water Resources
1020 SWARTS AVE.
SANTA CRUZ, CA 95062
TEL (831) 426-4624

DRAWN BY	JLS
CHECKED BY	RAM
DATE	APRIL 2016
JOB NO	21528
SCALE	AS SHOWN
SHEET	C2.4



1 ALIGNMENT STATIONS 8+00 TO 13+50
SCALE: 1" = 40' @ 24" X 36"

BLUFF TRAIL RESTORATION

Sheet	Start Station	End Station	Trail Improvement
C2.4	0+00	0+50	Qualify & Narrow (E) Trail, Revegetate Edges
	0+50	2+00	Pacific Reedgrass Habitat, Form small depressions for stormwater retention
	2+00	7+30	Narrow (E) Trail, Revegetate Edges
	7+50	8+25	Pacific Reedgrass Habitat
C2.5	8+25	9+50	Abandon (E) Trail, Fill Edges In to Trail to Fill Throughout, Revegetate
	9+50	13+50	Narrow (E) Trail, Revegetate Edges
C2.6	13+50	16+00	Pacific Reedgrass Habitat, See Trail Improvement Plans
	16+00	18+10	Fill Throughout, Revegetate Edges
	18+10	18+90	Abandon (E) Trail, Fill Edges In to Trail to Fill Throughout, Revegetate
	18+90	20+06	Fill Throughout, Revegetate Edges, Pedro Point Lookout, END TRAIL

LEGEND
- PROPERTY BOUNDARY
- (E) LIDAR CONTOUR
- (E) CONTOUR
- PROPOSED CONTOUR/SURFACE
- 20' DRAINAGE BUFFER
- TREE CANOPY
- RED FESCUE
- PACIFIC REEDGRASS
- TREATMENT 1 (EROSION CONTROL BLANKET, MULCH, SEED, AND REVEGETATE)
- TREATMENT 2 (NARROW TRAIL, MULCH, SEED, AND REVEGETATE)
- FIBER ROLL
- SITE DRAINAGE DIRECTION
- INFORMAL TRAILS
- (E) LANDSLIDE

NORTH
0 40' 80'
SCALE: 1" = 40' @ 24"x36"

SHEET TITLE: RESTORATION PLAN BLUFF TRAIL STATIONS 13+50 TO 20+06

CLIENT: PACIFICA LAND TRUST
KEITH SAMUEL CABRAL
PRESIDENT OF BOARD OF DIRECTORS
P.O. BOX 385
PACIFICA, CA 94044

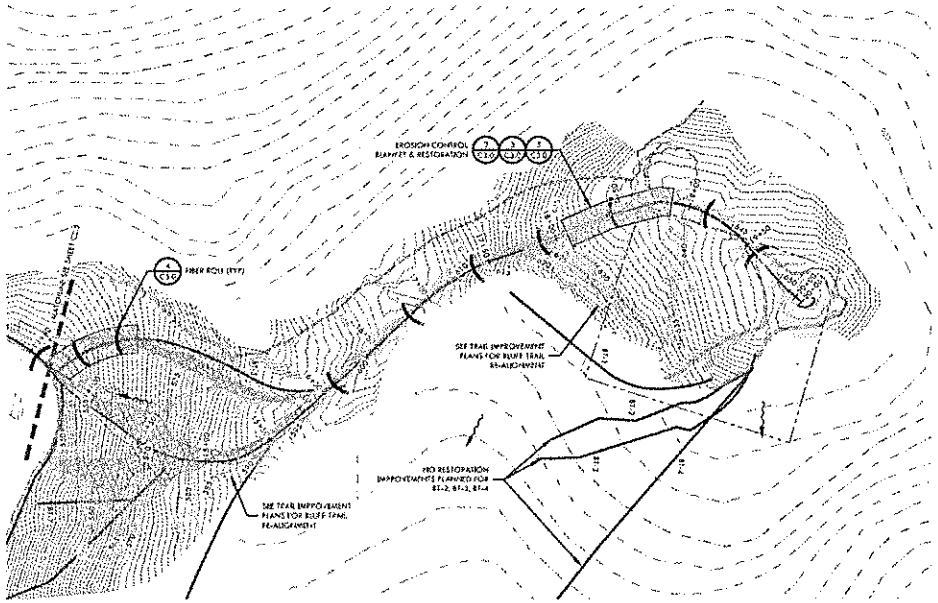
PROJECT TITLE: PEDRO POINT HEADLANDS
HIGHWAY 1
RESTORATION PLANS
PACIFICA, CALIFORNIA

75% DESIGN SUBMITTAL

FALL CREEK ENGINEERING, INC.
Consulting Engineers
1222 Preservation Park Way
Santa Cruz, CA 95060
T: (831) 426-5221

DRAWN BY	AS
CHECKED BY	PHH
DATE	APRIL 2016
JOB NO	21525
SCALE	AS SHOWN
SHEET	C2.5
	6 OF 11

EXPIRATION DATE OF PROFESSIONAL ENGINEER REGISTRATION



1 ALIGNMENT STATIONS 13+50 TO 20+06
SCALE: 1" = 40' @ 24" X 36"

BLUFF TRAIL RESTORATION			
Sheet	Start Station	End Station	Trail Improvement
C2.4	0+00	0+50	Sensitive & Narrow (E) Trail, Revegetate Edges
	0+50	2+00	Pacific Reedgrass Habitat, Form small depressions for storm water retention
	2+00	7+50	Narrow (E) Trail, Revegetate Edges
	7+50	8+25	Pacific Reedgrass Habitat
C2.5	8+25	9+30	Abandon (E) Trail, Fill Edges in to Trail to Fill Throughout, Revegetate
	9+50	13+60	Narrow (E) Trail, Revegetate Edges
C2.6	13+60	16+00	Fourth, Reedgrass Habitat, See Trail Improvement Plans
	16+00	18+10	Fill Throughout, Revegetate Edges
	18+10	18+90	Abandon (E) Trail, Fill Edges in to Trail to Fill Throughout, Revegetate
	18+90	20+06	Fill Throughout, Revegetate Edges, Pedro Point Headlands, BLUFF TRAIL

LEGEND
- PROPERTY BOUNDARY
- (E) LIDAR CONTOUR
- (E) CONTOUR
- PROPOSED CONTOUR/SURFACE
- 50' DRAINAGE BUFFER
- TREE CANOPY
- RED FESCUE
- PACIFIC REEDGRASS
- TREATMENT 1 (EROSION CONTROL BLANKET, MULCH, SEED, AND REVEGETATE)
- TREATMENT 2 (NARROW TRAIL, MULCH, SEED, AND REVEGETATE)
- FIBER ROLL
- SITE DRAINAGE DIRECTION
- INFORMAL TRAILS
- (E) LANDSLIDE

NORTH
0 40' 80'
SCALE: 1" = 40' @ 24"X36"

SHEET TITLE
RESTORATION PLAN BLUFF TRAIL STATIONS 13+50 TO 20+06

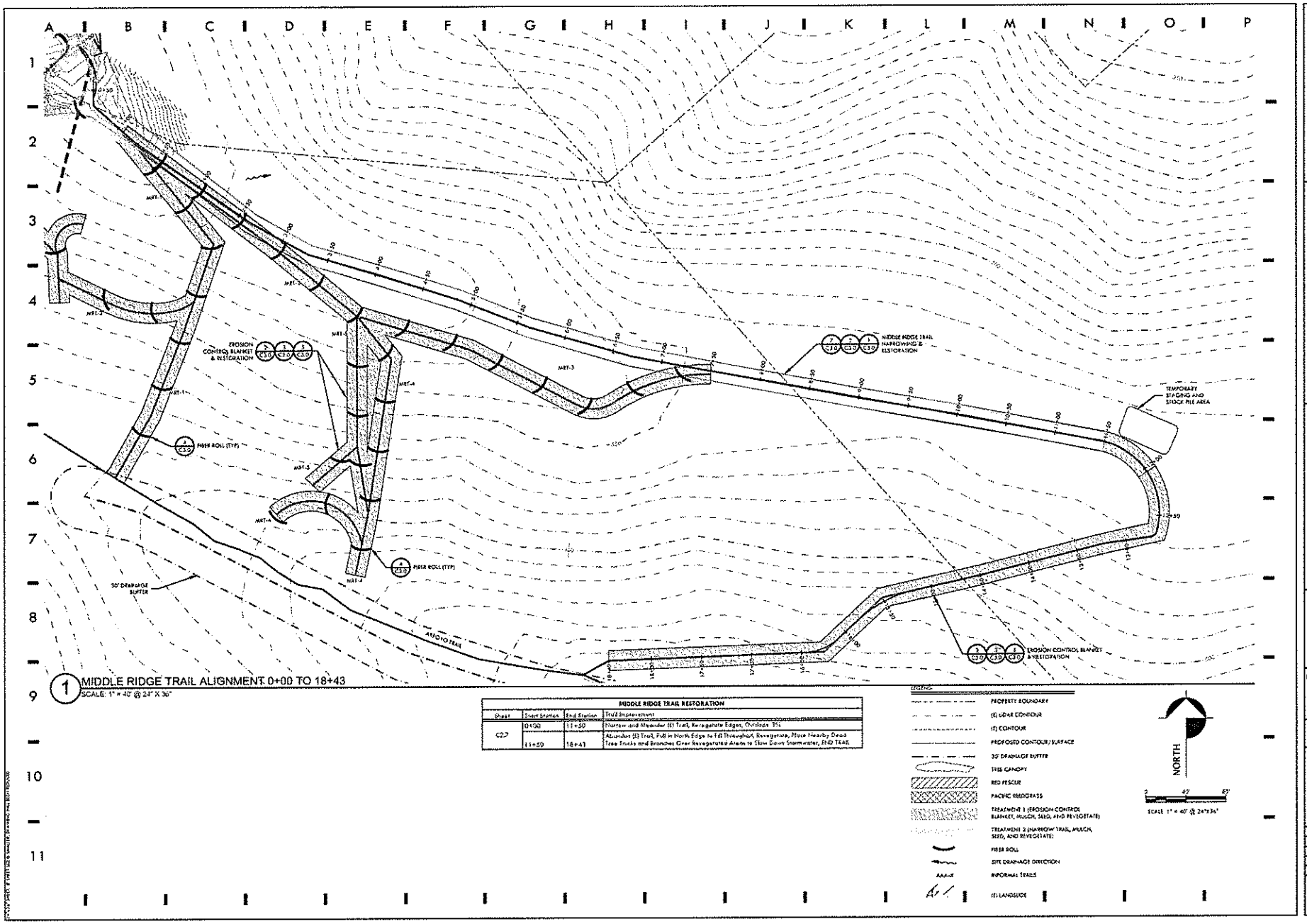
CLIENT
PACIFICA LAND TRUST
ATTN: SAMUEL CASELAS
PRESIDENT OF BOARD OF DIRECTORS
P.O. BOX 359
PACIFICA, CA 94044

PROJECT TITLE
PEDRO POINT HEADLANDS
RESTORATION PLANS
CITY OF PACIFICA
PACIFICA, CALIFORNIA

75% DESIGN SUBMITTAL

TRAIL CREEK ENGINEERING, INC
Civil Engineering & Water Resources
1525 WARREN AVE.
SANTA CRUZ, CA 95062
TEL (831) 426-9564

DRAWN BY	JLS
CHECKED BY	PMH
DATE	APRIL 2016
JOB NO	21524
SCALE	AS SHOWN
SHEET	C2.6
	9 OF 11



1 MIDDLE RIDGE TRAIL ALIGNMENT 0+00 TO 18+43
SCALE: 1" = 40' @ 24" X 36"

MIDDLE RIDGE TRAIL RESTORATION			
Sheet	Start Station	End Station	Trail Improvement
C2.7	0+00	11+50	Narrow and Meander (E) Trail, Revegetate Edges, Outslope 5%
	11+50	18+43	Abandon (E) Trail, Fill in Ditch, Edge to Fill Throughout, Revegetate, Place Nearby Dead Tree Trunks and Branches Over Revegetated Areas to Slow Down Stormwater, END TRAIL

LEGEND
- PROPERTY BOUNDARY
- (E) LIDAR CONTOUR
- (E) CONTOUR
- PROPOSED CONTOUR/ SURFACE
- 30' DRAINAGE BUFFER
- TREE CANOPY
- RED FESCUE
- PACIFIC REEDGRASS
- TREATMENT 1 (EROSION CONTROL BLANKET, MULCH, SEED, AND REVEGETATE)
- TREATMENT 2 (NARROW TRAIL, MULCH, SEED, AND REVEGETATE)
- FIBER ROLL
- SITE DRAINAGE DIRECTION
- AAA-# INFORMAL TRAILS
- (E) LANDSLIDE

SCALE 1" = 40' @ 24"X36"

SHEET TITLE
RESTORATION PLAN MIDDLE RIDGE TRAIL STATIONS 0+00 TO 18+43

CLIENT
PACIFICA LAND TRUST
ATTN: SAMUEL CARLSON
PRESIDENT OF BOARD OF DIRECTORS
P.O. BOX 388
PACIFICA, CA 94044

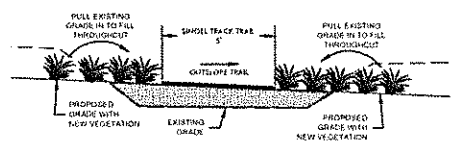
PROJECT TITLE
PEDRO POINT HEADLANDS
RESTORATION PLANS
HIGHWAY 1
PACIFICA, CALIFORNIA

75% DESIGN SUBMITTAL

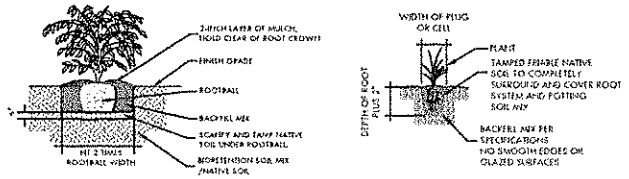
FALL CREEK ENGINEERING, INC.
Consulting Engineers
Civil and Environmental Water Resources
1820 SHAMROCK AVE.
SANTA CRUZ, CA 95062
TEL (831) 426-8557

REGISTERED PROFESSIONAL ENGINEER
No. 060606
EXP. 12/31/19
CIVIL
STATE OF CALIFORNIA

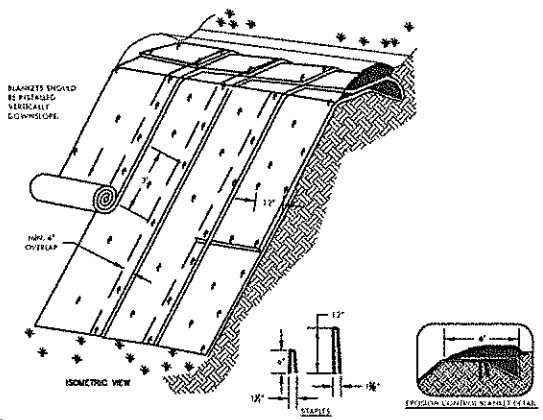
DRAWN BY	JLS
CHECKED BY	RWH
DATE	APRIL 2019
JOB NO	21329
SCALE	AS SHOWN
SHEET	C2.7
	10 OF 11



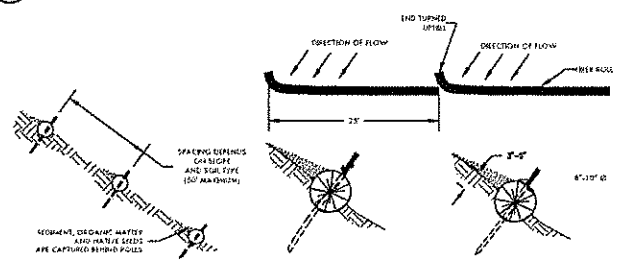
1 THROUGHCUT RESTORATION AND NARROWING OF TRAIL
SCALE: AS DIMENSIONED



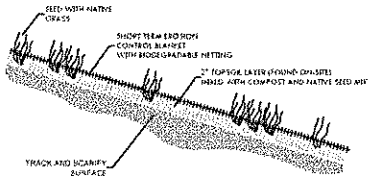
2 REVEGETATION: SHRUB AND GRASS PLANTING
SCALE: AS DIMENSIONED



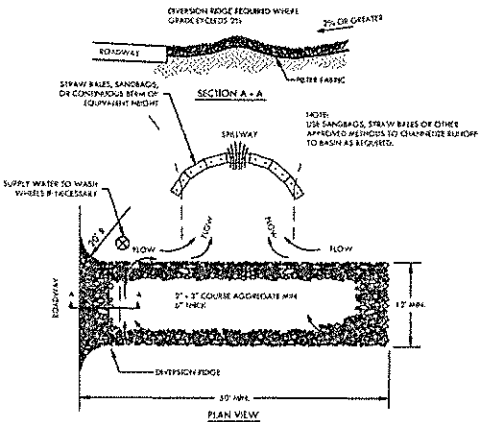
3 EROSION CONTROL BLANKET INSTALLATION
SCALE: AS DIMENSIONED



4 FIBER ROLL
SCALE: AS DIMENSIONED



5 TYPICAL EROSION CONTROL BLANKET AND SEED
SCALE: AS DIMENSIONED



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

6 STABILIZED CONSTRUCTION ENTRANCE
SCALE: AS DIMENSIONED

EROSION CONTROL NOTES:

1. **GENERAL.** THE CONTRACTOR SHALL INSTALL, MAINTAIN AND INSPECT EROSION CONTROL AND TEMPORARY STORMWATER CONTROL MEASURES TO CONTROL SEDIMENT AND RUNOFF IN ACCORDANCE WITH THESE PLANS AND THE COUNTY OF SAN MATEO REQUIREMENTS.

1.1. THE CONSTRUCTION OF THIS PROJECT IS NOT EXPECTED TO OCCUR DURING THE WINTER SEASON (OCTOBER 15TH THROUGH APRIL 15TH).

1.2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR EROSION AND SEDIMENT CONTROL BMP INSTALLATION AND MAINTENANCE.

1.3. THE DIRECTOR OF BUILDING INSPECTION (BUILDING OFFICIAL) SHALL STOP OPERATIONS DURING PERIODS OF INCLEMENT WEATHER IF HE OR SHE DETERMINES THAT EROSION PROBLEMS ARE NOT BEING CONTROLLED ADEQUATELY.

1.4. ALL GRADING SHALL CONFORM TO THE SAN MATEO COUNTY GRADING AND EROSION CONTROL ORDINANCES, AND CALIFORNIA BUILDING CODE.

1.5. ALL DISTURBED SURFACES SHALL BE PREPARED AND MAINTAINED TO CONTROL EROSION AND TO ESTABLISH NATIVE OR NATURALIZED VEGETATIVE GROWTH COMPATIBLE WITH THE AREA. THIS CONTROL SHALL CONSIST OF: A. EFFECTIVE TEMPORARY PLANTINGS, SOME OTHER FAST-GERMINATION SEED, AND MULCHING WITH SLOPE STABILIZATION MATERIAL; B) PERMANENT PLANTING OF NATIVE OR NATURALIZED (INCLUDING RESISTANT SPECIES OF SHRUBS, TREES, OR OTHER VEGETATION, PURSUANT TO THE COUNTY'S LANDSCAPE CRITERIA, WHEN THE PROJECT IS COMPLETE); C) MULCHING, FERTILIZING, WATERING OR OTHER METHODS MAY BE REQUIRED TO ESTABLISH NEW VEGETATION; ON SLOPES LESS THAN 20%, TOPSOIL METHOD AS SPECIFIED AND EXEMPLIFIED.

1.6. GRADING SHALL BEGIN WITHIN 30 DAYS OF VEGETATION REMOVAL OR THAT AREA SHALL BE PLANTED

1.7. NO VEGETATION REMOVAL OR GRADING WILL BE ALLOWED WHICH WILL RESULT IN SEDIMENTATION OF WATER COURSES OR UNCONTROLLABLE EROSION.

1.8. DUST FROM GRADING OPERATIONS MUST BE CONTROLLED.

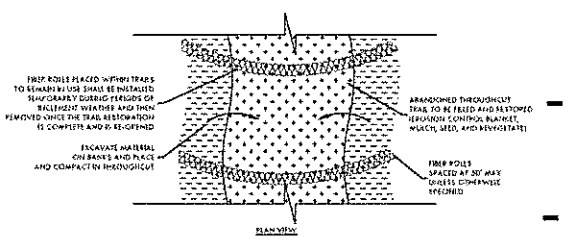
1.9. LAND CLEARING SHALL BE KEPT TO A MINIMUM. VEGETATION REMOVAL SHALL BE LIMITED TO THAT AMOUNT NECESSARY TO ACHIEVE THE PROJECT GOALS.

1.10. IF CONSTRUCTION MUST OCCUR BETWEEN OCTOBER 15TH AND APRIL 15TH, EXPOSED SOIL SHALL BE PROTECTED FROM EROSION AT ALL TIMES. COVERING OR INSTALLING FILTER BERMS OR OTHER MEANS SHALL BE EMPLOYED TO PREVENT SEDIMENT FROM LEAVING THE SITE OR ENTERING ANY WATERCOURSE.

1.11. DURING CONSTRUCTION, NO RUNOFF WATER SHALL BE PERMITTED TO ENTER ANY INLET BELOW. USE OF SILT AND GREASE TRAPS, FILTER BERMS, OR OTHER MEASURES SHALL BE USED TO PREVENT SUCH DISCHARGE.

2. **SEED AND MULCH.** ALL AREAS ON AND OFF-SITE EXPOSED DURING CONSTRUCTION ACTIVITIES, IF NOT PERMANENTLY LANDSCAPED PER PLANS, SHALL BE PROTECTED BY MULCHING AND/OR HAND BROADCASTING OF THE FOLLOWING SEED MIX AND INCORPORATED OVER ALL EXPOSED SLOPES

ERIGNUS CAPINATUS
CANTHOMA CALIFORNICA
ESTMUS GLAUCUS



7 TRAIL RESTORATION DETAIL
SCALE: AS DIMENSIONED

FESTUCA RUBRA
STIPA PULCHRA
STIPA LEPIDA
NOLEPIDA HARCRANTHA

THE MIX/APPLICATION SHALL ALSO CONTAIN:
- FERTILIZER (6-3-3) SHALL BE HAND-BROADCAST AND INCORPORATED AT 30 LB/ACRE OVER ENTIRE AREA.
- MYCORRHIZAL FUNGI SHALL BE ADDED AT 50 LB/ ACRE.
- IF HYDROSEEDING, ADD MULCH AND TACKIFIER TO ABOVE.

2.3 ALL EXCAVATED MATERIAL SHALL BE REMOVED TO AN APPROVED DISPOSAL SITE OR DISPOSED OF ON-SITE IN A MANNER THAT WILL NOT CAUSE EROSION.

2.3 ANY MATERIAL STOCKPILED ON-SITE SHALL BE COVERED WITH PLASTIC, ESPECIALLY DURING THE WINTER MONTHS OR DURING PERIODS OF RAIN.

3.3. UPON COMPLETION OF CONSTRUCTION, ALL REMAINING EXPOSED SOILS SHALL BE PERMANENTLY REVEGETATED PER DESIGN PLANS.

2.4 EXPOSED SOIL ON SLOPES GREATER THAN 20% SHALL BE SEEDED, COVERED WITH 2 INCHES OF STRAW, AND AN EROSION CONTROL BLANKET. THE EROSION CONTROL BLANKET SHALL BE STAKED IN PLACE.

3.5. IT IS THE CONTRACTOR'S RESPONSIBILITY TO SEE THAT ADDITIONAL MEASURES, NECESSARY TO CONTROL SITE EROSION AND PREVENT SEDIMENT TRANSPORT OFF-SITE ARE IMPLEMENTED.

5. FIBER ROLLS. FIBER ROLLS SHALL CONSIST OF 100% BIODEGRADABLE MATERIAL. FIBER ROLLS (OR STRAW WATTLES) SHALL BE INSTALLED ALONG THE CONTOURS OF THE SLOPE TO SLOW RUNOFF VELOCITY AND TRAP SEDIMENT. FIBER ROLLS SHALL BE INSTALLED WHEREVER THE DISTURBED SLOPE IS ADJACENT TO A STREAM OR DRAINAGE COURSE. TRENCH DEPTH SHALL BE _ TO _ OF THE DIAMETER OF THE ROLL AND THE WIDTH SHALL EQUAL THE ROLL DIAMETER. BY DEGREE TO PROTECT AREA TO BACKFILL THE TRENCH. WOOD STAKES SHALL BE INSTALLED EVERY FOUR FEET THROUGH THE WATTLE AND THE END MEAL BE TURNED UP SIDE TO PREVENT RUNOFF FROM GOING AROUND THE ROLL. FIBER ROLLS PLACED ON ABANDONED TRAILS SHALL REMAIN PERMANENTLY INSTALLED. FIBER ROLLS PLACED ON RESTORED TRAILS TO REMAIN IN USE SHALL BE INSTALLED ON A TEMPORARY BASIS AND THEN REMOVED PRIOR TO REOPENING OF THE TRAIL

4. EROSION CONTROL BLANKET. THE EROSION CONTROL BLANKET SHALL BE CONSTRUCTED OF JUTE FIBERS, CURLED WOOD FIBERS, STRAW, COCONUT FIBER, OR A COMBINATION OF THESE MATERIALS.

4.1. CONSTRUCTION GUIDELINES

4.1.1 GRADE AND SHAPE AREA OF INSTALLATION

4.1.2 REMOVE ALL ROCK, CLODS, AND VEGETATIVE OR OTHER OBSTRUCTIONS SO THAT THE INSTALLED BLANKET WILL HAVE DIRECT CONTACT WITH THE SOIL.

4.1.3 LOOSEN 2-3 INCHES OF TOPSOIL ABOVE FINAL GRADE

4.1.4 U-SHAPED WIRE STAPLES, METAL GEOTEXTILE STAKE PINS OR TRIANGULAR WOODEN STAKES CAN BE USED TO ANCHOR MATS TO THE GROUND SURFACE. WIRE STAPLES SHOULD BE A MINIMUM OF 11 GAUGE. METAL STAKE PINS SHOULD BE 3/16 INCH DIAMETER STEEL WITH A 1 ½ INCH STEEL WASHER AT THE HEAD OF THE PIN. WIRE STAPLES AND METAL STAKES SHOULD BE DRIVEN FLUSH TO THE SOIL SURFACE. ALL ANCHORS SHOWN BE 6-8 INCHES LONG AND HAVE SUFFICIENT (GROUND) PENETRATION TO RESIST PULLOUT. LONGER ANCHORS MAY BE REQUIRED FOR LOOSE SOILS.

4.1.5 EROSION CONTROL BLANKETS AND HYDROSEED SHALL BE INSTALLED ON ALL DISTURBED SLOPES WITH GREATER THAN 20% GRADES.

4.2. INSTALLATION ON SLOPE

4.2.1 BEGIN AT THE TOP OF THE SLOPE AND ANCHOR THE BLANKET IN A 6 INCH DEEP BY 6 INCH WIDE TRENCH. BACKFILL TRENCH AND TAMP EARTH FIRMLY.

4.2.2 UNROLL BLANKET DOWNSLOPE BY THE DIRECTION OF WATER FLOW. BLANKET SHOULD BE UNROLLED SLOWLY IN A CONTROLLED MANNER TO ACHIEVE DIRECT CONTACT WITH THE SOIL.

4.2.3. THE EDGE OF ADJACENT PARALLEL ROLLS MUST BE OVERLAPPED 2-3 INCHES AND BE STAPLED EVERY 3 FEET.

4.2.4. WHEN BLANKETS MUST BE SPLICED, PLACE BLANKET END OVER END (SHINGLE STYLE) WITH 6 INCH OVERLAP. STAPLE THROUGH OVERLAPPED AREA, APPROXIMATELY 12 INCHES APART.

4.2.5. LAY BLANKET LOOSELY AND MAINTAIN DIRECT CONTACT WITH THE SOIL. DO NOT STRETCH.

4.2.6. BLANKETS SHALL BE STAPLED SUFFICIENTLY TO ANCHOR BLANKET AND MAINTAIN CONTACT WITH THE SOIL. STAPLES SHALL BE PLACED DOWN THE CENTER AND STAGGERED WITH THE STAPLES PLACED ALONG THE EDGES. STEEP SLOPES, 1:1 TO 2:1 REQUIRE 2 STAPLES PER SQUARE YARD. MODERATE SLOPES, 2:1 TO 3:1, REQUIRE 1.2 STAPLES PER SQUARE YARD (1 STAPLE 3 OCC). GENTLE SLOPES REQUIRE 1 STAPLE PER 2 SQUARE YARD

5. OTHER PROVISIONS

5.1. IF CONSTRUCTION OCCURS BETWEEN OCTOBER 15TH AND APRIL 15TH, EXPOSED SOIL NOT INVOLVED IN IMMEDIATE CONSTRUCTION ACTIVITY SHALL BE PROTECTED FROM EROSION AT ALL TIMES. AFTER APRIL 15TH, EROSION CONTROL MEASURES SHALL BE IN PLACE DURING INCLEMENT WEATHER.

5.2. EROSION CONTROL MEASURES SHALL BE KEPT IN PLACE BY THE CONTRACTOR UNTIL NATIVE VEGETATION HAS BEEN ESTABLISHED AND PROVIDES NECESSARY SLOPE COVER (MINIMUM 70% COVER).

SHEET TITLE: RESTORATION AND EROSION CONTROL DETAILS AND NOTES

CLIENT: PACIFICA LAND TRUST
ATTN: SAMUEL CASILLAS
PRESIDENT OF BOARD OF DIRECTORS
P.O. BOX 338
PACIFICA, CA 94044

PROJECT: PEDRO POINT HEADLANDS
RESTORATION PLANS
HIGHWAY 1
PACIFICA, CALIFORNIA

75% DESIGN SUBMITTAL

TAIL CREEK ENGINEERING, INC.
Civil Engineering Water Resources
1220 RANDOLPH AVE.
SANTA CRUZ, CA 95062
TEL (831) 426-5313

DRAWN BY	AJS
CHECKED BY	PDH
DATE	APRIL 2016
JOB NO	21328
SCALE	AS SHOWN
SHEET	C3.0

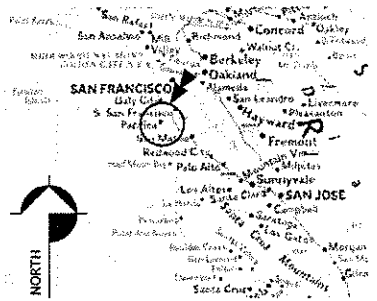
11 OF 11

PEDRO POINT HEADLANDS

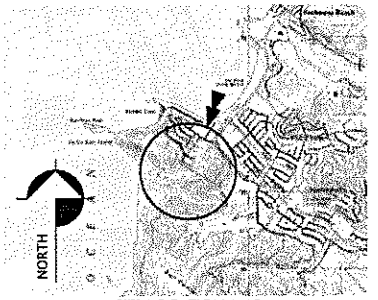
TRAIL IMPROVEMENT PLANS

75% DESIGN SUBMITTAL

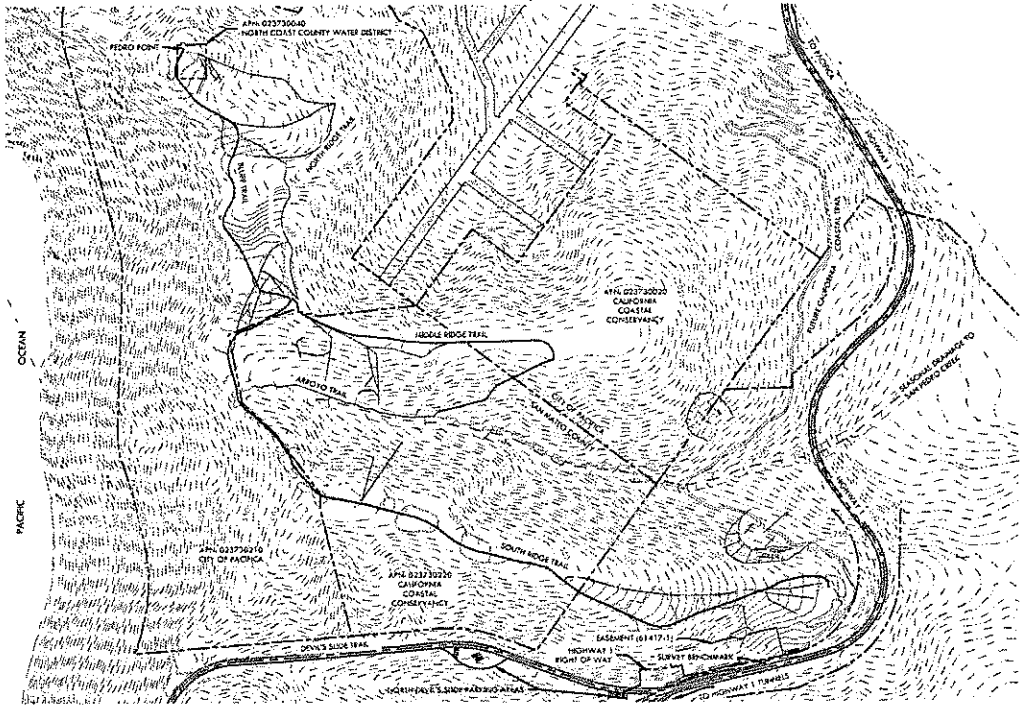
PACIFICA, CA



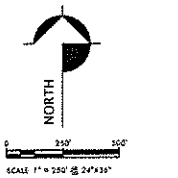
SITE VICINITY MAP
NTS



SITE LOCATION MAP
NTS



1 EXISTING SITE LAYOUT
SCALE: 1" = 250' @ 24"X36"



LEGEND
- CITY OF PACIFICA BOUNDARY/ STATE ROW
- (E) CONTOUR (LIDAR)
- (E) CONTOUR (SURVEY)
- 30' DRAINAGE BUFFER
- TREE CANOPY
- (E) LANDSLIDE

CONSULTANTS

CIVIL ENGINEER + PRIME CONSULTANT
FALL CREEK ENGINEERING, INC.
ENVIRONMENTAL AND CIVIL ENGINEERS
(831) 426-8034

ENGINEERING CONTRACTOR
GO NATIVE, INC.
CONTRACTOR/DESIGN REVIEW
(650) 726-2286

GEOTECHNICAL ENGINEERING
GEOLOGIC
GEOTECHNICAL ENGINEERS AND GEOLOGISTS
(408) 778-2858

ENVIRONMENTAL CONSULTANT
RINCON CONSULTANTS, INC.
ENVIRONMENTAL & PERMITTING CONSULTANTS
(805) 547-0900

SURVEYOR
MICHAEL J. GOODHUE
(831) 763-1651

TECHNICAL REFERENCES

1. "SAN MATEO COUNTY 2001 TRAILS PLAN" PREPARED BY AHA ENVIRONMENTAL CONSULTING, INC.
2. COUNTY OF SAN MATEO WATERSHED PROTECTION PROGRAM VOLUME 1 MAINTENANCE STANDARDS, APRIL 14, 2004
3. PEDRO POINT HEADLANDS TRAIL DESIGN MATRIX, FALL CREEK ENGINEERING, JUNE 2015
4. CALIFORNIA DEPARTMENT OF PARKS AND RECREATION TRAILS HANDBOOK, 1991

GENERAL NOTES

1. THE PURPOSE OF THIS PROJECT IS TO REDUCE EROSION, MINIMIZE SEDIMENT TRANSPORT TO NEARBY WATERWAYS, AND ALLEVIATE NEGATIVE ENVIRONMENTAL IMPACTS TO THE PEDRO POINT HEADLANDS THROUGH IMPROVEMENTS TO AND RE-ALIGNMENT OF THE EXISTING TRAIL NETWORK.
2. ALL WORK SHALL BE CONDUCTED IN ACCORDANCE WITH THE LATEST SAFETY RULES AND REGULATIONS OF ALL AUTHORITIES AND AGENCIES HAVING JURISDICTION OVER THE WORK.

SURVEY NOTES

1. SITE TOPOGRAPHIC CONTOURS ARE EXTRACTED FROM SAN MATEO COUNTY 2006 LIDAR.
2. THE INTERVAL FOR THE LIDAR CONTOURS IS 10 FOOT.
3. TOPOGRAPHIC FIELD DATA COLLECTED THE WEEK OF OCTOBER 19, 2015 BY MICHAEL J. GOODHUE, P.E., L.S.
4. ELEVATION DATUM IS ASSUMED, BENCH MARK IS A PK NAIL SET IN THE PAVEMENT NEAR THE MAIN GATE AT HWY 1, ELEVATION = 28.28'
5. PROPERTY BOUNDARY FROM SAN MATEO COUNTY GIS

PROJECT DESCRIPTION

THE PROPOSED PROJECT IS INTENDED TO MINIMIZE SEDIMENT TRANSPORT TO WATERWAYS THROUGH RESTORATION OF AREAS SCARRED BY PAST OFF-ROAD MOTORCYCLE USE, WHILE IMPROVING THE EXISTING TRAIL NETWORK ON APPROXIMATELY 40 ACRES AT PEDRO POINT HEADLANDS. AN ABUNDANCE OF ON-SITE PERMANENT TRAILS ARE SUSCEPTIBLE TO EROSION, ATTRIBUTED TO FORMER OFF-ROAD MOTORCYCLE USE WHEN THE PEDRO POINT HEADLANDS PROPERTY WAS LEASED TO THE PEDRO POINT MOTOCYCLE CLUB UNTIL 1992.

THE SPECIFIC GOALS OF THE PROJECT INCLUDE THE FOLLOWING:
- PROPERLY FILL AND ELIMINATE EXISTING GULLIES AND TRAIL SCARS;
- RE-ESTABLISH THE NATURAL TOPOGRAPHY AND POSITIVE DRAINAGE WITHIN HIGHLY ERODED COASTAL BLUFF AREAS;
- RESTORE ERRONEOUS TRAILS AND GULLIES TO COASTAL PRAIRIE AND COASTAL SCRUB VEGETATION;
- PROPAGATE AND SALVAGE NATIVE PLANTS USING VOLUNTEERS; AND
- INCORPORATE A TRAIL DESIGN AND CONSTRUCTION PLAN TO BUILD SUSTAINABLE TRAILS IN PLACE OF GMTS TO BE DECOMMISSIONED.

THIS SET OF TRAIL IMPROVEMENT PLANS ARE INTENDED TO SHOW THE IMPROVEMENTS FOR THE NEWLY ALIGNED AND RECONSTRUCTED TRAILS. A SEPARATE RESTORATION PLAN SET PRESENTS THE RESTORATION COMPONENT OF THIS PROJECT.

TRAIL IMPROVEMENT PLAN: AREAS OF DISTURBANCE

DESCRIPTION	AREA (SF)	AREA (AC)
SOUTH RIDGE TRAIL GRADING	52,797	1.21
BLUFF TRAIL GRADING	35,164	0.81
VISTA POINTS (5 TOTAL)	709	0.01
STAGING AREAS (3 TOTAL)	19,000	0.44
STABILIZED CONSTRUCTION ENTRANCE	2,250	0.05
BORROW PIT	2,319	0.05
TOTAL	111,239	2.55

EROSION CONTROL QUANTITIES

DESCRIPTION	QUANTITY	UNITS
SOUTH RIDGE TRAIL EROSION CONTROL AREA	39,262	SF
BLUFF TRAIL EROSION CONTROL AREA	17,498	SF
STAGING AREAS	18,000	SF
STABILIZED CONSTRUCTION ENTRANCE	2,250	SF
BORROW PIT	2,319	SF
TOTAL	69285	SF

EROSION CONTROL QUANTITY NOTES:

1. THE TRAIL EROSION CONTROL AREAS ARE DETERMINED FROM SUBTRACTING THE TRAIL AREA FROM THE LIMIT OF GRADING
2. ALL AREA SHOULD BE STABILIZED AFTER CONSTRUCTION IS COMPLETE

GRADING VOLUMES

BLUFF TRAIL		
CUT (CY)	FILL (CY)	NET
709	376	340.3 CY CUT
SOUTH RIDGE TRAIL		
CUT (CY)	FILL (CY)	NET
598.3	1,454.5	856.4 CY FILL

GRADING VOLUME NOTES:

1. THESE GRADING VOLUMES ARE PRELIMINARY. CONTRACTOR IS RESPONSIBLE FOR DETERMINING ALL QUANTITIES.
2. NO COMPACTION FACTOR HAS BEEN APPLIED TO THE FILL VOLUMES.
3. NO EXPANSION FACTOR HAS BEEN APPLIED TO THE CUT VOLUMES.

SHEET LIST INDEX

SHEET TITLE: COVER SHEET

CLIENT: PACIFICA LAND TRUST
ATTN: SAMUEL CANALAS
PRESIDENT OF BOARD OF DIRECTORS
P.O. BOX 369
PACIFICA, CA 94044

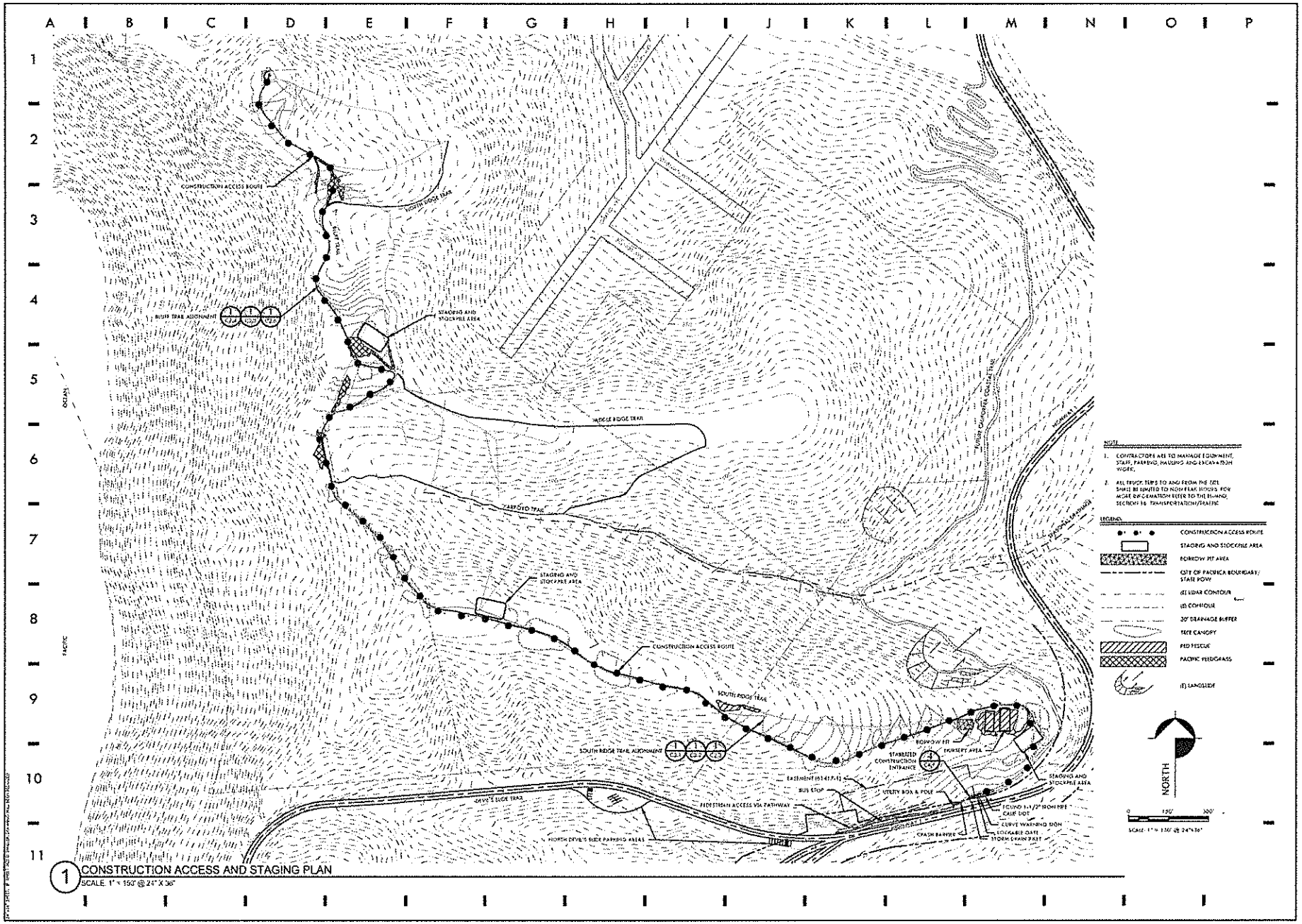
PROJECT TITLE: PEDRO POINT HEADLANDS
TRAIL IMPROVEMENT PLANS
HIGHWAY 1
PACIFICA, CALIFORNIA

75% DESIGN SUBMITTAL

FALL CREEK ENGINEERING, INC
Consulting Engineers
1125 SWANSON AVE.
SANTA CRUZ, CA 95062
TEL: (831) 426-8034

REGISTERED PROFESSIONAL ENGINEER
MICHAEL J. GOODHUE
No. 58855
CIVIL
STATE OF CALIFORNIA

DRAWN BY	JLS
CHECKED BY	MJG
DATE	APRIL 2016
JOB NO	21528
SCALE	AS SHOWN
SHEET	C1.0
	1 OF 16



1 CONSTRUCTION ACCESS AND STAGING PLAN
SCALE: 1" = 150' @ 24" X 36"

SHEET TITLE
CONSTRUCTION ACCESS AND STAGING PLAN

CLIENT
PACIFICA LAND TRUST
ATTN: DANIEL CARLSON
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PROJECT TITLE
PEDRO POINT HEADLANDS
TRAIL IMPROVEMENT PLANS
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75% DESIGN SUBMITTAL

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DRAWN BY	JLS
CHECKED BY	MHR
DATE	APRIL 2016
JOB NO	21528
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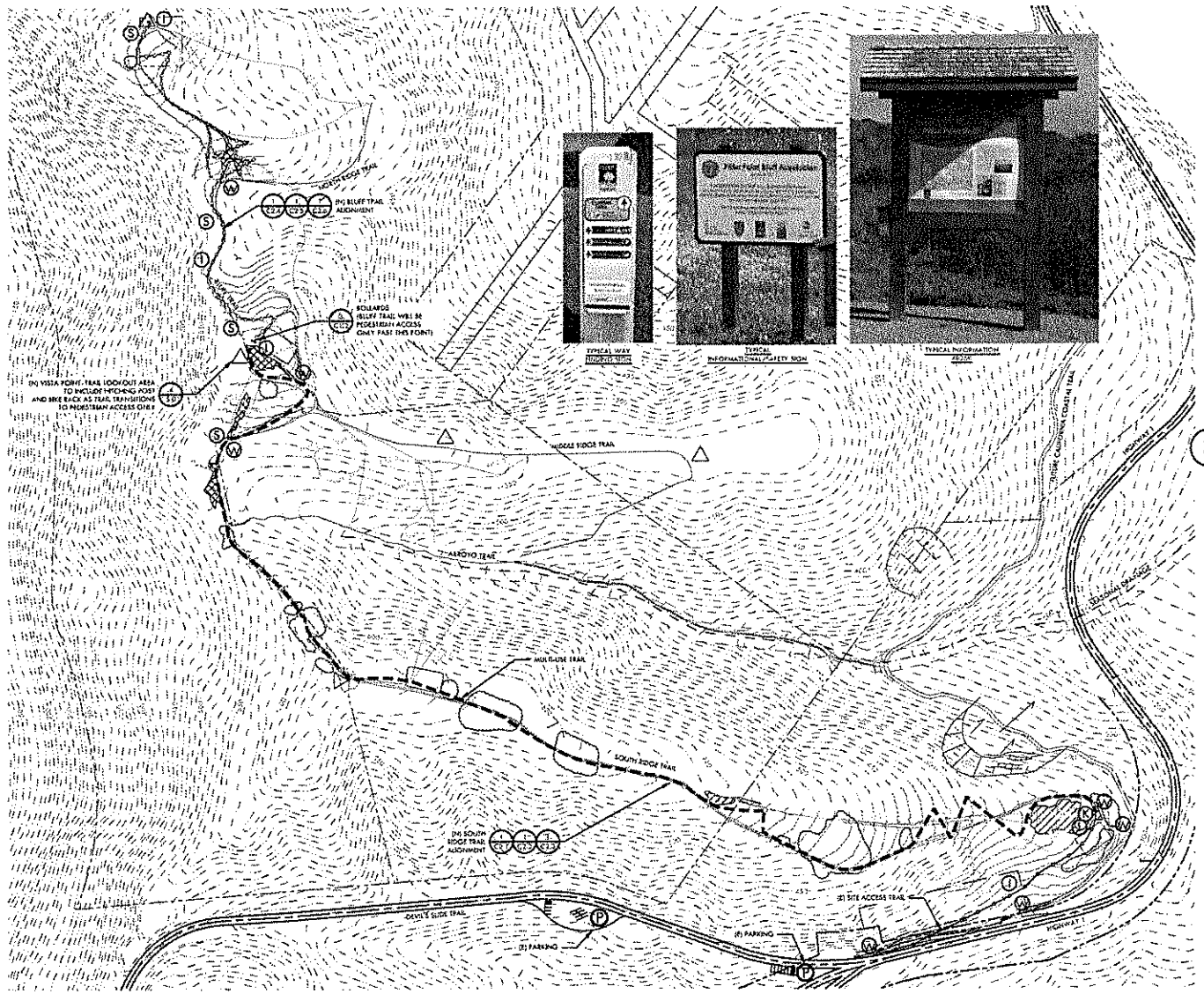
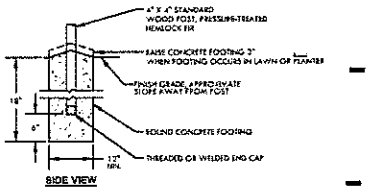
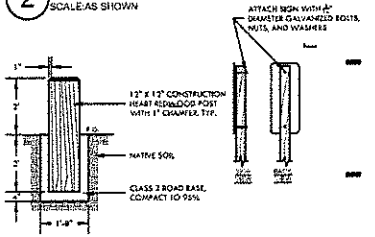


1 CIRCULATION AND SIGNAGE PLAN
SCALE: 1" = 150' @ 24" X 36"



2 TYPICAL SIGN POST INSTALLATION
SCALE: AS SHOWN



3 TYPICAL BOLLARD INSTALLATION
SCALE: AS DIMENSIONED

LEGEND:
- CITY OF PACIFICA BOUNDARY
- LIDAR CONTOUR
- CONTOUR
- 20' DRAINAGE BUFFER
- TREE CANOPY
- RED FESCUE
- PACIFIC RYEGRASS
- LANDSLIDE
- VISTA POINT/TRAIL TURNOUT
- PARKING
- (E) SITE ACCESS TRAIL
- (N) MULTI-USE TRAIL ALIGNMENT
- (N) PEDESTRIAN ONLY TRAIL ALIGNMENT
- SAFETY SIGN
- INFORMATIONAL SIGN
- INFORMATIONAL KIOSK
- WAY FINDING SIGN

NORTH
0 150 300
SCALE: 1" = 150' @ 24"x36"

SHEET TITLE: CIRCULATION AND SIGNAGE PLAN

CLIENT:
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ATTN: SAMUEL CASELAS
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PROJECT TITLE:
PEDRO POINT HEADLANDS
TRAIL IMPROVEMENT PLANS
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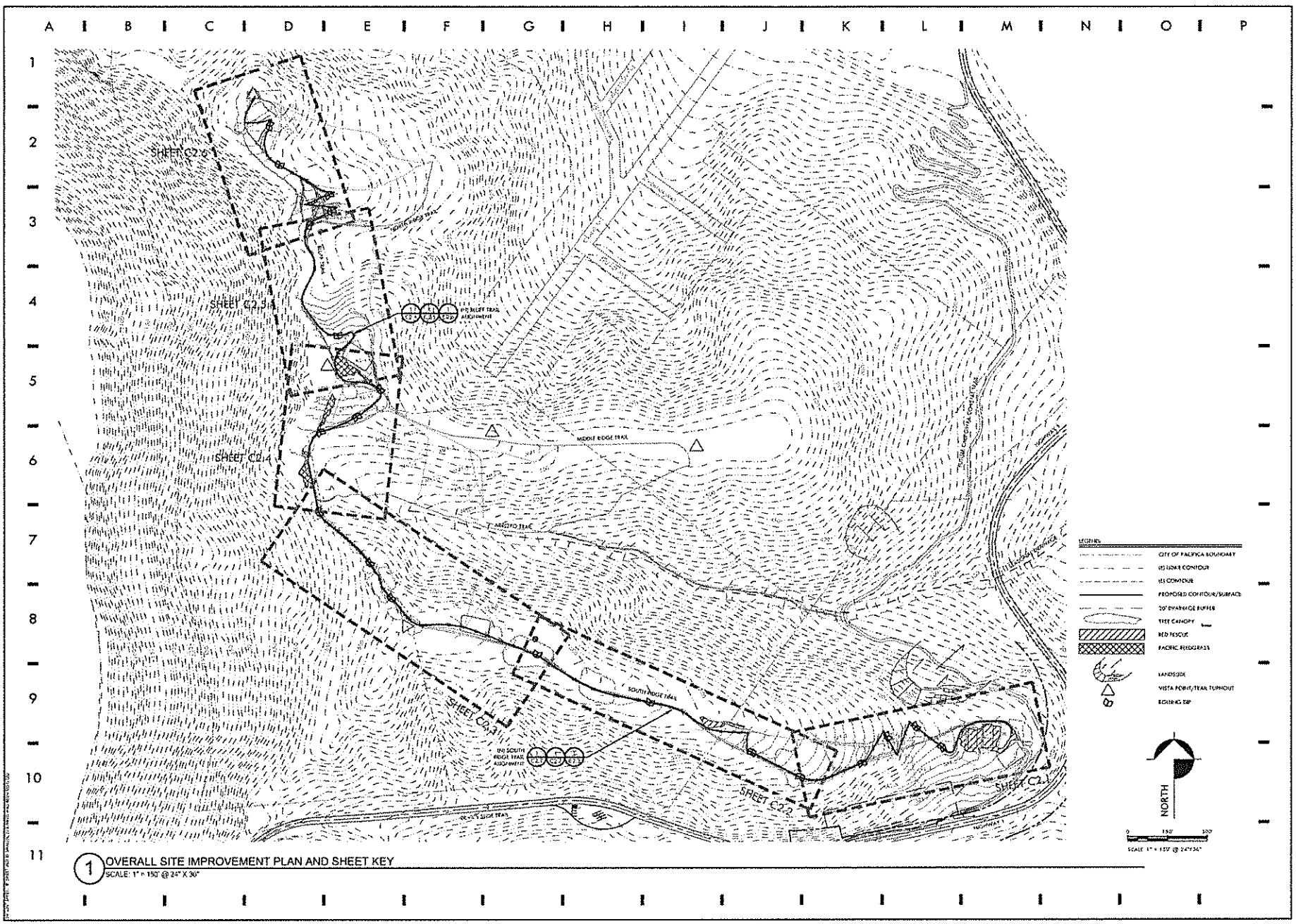
DRAWN BY	JLS
CHECKED BY	PMH
DATE	APRIL 2018
JOB NO	21528
SCALE	AS SHOWN
SHEET	C1.2
	3 OF 14



1 OVERALL SITE IMPROVEMENT PLAN AND SHEET KEY
SCALE: 1" = 150' @ 24" X 36"

SHEET TITLE
OVERALL SITE IMPROVEMENT PLAN AND SHEET KEY

CLIENT
PACIFICA LAND TRUST
ATTN: PAMELA CASELLAS
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PROJECT TITLE
PEDRO POINT HEADLANDS
TRAIL IMPROVEMENT PLANS
HIGHWAY 1
PACIFICA, CALIFORNIA

75% DESIGN SUBMITTAL

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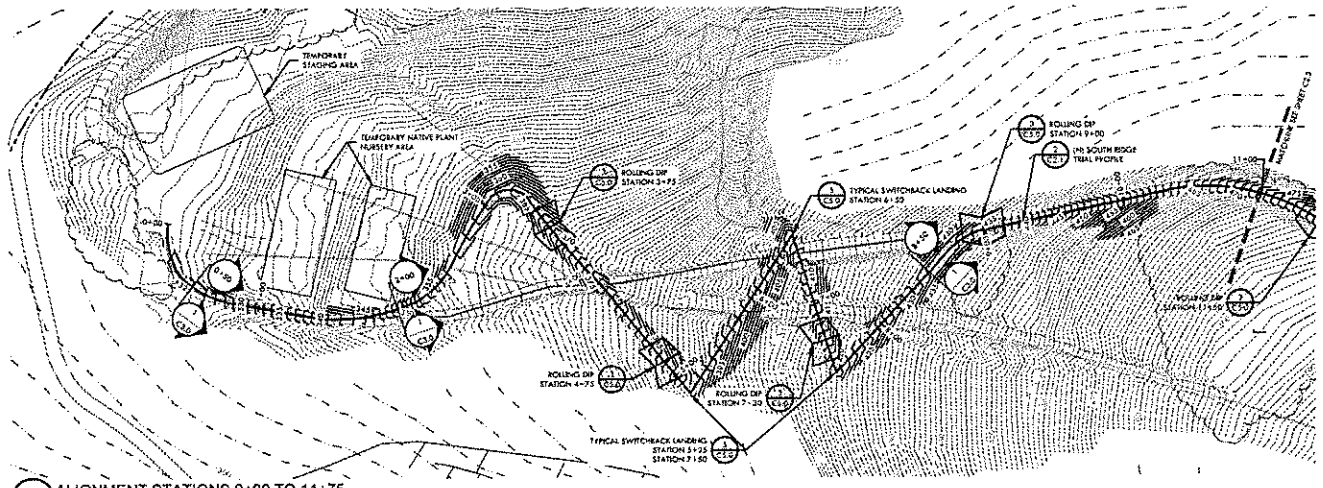
DRAWN BY	AJS
CHECKED BY	MM
DATE	APRIL 2016
JOB NO	21548
SCALE	AS SHOWN
SHEET	C2.0

4 OF 14

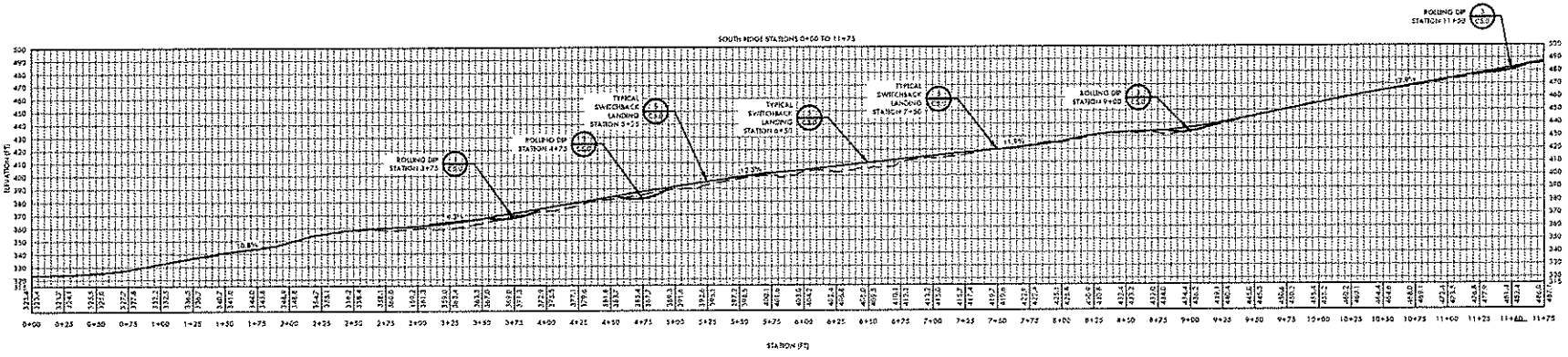
GEOTECHNICAL NOTES

1. AT APPROXIMATELY STATION 4+00, STEEP SLOPES ARE PRESENT DOWNSLOPE OF THE PROPOSED TRAIL ALIGNMENT. THE STEEP SLOPES FORM THE SCARP OF A LANDSLIDE THAT DESCENDS TO THE NORTHEAST. BASED ON SLOPE GEOMORPHOLOGY, THE SLIDE APPEARS TO BE DORMANT, AND COULD POSSIBLY BE REACTIVATED BY WET CONDITIONS. PROPOSED TRAIL ALIGNMENT HAS BEEN MOVED UPHILL TO AVOID HEADWARD MOVEMENT OF THE LANDSLIDE. IT IS RECOMMENDED THAT THE PROPOSED TRAIL BE SETBACK HORIZONTALLY FROM THE TOP OF THE STEEP SLOPE (TOP OF LANDSLIDE SCARP) BY AT LEAST 10 FEET. DISCHARGE OF WATER FROM THE TRAIL TO THIS AREA SHOULD BE MINIMIZED.

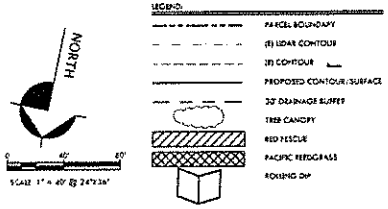
SOUTH RIDGE TRAIL IMPROVEMENTS			
Sheet	Start Station	End Station	Trail Improvement
C2.1	0+00	1+44.75	OUTSLOPE RIGHT 3%
	1+44.75	3+37.15	OUTSLOPE LEFT 3%
	3+37.15	5+16.33	OUTSLOPE RIGHT 3%
	3+75		ROLLING DIP
	4+75		ROLLING DIP
	5+25		LANDING
	5+16.33	6+50.07	OUTSLOPE LEFT 12%
	6+50		LANDING
	6+50.07	7+53.03	OUTSLOPE RIGHT 2%
	7+30		ROLLING DIP
	7+50		LANDING
	9+00		ROLLING DIP
C2.1/C2.2	7+53.01	13+71.88	OUTSLOPE LEFT 2%
	11+50		ROLLING DIP
	13+50		ROLLING DIP
C2.2	14+40		LANDING
	18+25		ROLLING DIP
C2.2/C2.3	23+00		ROLLING DIP
	13+71.88	33+66.87	OUTSLOPE RIGHT 3%
C2.3	27+90		VISTA POINT, TRAIL TURNOUT
	28+25		ROLLING DIP
	30+75		ROLLING DIP
	33+50		ROLLING DIP



1 ALIGNMENT STATIONS 0+00 TO 11+75
SCALE: 1" = 40' @ 24" X 36"



2 PROFILE STATIONS 0+00 TO 11+75
SCALE: 1" = 40' @ 24" X 36"



SHEET TITLE
PLAN AND PROFILE
SOUTH RIDGE TRAIL

CLIENT
PACIFICA LAND TRUST
ATTN: SHANUS CASELAS
PRESIDENT OF BOARD OF DIRECTORS
P.O. BOX 308
PACIFICA, CA 94044

PROJECT TITLE
PEDRO POINT HEADLANDS
TRAIL IMPROVEMENT PLANS
MONTARA 1
PACIFICA, CALIFORNIA

75% DESIGN SUBMITTAL

FALL CREEK ENGINEERING, INC.
Consulting Engineers
Civil/Environmental/Water Resources
1535 DRIFTWOOD AVE.
SANTA CRUZ, CA 95062
TEL (831) 476-4314

DRAWN BY	ALS
CHECKED BY	MKH
DATE	APRIL 2016
JOB NO	21308
SCALE	AS SHOWN
SHEET	C2.1
	5 OF 14

SOUTH RIDGE TRAIL IMPROVEMENTS			
Sheet	Start Station	End Station	Trail Improvement
C2.1	0+00	1+44.75	OUTSLOPE RIGHT 2%
	1+44.75	3+37.13	OUTSLOPE LEFT 2%
	3+37.13	5+16.33	OUTSLOPE RIGHT 2%
	3+75		ROLLING DIP
	4+75		ROLLING DIP
	5+25		LANDING
	5+16.33	6+50.07	OUTSLOPE LEFT 2%
	6+50		LANDING
	6+50.07	7+53.03	OUTSLOPE RIGHT 2%
	7+00		ROLLING DIP
	7+50		LANDING
	9+00		ROLLING DIP
C2.1/C2.2	7+53.03	13+71.88	OUTSLOPE LEFT 2%
	11+50		ROLLING DIP
C2.2	12+50		ROLLING DIP
	14+40		LANDING
	18+25		ROLLING DIP
C2.3/C2.3	23+00		ROLLING DIP
	13+71.88	33+66.82	OUTSLOPE RIGHT 2%
C2.3	27+00		VISTA POINT, TRAIL TURNOUT
	29+25		ROLLING DIP
	30+75		ROLLING DIP
	33+50		ROLLING DIP

LEGEND

- PARCEL BOUNDARY
- (E) LIDAR CONTOUR
- (E) CONTOUR
- PROPOSED CONTOUR / SURFACE
- 30' DRAINAGE BUFFER
- TREE CANOPY
- RED FESCUE
- PACIFIC REEDGRASS
- ROLLING DIP

NORTH

SCALE: 1" = 40' @ 24"X36"

1 ALIGNMENT STATIONS 11+75 TO 23+50
SCALE: 1" = 40' @ 24" X 36"

2 PROFILE STATIONS 11+75 TO 23+50
SCALE: 1" = 40' @ 24" X 36"

SHEET TITLE
PLAN AND PROFILE
SOUTH RIDGE TRAIL

CLIENT
PACIFICA LAND TRUST
ATTN: SANGEL CARLSEN
PRESIDENT OF BOARD OF DIRECTORS
P.O. BOX 598
PACIFICA, CA 94044

PROJECT TITLE
PEDRO POINT HEADLANDS
TRAIL IMPROVEMENT PLANS
HIGHWAY 1
PACIFICA, CALIFORNIA

75% DESIGN SUBMITTAL

FALL CREEK ENGINEERING, INC.
Consulting Engineers

DRAWN BY: KS
CHECKED BY: Finn
DATE: APRIL 2016
JOB NO: 21528
SCALE: AS SHOWN
SHEET: C2.2
6 OF 14

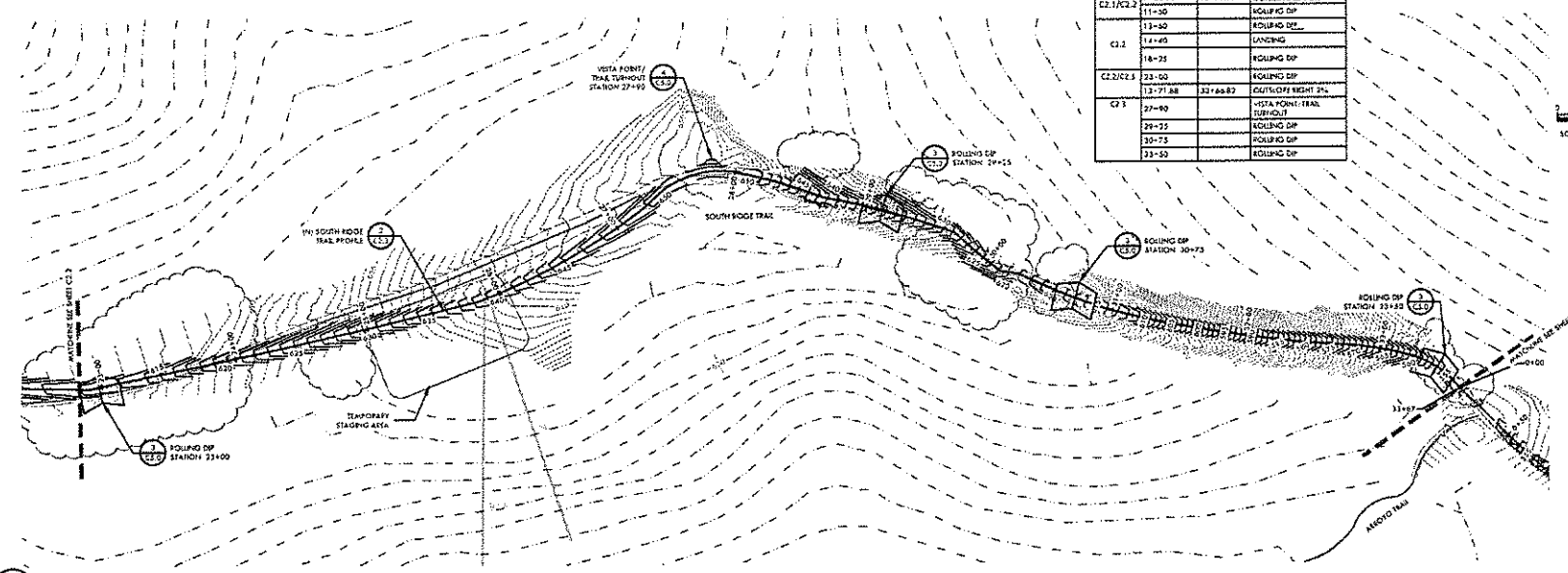
GEOTECHNICAL NOTES

1. BETWEEN STATIONS 30+00 AND 31+50, OUTBOARD SLOPES TO THE WEST ARE INCLINED BETWEEN 27 AND 36 DEGREES. THESE SLOPES ARE SUFFICIENTLY STEEP TO PRECLUDE CONSTRUCTION OF FILL SLOPES AT 2:1 (HORIZONTAL TO VERTICAL) INCLINATIONS. IT IS RECOMMENDED THAT THE FINAL TRAIL ALIGNMENT BE BIASED TOWARD THE NORTHEAST TO AVOID PLACEMENT OF FILL ON STEEP SLOPES TO THE SOUTHWEST. IF FILL IS PROPOSED ON THE WEST SIDE SOME BENCHING AND KEYING MAY BE REQUIRED DUE TO THE EXISTING STEEP SLOPES. FILL PLACED ON SLOPES GREATER THAN 5:1 (HORIZONTAL:VERTICAL) SHOULD BE BENCHED AND KEYED INTO NATIVE SLOPES (SEE C3.0 DETAILS ON BENCHING AND KEYING).

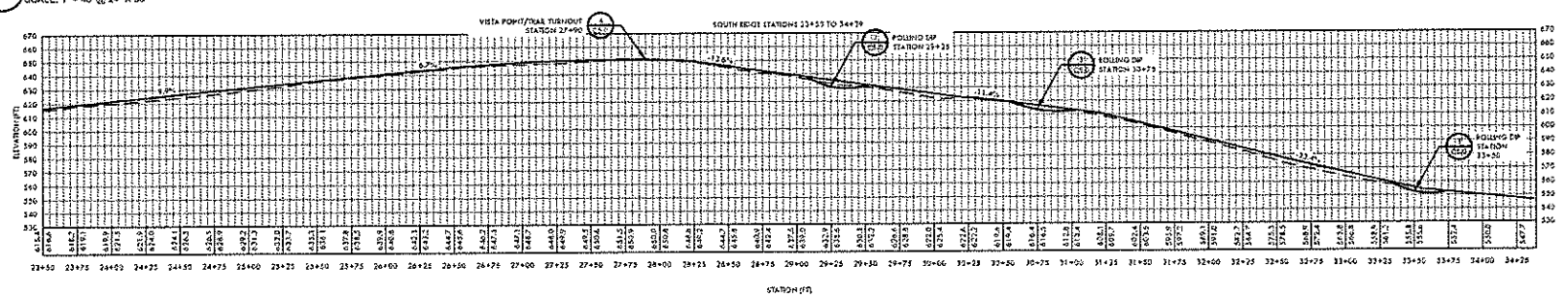
2. BETWEEN STATIONS 31+00 AND 33+00, STEEP SLOPES ARE INCLINED BETWEEN 28 AND 32 DEGREES TO THE WEST ON THE OUTBOARD SIDE OF THE TRAIL. SEDIMENTARY BEDDING LOCALLY DIPS 32 DEGREES TO THE WEST (A DIP SLOPE CONDITION). THIS CONDITION OCCURS WHERE SEDIMENTARY BEDDING AND THE SLOPE ANGLE ARE CONFORMENT, AND IS OFTEN CAUSED BY THE SLOPE FAILURE ALONG INHERENTLY WEAK SEDIMENTARY BEDDING PLANES. A "FIN" OF ROCK FORMS THE OUTBOARD SIDE OF THE TRAIL ALONG THIS TRAIL SEGMENT, CURRENTLY ISOLATING THE TRAIL FROM THE STEEP OUTBOARD SLOPES. REMOVAL OF THIS FIN FOR USE AS FILL IS UNLIKELY TO CONTRIBUTE TO SLOPE INSTABILITY. HOWEVER, MOVEMENT OF THE TRAIL TO THE WEST OF ITS CURRENT LOCATION MAY MAKE THE FUTURE TRAIL ALIGNMENT SUSCEPTIBLE TO FAILURE ALONG BEDDING PLANES IN THE LONG TERM. IT IS RECOMMENDED THAT THE FINAL TRAIL ALIGNMENT BE BIASED TOWARD THE NORTHEAST SIDE AS IT IS NARROWED. THIS WILL PROVIDE A SETBACK FROM SLOPES THAT MAY BE SUBJECT TO INSTABILITY DUE TO A DIP SLOPE CONDITION. HOWEVER, IF THE FIN OF ROCK THAT FORMS THE OUTBOARD SIDE OF THE EXISTING TRAIL IS LEFT IN PLACE, FINAL TRAIL LOCATION ANYWHERE IN THE EXISTING ALIGNMENT IS FEASIBLE.

SOUTH RIDGE TRAIL IMPROVEMENTS				
Sheet	Start Station	End Station	Trail Segment	
C2.1	0+00	1+44.75	OUTSLOPE RIGHT 2%	
	1+44.75	3+27.15	OUTSLOPE LEFT 2%	
	3+27.15	5+16.33	OUTSLOPE RIGHT 2%	
	5+75		ROLLING DIP	
	6+75		ROLLING DIP	
	5+25		LANDING	
	5+16.33	6+50.07	OUTSLOPE LEFT 2%	
	6+50		LANDING	
	6+50.07	7+53.03	OUTSLOPE RIGHT 2%	
	7+50		ROLLING DIP	
	7+50		LANDING	
	9+00		ROLLING DIP	
C2.1/C2.2	7+53.03	13+71.88	OUTSLOPE LEFT 2%	
	11+50		ROLLING DIP	
	13+50		ROLLING DIP	
C2.2	14+45		LANDING	
	18+25		ROLLING DIP	
C2.2/C2.3	23+00		ROLLING DIP	
	13+71.88	32+66.82	OUTSLOPE RIGHT 2%	
C2.3	27+90		VISTA POINT/TRAIL TURNOUT	
	29+25		ROLLING DIP	
	30+75		ROLLING DIP	
	33+50		ROLLING DIP	

LEGEND:
- PARCEL BOUNDARY
- (E) LIDAR CONTOUR
- (E) CONTOUR
- PROPOSED CONTOUR/SURFACE
- 30' DRAINAGE BUFFER
- TREE CANOPY
- RED FESCUE
- PACIFIC REDGRASS
- ROLLING DIP



1 ALIGNMENT STATIONS 23+50 TO 34+39
SCALE: 1" = 40' @ 24" X 36"



2 PROFILE STATIONS 23+50 TO 34+39
SCALE: 1" = 40' @ 24" X 36"

SHEET TITLE
PLAN AND PROFILE SOUTH RIDGE TRAIL

CLIENT
PACIFICA LAND TRUST
ATTN: SAMUEL CASELAS
PRESIDENT OF BOARD OF DIRECTORS
P.O. BOX 988
PACIFICA, CA 94044

PROJECT TITLE
PEDRO POINT HEADLANDS
TRAIL IMPROVEMENT PLANS
HIGHWAY 1
PACIFICA, CA 94044

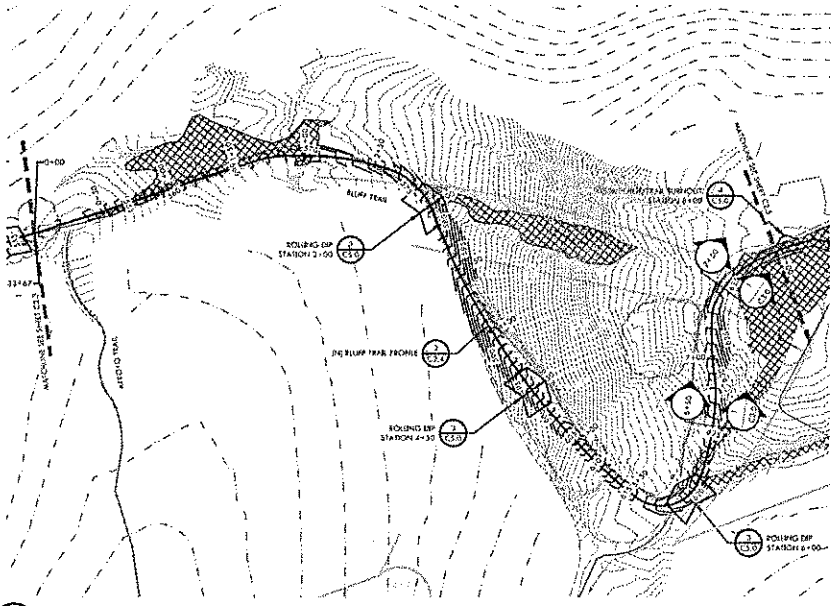
75% DESIGN SUBMITTAL

FALL CREEK ENGINEERING, INC.
Consulting Engineers
1525 SEABRIGHT AVE.
SANTA CRUZ, CA 95062
TEL: (831) 426-9534

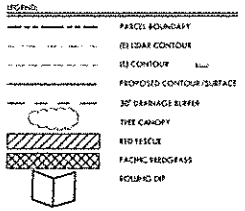
DRAWN BY	AS
CHECKED BY	Peter
DATE	APRIL 2016
JOB NO	21526
SCALE	AS SHOWN
SHEET	C2.3

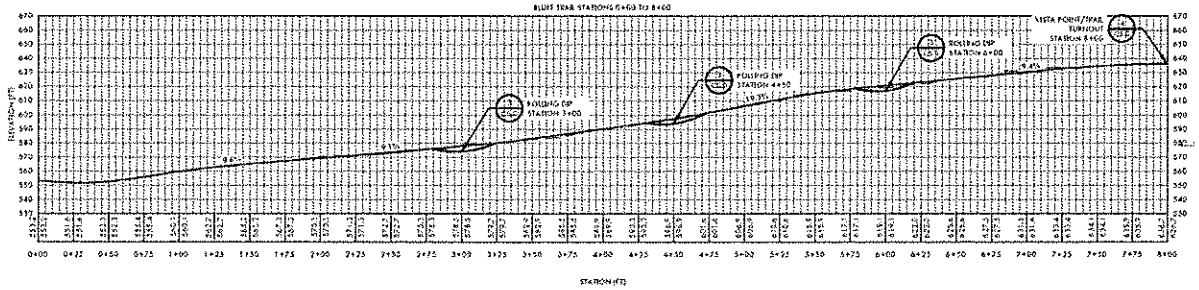
7 OF 14

BLUFF TRAIL IMPROVEMENTS			
Sheet	Start Station	End Station	Trail Improvement
C2.4/2.5	0+00	5+99.86	OUTSLOPE RIGHT 2%
	3+20		ROLLING DIP
	4+50		ROLLING DIP
	6+00		ROLLING DIP
C2.4/2.5	5+99.86	9+54.01	OUTSLOPE LEFT 2%
	8+00		VISTA POINT/TRAIL TURNOUT
C2.5	8+50		SIGN/WOOD BOLLARDS
	9+54.01	13+68.8	OUTSLOPE RIGHT 2%
	10+25		ROLLING DIP
	10+72	12+13	TRAIL STAIRS
C2.5/2.6	13+66.8	16+50.86	OUTSLOPE LEFT 2%
	13+25		ROLLING DIP
C2.6	16+25		ROLLING DIP
	16+50.86	17+70.85	OUTSLOPE RIGHT 2%
	16+50		LANDING
	17+70.85	18+90.28	OUTSLOPE LEFT 2%
	17+75		LANDING
	18+75		ROLLING DIP
	18+90.28	23+24.98	OUTSLOPE RIGHT 2%
	19+00		LANDING
	21+25		ROLLING DIP
	23+00		ROLLING DIP
	23+24.98	24+25.34	OUTSLOPE LEFT 2%
	23+25		LANDING
	24+25		LANDING
	24+25.34		PEDRO POINT/VISTA POINT, OUTSLOPE RIGHT 2%



1 ALIGNMENT STATIONS 0+00 TO 8+00
SCALE: 1" = 40' @ 24" X 36"





2 PROFILE STATIONS 0+00 TO 8+00
SCALE: 1" = 40' @ 24" X 36"

SHEET TITLE
PLAN AND PROFILE
BLUFF TRAIL

CLIENT
PACIFICA LAND TRUST
ATTN: SAMUEL CASILAS
PRESIDENT OF BOARD OF DIRECTORS
P.O. BOX 388
PACIFICA, CA 94044

PROJECT TITLE
PEDRO POINT HEADLANDS
TRAIL IMPROVEMENT PLANS
HIGHWAY 1
PACIFICA, CALIFORNIA

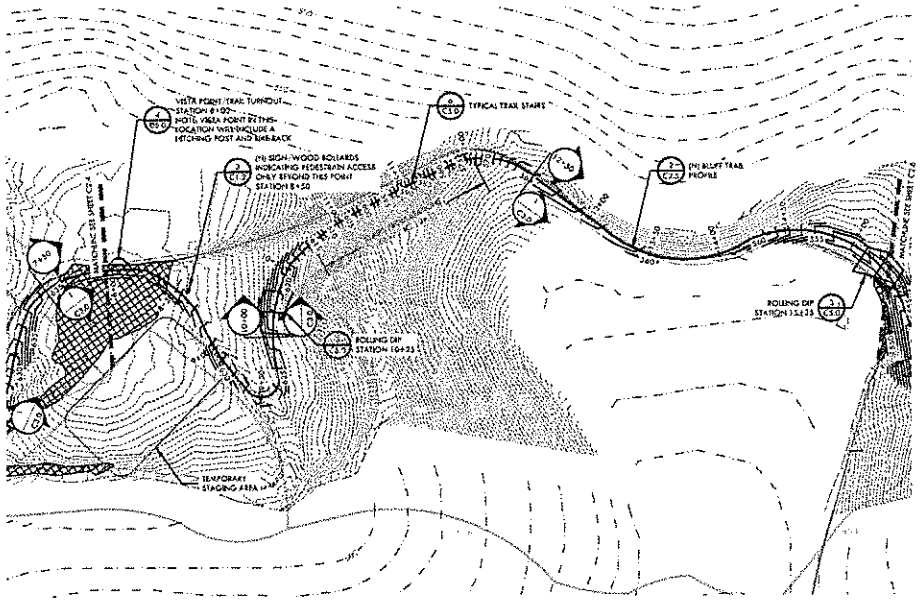
75% DESIGN SUBMITTAL

FALL CREEK ENGINEERING, INC.
Civil Engineering
Construction Management Services
3520 DEL MONTE AVE.
SANTA CRUZ, CA 95062
TEL (831) 426-9634

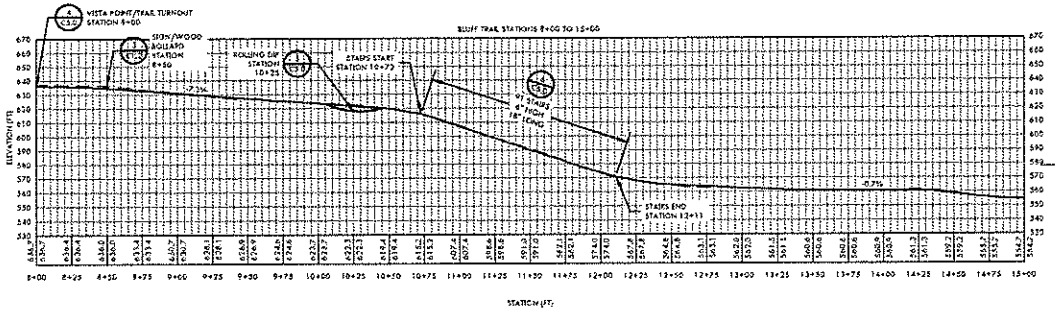
DRAWN BY	AS
CHECKED BY	MMH
DATE	APRIL 2018
JOB NO	21528
SCALE	AS SHOWN
SHEET	C2.4
	8 OF 14

GEOTECHNICAL NOTES

1. BETWEEN STATIONS 8+50 AND 14+00 THE EXISTING TRAIL GRADE IS INCLINED STEEPLY TO THE NORTH-NORTHWEST AT 18 DEGREES. BOTH SIDES OF THE EXISTING TRAIL ARE IN CUT, WITH EXISTING CUTSLOPE PROFILE INCLINATIONS OF 50-60 DEGREES. MOVEMENT OF THE TRAIL 10+ FEET TO THE EAST OVER PORTIONS OF THIS INTERVAL AS PROPOSED WILL ENTAIL CUTTING TOWARD THE EAST AND BACKFILLING TO THE WEST. AT APPROXIMATELY STATION 11+00 A 3 TO 5-FOOT WIDE FIN OF SEVERELY WEATHERED ROCK AND SOIL SEPARATES THE EXISTING TRAIL FROM VERY STEEP AND EXPOSED OUTBOARD (WESTERN) SLOPES. STEEP SLOPES THAT DESCEND TO THE OCEAN ARE INCLINED APPROXIMATELY 45 DEGREES TO THE WEST OF THE OUTBOARD SIDE OF THE TRAIL. SEDIMENTARY BEDDING LOCALLY FORMS A DIP-SLOPE CONDITION OVER THIS TRAIL INTERVAL. THIS CONDITION APPEARS TO BE THE CONTROLLING FACTOR FOR BLUFF RETREAT ALONG THE STEEP CLIFFS THAT FRONT THE OCEAN ALONG THE PEDRO POINT HEADLANDS. A "FIN" OF SEVERELY WEATHERED ROCK AND SOIL APPROXIMATELY 5 TO 8 FEET WIDE FORMS THE OUTBOARD SIDE OF THE EXISTING TRAIL ALONG THIS TRAIL INTERVAL CURRENTLY FORMING A BUFFER FROM EXPOSED SLOPES. REMOVAL OF THIS FIN FOR USE AS FILL IS UNLIKELY TO CONTRIBUTE TO SLOPE INSTABILITY, HOWEVER, BLUFF RETREAT IS LIKELY TO BE A CONTINUING PROCESS OVER THE LONG TERM. BETWEEN STATIONS 8+50 AND 14+00 IT IS RECOMMENDED THAT FINAL TRAIL ALIGNMENT BE BIASED TOWARD THE EASTERN SIDE OF THE ALIGNMENT AS IT IS AS-BUILT. THIS WILL PROVIDE GREATER SETBACK FROM SLOPES UNDERGOING BLUFF RETREAT AND ENHANCE LONGEVITY OF THE TRAIL. WHILE NOT NECESSARILY A GEOTECHNICAL CONCERN, EXPOSED SLOPES MAY PRESENT A HAZARD DURING TRAIL CONSTRUCTION. RETAINING AT LEAST A PORTION OF THE "FIN" OF ROCK AND SOIL ALONG THIS REACH WOULD MAINTAIN A BUFFER FROM EXPOSED SLOPES FOR TRAIL USERS. IF THIS BUFFER IS REMOVED ENTIRELY, CONSTRUCTION OF A FENCE OR RAILING OVER THIS INTERVAL IS ADVISED. FILL PLACED ON SLOPES WITH INCLINATIONS GREATER THAN 5:1 SHOULD BE BENCHED AND KEYED AS IT IS PLACED.

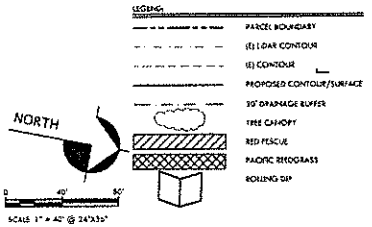


1 ALIGNMENT STATIONS 8+00 TO 15+00
SCALE: 1" = 40' @ 24" X 36"



2 PROFILE STATIONS 8+00 TO 15+00
SCALE: 1" = 40' @ 24" X 36"

BLUFF TRAIL IMPROVEMENTS			
Sheet	Start Station	End Station	Trail Improvement
C2.4/2.5	0+00	3+99.66	OUTSLOPE RIGHT 2%
	3+00		ROLLING DIP
	4+50		ROLLING DIP
	6+00		ROLLING DIP
C2.4/2.5	3+99.86	9+54.01	OUTSLOPE LEFT 2%
	8+00		VISTA POINT/TRAIL TURNOUT
C2.5	8+50		SIGN/WOOD BOLLARDS
	9+54.01	13+66.8	OUTSLOPE RIGHT 2%
	10+25		ROLLING DIP
	10+72	12+11	TRAIL STAIRS
C2.5/2.6	13+66.8	16+30.86	OUTSLOPE LEFT 2%
	13+25		ROLLING DIP
C2.6	16+25		ROLLING DIP
	16+50.86	17+70.85	OUTSLOPE RIGHT 2%
	16+50		LANDING
	17+70.85	18+90.28	OUTSLOPE LEFT 2%
	17+75		LANDING
	18+75		ROLLING DIP
	18+90.28	23+24.98	OUTSLOPE RIGHT 2%
	19+00		LANDING
	21+25		ROLLING DIP
	23+00		ROLLING DIP
	23+24.98	24+35.34	OUTSLOPE LEFT 2%
	23+25		LANDING
	24+25		LANDING
	24+35.34		PEDRO POINT VISTA POINT, OUTSLOPE RIGHT 2%



SHEET TITLE
PLAN AND PROFILE
BLUFF TRAIL

CLIENT
PACIFICA LAND TRUST
ATTN: SAMUEL CASILLAS
PRESIDENT OF BOARD OF DIRECTORS
P.O. BOX 338
PACIFICA, CA 94044

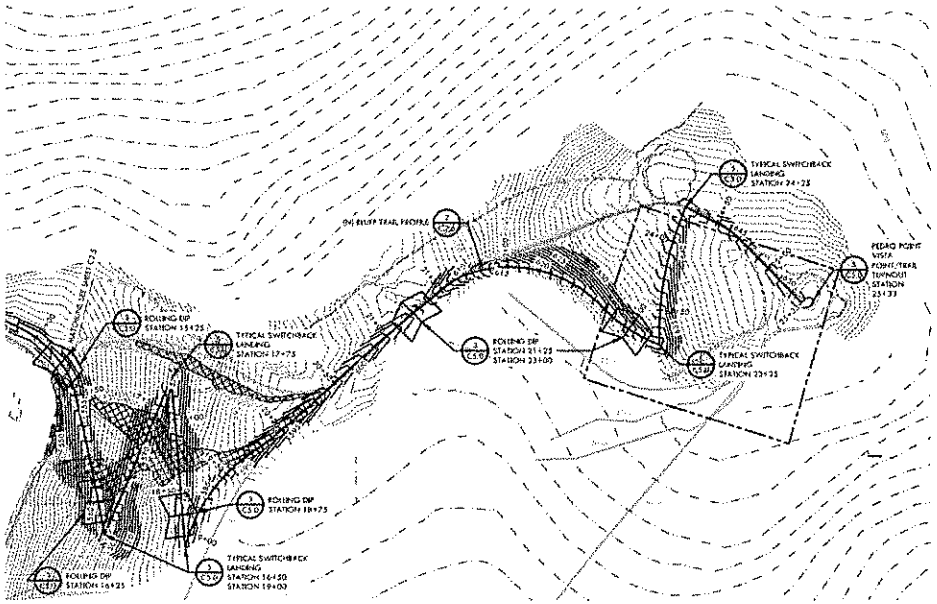
PROJECT TITLE
PEDRO POINT HEADLANDS
TRAIL IMPROVEMENT PLANS
HIGHWAY 1
PACIFICA, CALIFORNIA

75% DESIGN SUBMITTAL

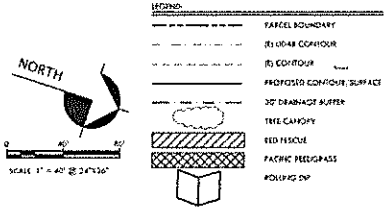
FALL CREEK ENGINEERING, INC.
Consulting Engineers
1533 SEABRIGHT AVE.
SANTA CRUZ, CA 95062
TEL (831) 426-9634

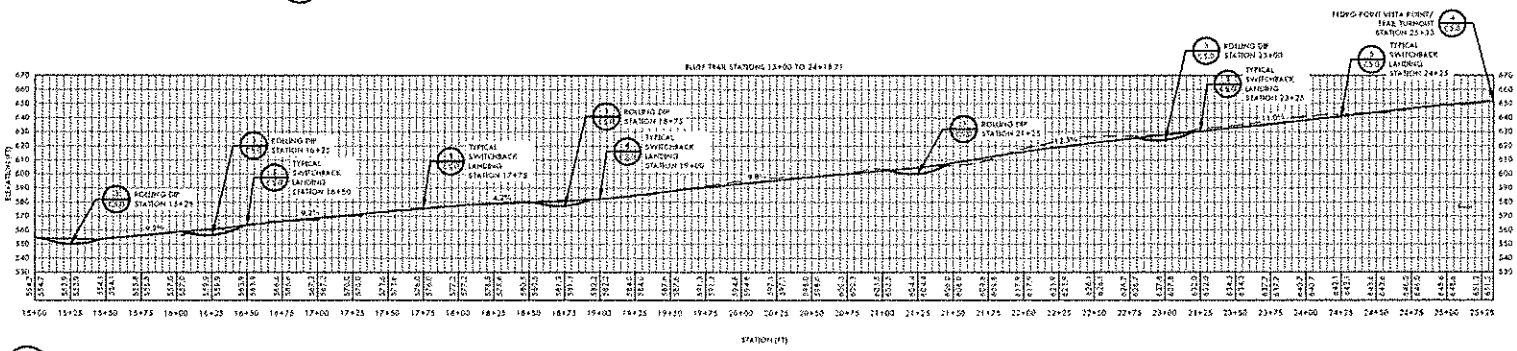
DRAWN BY	JLS
CHECKED BY	MSH
DATE	APRIL 2016
JOB NO	21508
SCALE	AS SHOWN
SHEET	C2.5
	9 OF 14

BLUFF TRAIL IMPROVEMENTS			
Sheet	Start Station	End Station	Trail Improvement
C2.4/2.5	6+00	5+99.86	OUTSLOPE RIGHT 2%
	7+00		ROLLING DIP
	8+50		ROLLING DIP
	14+00		ROLLING DIP
C2.4/2.5	5+99.86	9+34.01	OUTSLOPE LEFT 2%
	6+00		VISTA POINT/TRAIL TURNOUT
	8+50		SIGN/WOOD BOLLARDS
C2.5	9+34.01	13+68.8	OUTSLOPE RIGHT 2%
	10+25		ROLLING DIP
	10+72	12+11	TRAIL STAIRS
C2.5/2.6	13+68.8	16+50.86	OUTSLOPE LEFT 2%
	15+25		ROLLING DIP
C2.6	16+25		ROLLING DIP
	16+50.86	17+70.85	OUTSLOPE RIGHT 2%
	16+50		LANDING
	17+70.85	18+90.28	OUTSLOPE LEFT 2%
	17+75		LANDING
	18+75		ROLLING DIP
	18+90.28	23+24.98	OUTSLOPE RIGHT 2%
	19+00		LANDING
	21+25		ROLLING DIP
	23+00		ROLLING DIP
	23+24.98	24+25.34	OUTSLOPE LEFT 2%
	23+25		LANDING
	24+25		LANDING
	24+25.34		PEDRO POINT VISTA POINT, OUTSLOPE RIGHT 2%



1 ALIGNMENT STATIONS 8+00 TO 15+00
SCALE: 1" = 40' @ 24" X 36"





2 PROFILE STATIONS 15+00 TO 24+81
SCALE: 1" = 40' @ 24" X 36"

SHEET TITLE
PLAN AND PROFILE
BLUFF TRAIL

CLIENT
PACIFICA LAND TRUST
ATTN: SAMUEL CASILLAS
PRESIDENT OF BOARD OF DIRECTORS
P.O. BOX 388
PACIFICA, CA 94044

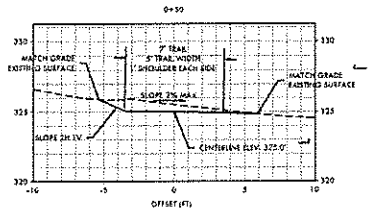
PROJECT TITLE
PEDRO POINT HEADLANDS
TRAIL IMPROVEMENT PLANS
HIGHWAY 1
PACIFICA, CALIFORNIA

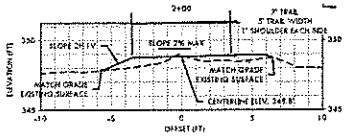
75% DESIGN SUBMITTAL

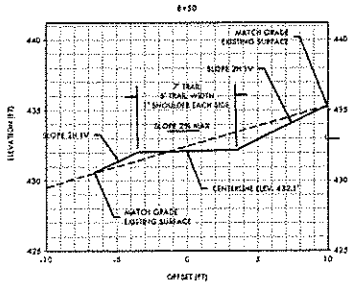
TALE CREEK ENGINEERING, INC.
Civil • Environmental • Water Resources
1101 SEABRIGHT AVE.
SANTA CRUZ, CA 95062
TEL (831) 426-9166

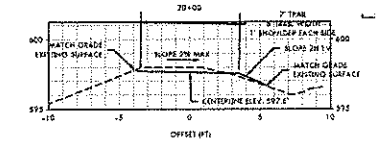
REG. NO. 26888
EXP. 12/31/16
CIVIL

DRAWN BY	AZ
CHECKED BY	RMR
DATE	APRIL 2016
JOB NO	21528
SCALE	AS SHOWN
SHEET	C2.6
	10 OF 14

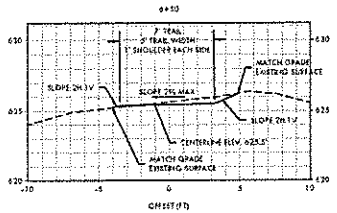


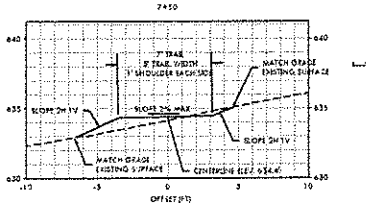


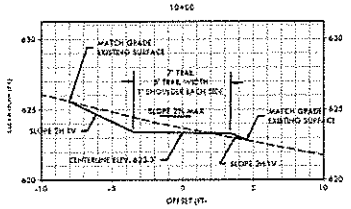


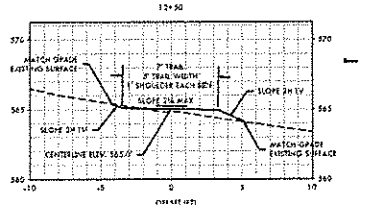


SOUTH RIDGE TRAIL





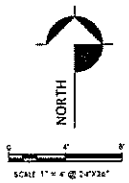




BLUFF TRAIL

NOTES

1. ALL TRAILS MUST MAINTAIN A 2% OUTSLOPE TO PROVIDE POSITIVE SHEET FLOW DRAINAGE FROM TRAILS.
2. ALL THROUGHCUT SECTIONS OF TRAIL SHALL BE ELIMINATED AND NO NEW THROUGHCUTS SHALL BE CONSTRUCTED.



1 CROSS SECTIONS
SCALE: 1" = 4' @ 24" X 36"

SHEET TITLE
CROSS SECTIONS

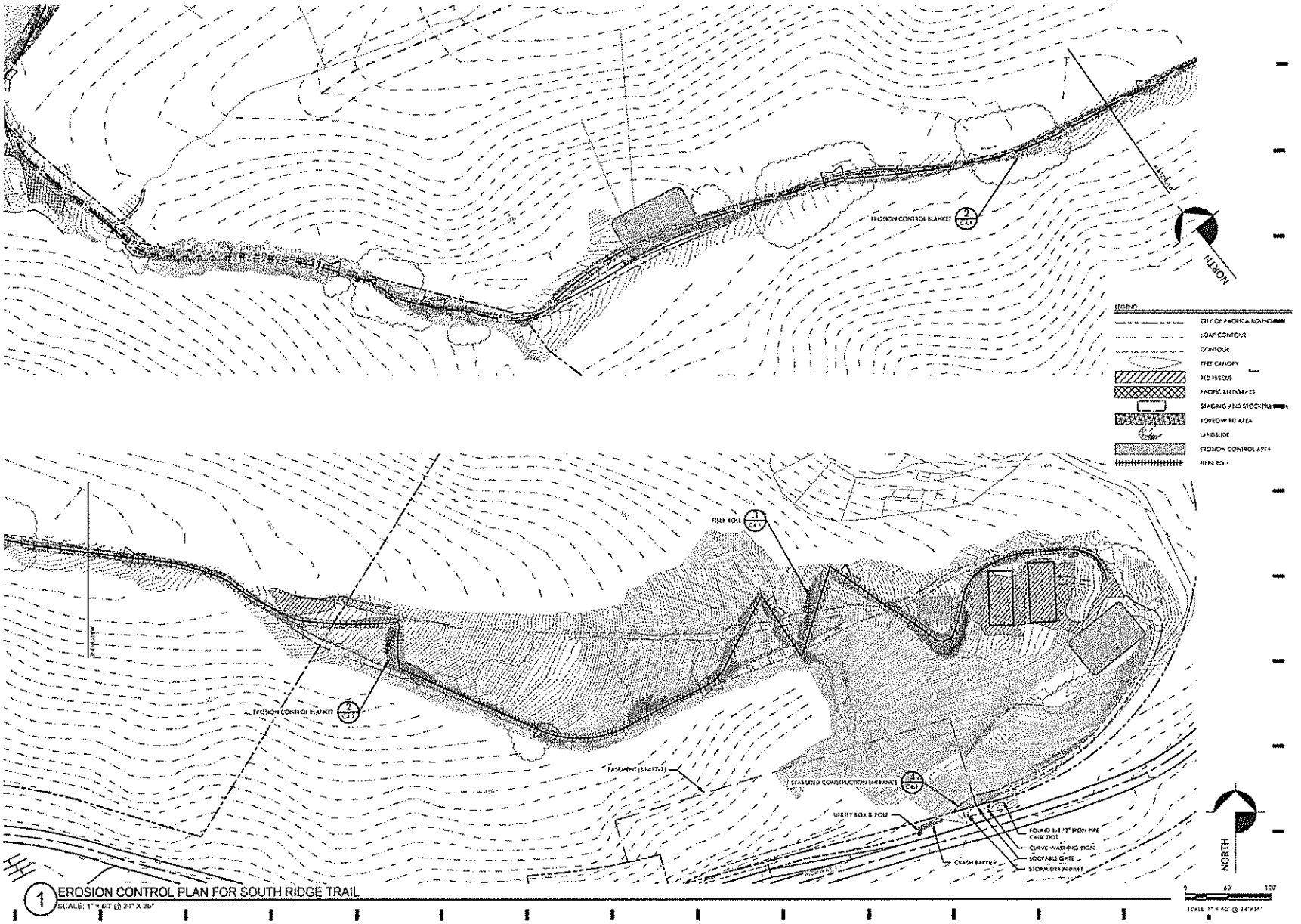
CLIENT
PACIFICA LAND TRUST
ATTN: SAMUEL CASELLAS
PRESIDENT OF BOARD OF DIRECTORS
P.O. BOX 3218
PACIFICA, CA 94044

PROJECT TITLE
PEDRO POINT HEADLANDS
TRAIL IMPROVEMENT PLANS
HIGHWAY 1
PACIFICA, CALIFORNIA

75% DESIGN SUBMITTAL

FALL CREEK ENGINEERING, INC.
Consulting Engineers
Civil and Environmental Water Resources
1820 SHAFER ST.
SANTA CRUZ, CA 95062
TEL (831) 426-5624

DRAWN BY	JLS
CHECKED BY	PHH
DATE	APRIL 2018
JOB NO	21.026
SCALE	AS SHOWN
SHEET	C3.0
	11 OF 14



1 EROSION CONTROL PLAN FOR SOUTH RIDGE TRAIL
SCALE: 1" = 60' @ 24"X 36"

SHEET TITLE
EROSION CONTROL
SOUTH RIDGE TRAIL

CLIENT
PACIFICA LAND TRUST
ATTN: SAMUEL CASILLAS
PRESIDENT OF BOARD OF DIRECTORS
P.O. BOX 388
PACIFICA, CA 94044

PROJECT TITLE
PEDRO POINT HEADLANDS
TRAIL IMPROVEMENT PLANS
HIGHWAY 1
PACIFICA, CALIFORNIA

75% DESIGN SUBMITTAL

FALL CREEK ENGINEERING, INC.
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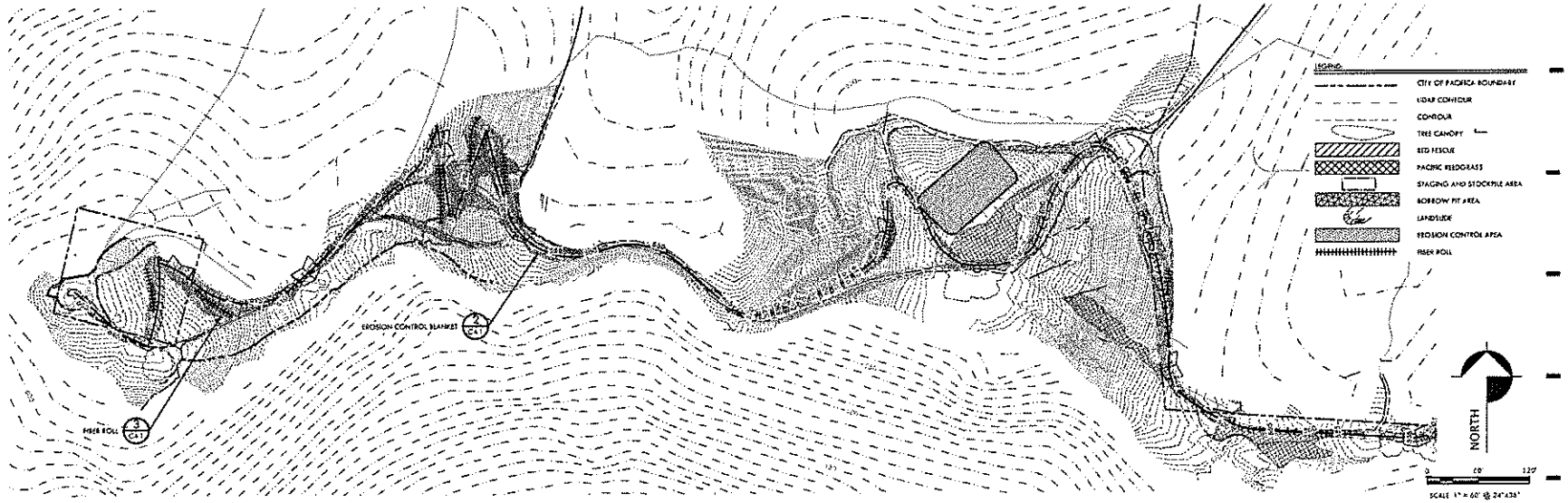
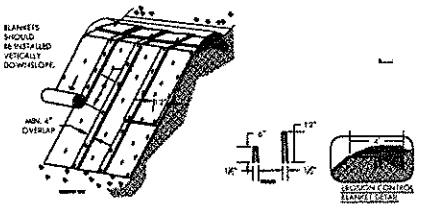
1535 DEHARO ST.
SAN FRANCISCO, CA 94107
TEL (415) 626-1454

DRAWN BY	JLS
CHECKED BY	MJM
DATE	APRIL 2016
JOB NO	21328
SCALE	AS SHOWN
SHEET	C4.0

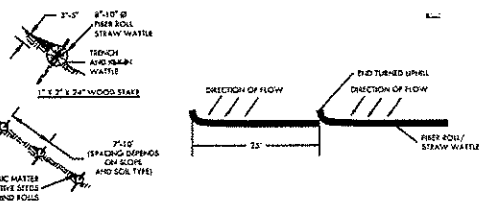
12 OF 14



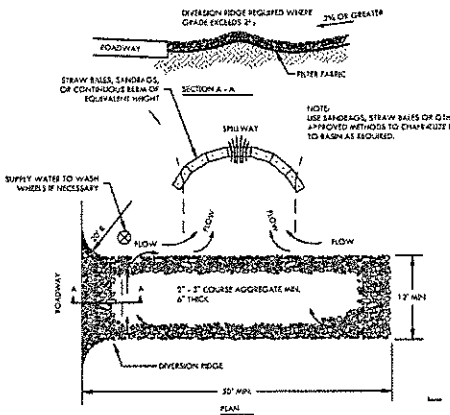
1 EROSION CONTROLPLAN FOR BUFF TRAIL
SCALE: 1" = 60' @ 24" X 36"



2 TYPICAL EROSION CONTROL BLANKET (SLOPES OVER 20%)
SCALE: AS SHOWN, INSTALL PER MANUFACTURER'S RECOMMENDATIONS



3 TYPICAL FIBER ROLL
SCALE: AS SHOWN



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

4 TYPICAL STABILIZED CONSTRUCTION ENTRANCE
SCALE: AS SHOWN

1. EROSION CONTROL MEASURES

1.1 ALL EROSION CONTROL MEASURES SHALL COMPLY WITH THE REQUIREMENTS ESTABLISHED BY THE COUNTY OF SAN MATEO EROSION PREVENTION AND SEDIMENT CONTROL MEASURES SHALL BE INSTALLED CONSISTENT WITH THIS PLAN AND AND THE PROJECT STORMWATER POLLUTION PREVENTION PROGRAM (SWPPP). DISCHARGES OF STORM WATER FROM THE PROJECT MUST COMPLY WITH NPDES GENERAL PERMIT ORDER 2009-0009-DWQ FOR "STORM WATER DISCHARGES ASSOCIATED WITH CONSTRUCTION ACTIVITIES".

1.3. DURING THE PERIOD OF OCTOBER 15TH TO APRIL 15TH, ALL PLANNED EROSION PREVENTION AND SEDIMENT CONTROL MEASURES SHALL BE INSTALLED.

1.4 GRADING PROJECTS THAT ARE STARTED BUT NOT COMPLETED BY OCTOBER 15TH OF EACH YEAR ARE TO BE "WINTERIZED" BY INSTALLATION OF PLANNED EROSION PREVENTION AND SEDIMENT CONTROL MEASURES, WHICH SHALL BE MAINTAINED IN GOOD REPAIR THROUGH THE APRIL 15TH FOLLOWING, AND UNTIL THE PROJECT IS COMPLETED.

1.5 THE CONTRACTOR SHALL INSTALL, MAINTAIN AND INSPECT EROSION CONTROL AND TEMPORARY STORMWATER CONTROL MEASURES TO CONTROL SEDIMENT AND RUNOFF IN ACCORDANCE WITH THESE PLANS.

1.6 EROSIONS TO BE CONTROLLED AT ALL TIMES ALTHOUGH SPECIFIC MEASURES SHOWN ARE TO BE IMPLEMENTED AT ANY TIME RAIN IS FORECASTED.

1.7 DISTURBED AREAS SHALL BE MULCHED AND SEEDED AT THE COMPLETION OF THE PROJECT.EROSION CONTROL BLANKET SHALL BE USED ON ALL SLOPES IN EXCESS OF 20%.IN ANTICIPATION OF RAIN, AND AT THE COMPLETION OF THE PROJECT, ALL DISTURBED AREAS SHALL BE MULCHED AND SEEDED.

1.8. AT THE END OF EACH WORK DAY, AND IN ANTICIPATION OF RAIN, ALL STOCKPILE AREAS SHALL BE COVERED WITH AN IMPERVIOUS VISQUEEN MATERIAL OR TARP, AND ANCHORED WITH SANDBAGS.

2. STABILIZED ENTRANCE

2.1 THE STABILIZED ENTRANCE SHALL BE INSTALLED ALONG THE ENTRANCE TO ALL ROADS TO REMOVE SEDIMENT FROM CONSTRUCTION EQUIPMENT BEFORE THEY EXIT THE SITE. THE ENTRANCE SHALL HAVE A PAD OF AGGREGATE UNDERLAIN WITH FILTER CLOTH LOCATED AT ANY POINT WHERE TRAFFIC WILL BE ENTERING OR LEAVING A CONSTRUCTION SITE. THE AGGREGATE SHALL BE 3 TO 6 INCH DIAMETER STONES. THE ENTRANCE SHALL BE A MINIMUM OF 50 FEET LONG AND AS WIDE AS THE ROAD

3. EROSION CONTROL BLANKET

3.1 THE EROSION CONTROL BLANKET SHALL BE CONSTRUCTED OF JUTE FIBERS, CURLED WOOD FIBERS, STRAW, COCONUT FIBER, OR A COMBINATION OF THESE MATERIALS. THE BLANKET SHALL HAVE ORGANIC NETTING AND SHALL BE INTENDED FOR TEMPORARY APPLICATIONS. NO PLASTIC OR PERMANENT EROSION CONTROL BLANKET WILL BE APPROVED FOR THIS PROJECT.

3.1 CONSTRUCTION GUIDELINES - BLANKET SHALL BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS. IF MANUFACTURERS RECOMMENDATIONS ARE DIFFERENT THAN THE INSTALLATION GUIDELINES BELOW, USE MANUFACTURERS RECOMMENDATIONS

3.2 GRADE AND SHAPE AREA OF INSTALLATION

3.3 REMOVE ALL ROCK, CLODS AND VEGETATIVE OR OTHER OBSTRUCTIONS SO THAT THE INSTALLED BLANKET WILL HAVE DIRECT CONTACT WITH THE SOIL.

3.4 LOOSEN 2-3 INCHES OF TOPSOIL ABOVE FINAL GRADE

3.5 U-SHAPED WIRE STAPLES, METAL GEOTEXTILE STAKE PINS OR TRIANGULAR WOODEN STAKES CAN BE USED TO ANCHOR MATS TO THE GROUND SURFACE. WIRE STAPLES SHOULD BE A MINIMUM OF 11 GAUGE. METAL STAKE PINS SHOULD BE 3/8 INCH DIAMETER STEEL WITH A 1 1/2 INCH STEEL WASHER AT THE HEAD OF THE PIN. WIRE STAPLES AND METAL STAKES SHOULD BE DRIVEN FLUSH TO THE SOIL SURFACE. ALL ANCHORS SHOULD BE 6-8 INCHES LONG AND HAVE SUFFICIENT GROUND PENETRATION TO RESIST PULLOUT. LONGER ANCHORS MAY BE REQUIRED FOR LOOSE SOILS

EROSION CONTROL
BLUFF TRAIL DETAILS
AND NOTES

CLIENT
PACIFICA LAND TRUST
ATTN: SAMUEL CASILAS
PRESIDENT OF BOARD OF DIRECTORS
P.O. BOX 358
PACIFICA, CA 94044

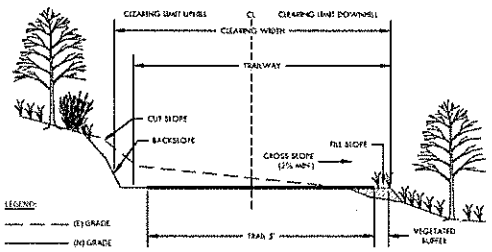
PROJECT TITLE
PEDRO POINT HEADLANDS
TRAIL IMPROVEMENT PLANS
HIGHWAY 1
PACIFICA, CALIFORNIA

75% DESIGN SUBMITTAL

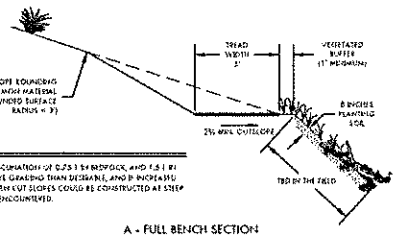
FALL CREEK ENGINEERING, INC.
Consulting Engineers
Civil/Environmental Solutions
1525 SARATOGA AVE.
SAN JOSE, CA 95129
TEL: (831) 426-4334

DRAWN BY	JLS
CHECKED BY	PMH
DATE	APRIL 2016
JOB NO.	2132B
SCALE	AS SHOWN
SHEET	C4.1

13 OF 14



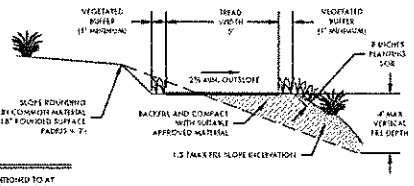
1 TRAIL STRUCTURE TERMINOLOGY
SCALE AS DIMENSIONED



GEOTECHNICAL NOTES

A MAXIMUM OUTSLOPE (RACKSLOPE) INCLINATION OF 0.75:1 (H:V) ROCK, AND 1.5:1 (H:V) SOIL, IF THE RESULTS IN MORE EXTENSIVE GRADING THAN DESIRABLE, AND IF INCREASED TRAIL MAINTENANCE IS ACCEPTABLE, THEN CUT SLOPES COULD BE CONSTRUCTED AT STEEP INCLINATIONS WHENEVER BEDROCK IS ENCOUNTERED.

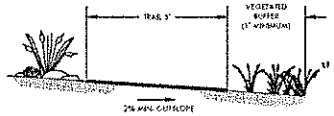
A - FULL BENCH SECTION
(PRIMARILY CUT)



GEOTECHNICAL NOTES:

- ALL FILL TO MOISTURE CONDITIONED TO AT LEAST 2 PERCENT ABOVE OPTIMUM MOISTURE AND LIGHTLY WHEELED OR TRACK ROLLED IN PLACE
- MAXIMUM VERTICAL FILL DEPTH OF 4 FEET
- MAXIMUM FILL SLOPE INCLINATION OF 1.5:1
- PRIOR TO FILL PLACEMENT, ANY EXISTING FILL IS TO BE REMOVED. ALL PROPOSED FILL TO BE PLACED ON NATIVE SOIL W/SCARIFY.

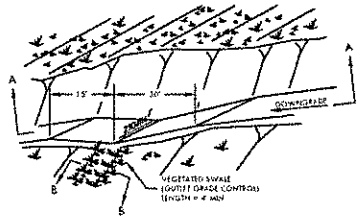
B - PARTIAL BENCH SECTION
(CUT & FILL)



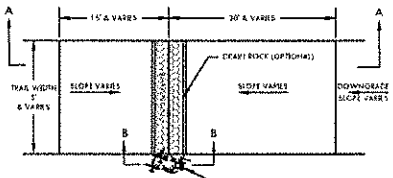
C - FLAT SECTION
(MINIMAL CUT OR FILL)

LEGEND:
(E) GRADE
(N) GRADE

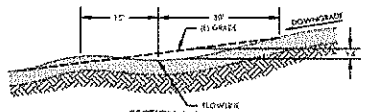
2 TYPICAL TRAIL SECTIONS
SCALE AS DIMENSIONED



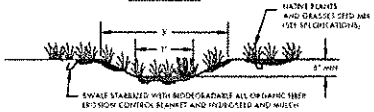
ORTHOGRAPHIC VIEW



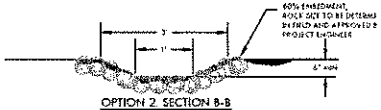
PLAN VIEW



SECTION A-A



OPTION 1, SECTION B-B
(VEGETATED SWALE)

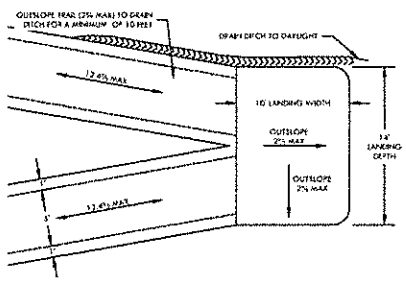


OPTION 2, SECTION B-B
(ROCK ENERGY DISSIPATOR)

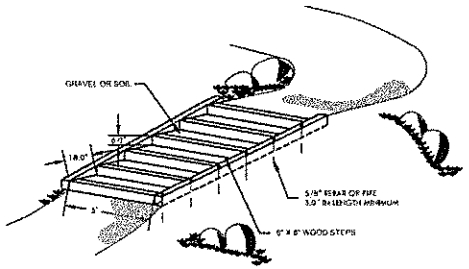
3 ROLLING DIP
SCALE AS DIMENSIONED

ROLLING DIP (RD) INVENTORY		
RD #	TRAIL	STATION
1	SOUTH RIDGE	3+75
2	SOUTH RIDGE	4+75
3	SOUTH RIDGE	7+50
4	SOUTH RIDGE	9+00
5	SOUTH RIDGE	11+50
6	SOUTH RIDGE	13+50
7	SOUTH RIDGE	16+25
8	SOUTH RIDGE	23+00
9	SOUTH RIDGE	25+25
10	SOUTH RIDGE	30+75
11	SOUTH RIDGE	32+50
12*	BLUFF TRAIL	3+00
13	BLUFF TRAIL	4+50
14	BLUFF TRAIL	6+00
15*	BLUFF TRAIL	10+25
16	BLUFF TRAIL	15+25
17	BLUFF TRAIL	26+25
18	BLUFF TRAIL	38+75
19	BLUFF TRAIL	21+25
20	BLUFF TRAIL	23+00

*NOTE: ADD UPSTREAM GRADE CONTROL (SEE DETAIL 7 OPTION 2, SECTION B-B)



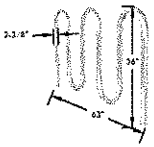
5 TYPICAL SWITCHBACK LANDING
SCALE AS DIMENSIONED



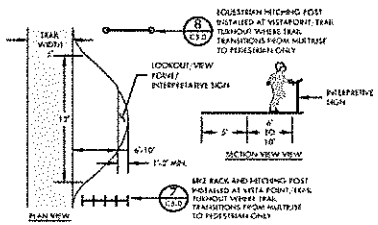
6 TYPICAL TRAIL STAIRS
SCALE AS DIMENSIONED

NOTES

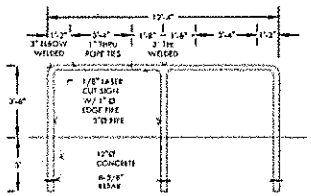
1. BIKE RACK SHALL BE DOUBLE SIDED WITH A CURVED BASE.
2. THE MATERIAL SHALL BE STEEL WITH A GALVANIZED FINISH.
3. THE USABLE OPENING WIDTH IS 7".



7 TYPICAL BIKE RACK
SCALE AS DIMENSIONED (ULTRAPLAY BIKE RACK, CURVED, 7- BIKE, IN GROUND)



4 VISTA POINT/TRAIL TURNOUT
SCALE AS DIMENSIONED



8 TYPICAL HORSE HITCHING POST/RAIL
SCALE: AS DIMENSIONED

PROJECT TITLE
TRAIL IMPROVEMENTS DETAILS

CLIENT
PACIFICA LAND TRUST
ATTN: SAMUEL DILLINGHAM
PRESIDENT OF BOARD OF DIRECTORS
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PROJECT TITLE
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HIGHWAY 1
PACIFICA, CALIFORNIA

75% DESIGN SUBMITTAL

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DRAWN BY	JLC
CHECKED BY	RWH
DATE	APRIL 2016
JOB NO.	21526
SCALE	AS SHOWN
SHEET	C5.0
	14 OF 14

Appendix B

Air Quality Modeling Results

Pedro Point Headlands Restoration and Trail Improvement

San Mateo County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
City Park	5.69	Acre	5.69	247,856.40	0

1.2 Other Project Characteristics

Urbanization	Rural	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	70
Climate Zone	5			**Operational Year**	2018
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - 5.69 acres of graded area

Construction Phase - Assume 30 days of site prep and 295 days of grading: October 2016 through December 2017.

Off-road Equipment - Use of excavator and backhoe.

Off-road Equipment - Use of excavator and backhoe.

Trips and VMT -

Grading - Assume no import of fill from off-site.

Vehicle Trips - No additional vehicle trips during operation.

Consumer Products - No use of additional consumer products.

Area Coating - No use of architectural coatings.

Landscape Equipment - No use landscape equipment.

Water And Wastewater - No water/wastewater use.

Solid Waste - No solid waste generation.

Construction Off-road Equipment Mitigation - Standard fugitive dust controls per BAAQMD recommendations.

Area Mitigation -

Table Name	Column Name	Default Value	New Value
tblAreaCoating	Area_Nonresidential_Interior	371784	0
tblConstructionPhase	NumDays	20.00	295.00
tblConstructionPhase	NumDays	10.00	30.00
tblConstructionPhase	PhaseStartDate	11/12/2016	11/14/2016
tblGrading	AcresOfGrading	147.50	5.70
tblOffRoadEquipment	LoadFactor	0.41	0.41
tblOffRoadEquipment	OffRoadEquipmentType		Graders
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	1.00
tblProjectCharacteristics	OperationalYear	2014	2018
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural
tblSolidWaste	SolidWasteGenerationRate	0.49	0.00
tblTripsAndVMT	WorkerTripNumber	10.00	8.00
tblVehicleTrips	ST_TR	1.59	0.00
tblVehicleTrips	SU_TR	1.59	0.00
tblVehicleTrips	WD_TR	1.59	0.00
tblWater	OutdoorWaterUseRate	6,779,528.88	0.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2016	0.0767	0.8164	0.5765	6.1000e-004	0.9836	0.0431	1.0267	0.5388	0.0397	0.5784	0.0000	57.5291	57.5291	0.0169	0.0000	57.8844
2017	0.3698	3.8875	2.7243	3.1600e-003	0.9007	0.2054	1.1061	0.4911	0.1890	0.6800	0.0000	291.8077	291.8077	0.0873	0.0000	293.6417
Total	**0.4464**	**4.7039**	**3.3008**	**3.7700e-003**	**1.8842**	**0.2485**	**2.1327**	**1.0299**	**0.2286**	**1.2585**	**0.0000**	**349.3368**	**349.3368**	**0.1043**	**0.0000**	**351.5261**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2016	0.0767	0.8164	0.5765	6.1000e-004	0.4437	0.0431	0.4868	0.2427	0.0397	0.2824	0.0000	57.5290	57.5290	0.0169	0.0000	57.8843
2017	0.3698	3.8875	2.7243	3.1600e-003	0.4105	0.2054	0.6159	0.2224	0.1890	0.4113	0.0000	291.8074	291.8074	0.0873	0.0000	293.6414
Total	**0.4464**	**4.7039**	**3.3008**	**3.7700e-003**	**0.8541**	**0.2485**	**1.1026**	**0.4651**	**0.2286**	**0.6937**	**0.0000**	**349.3364**	**349.3364**	**0.1043**	**0.0000**	**351.5257**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**54.67**	**0.00**	**48.30**	**54.84**	**0.00**	**44.88**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.0111	0.0000	5.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.0000e-004	1.0000e-004	0.0000	0.0000	1.1000e-004
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**1.0111**	**0.0000**	**5.0000e-005**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**1.0000e-004**	**1.0000e-004**	**0.0000**	**0.0000**	**1.1000e-004**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.0111	0.0000	5.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.0000e-004	1.0000e-004	0.0000	0.0000	1.1000e-004
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**1.0111**	**0.0000**	**5.0000e-005**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**1.0000e-004**	**1.0000e-004**	**0.0000**	**0.0000**	**1.1000e-004**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	10/3/2016	11/11/2016	5	30	
2	Grading	Grading	11/14/2016	12/29/2017	5	295	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 5.7

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Grading	Graders	1	8.00	174	0.41
Site Preparation	Rubber Tired Dozers	1	8.00	255	0.40
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Grading	Excavators	1	8.00	162	0.38
Grading	Rubber Tired Dozers	1	8.00	255	0.40
Grading	Tractors/Loaders/Backhoes	1	8.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	2	5.00	0.00	0.00	12.40	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Grading	4	8.00	0.00	0.00	12.40	6.60	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

Clean Paved Roads

3.2 Site Preparation - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0903	0.0000	0.0903	0.0497	0.0000	0.0497	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0237	0.2569	0.1935	1.8000e-004		0.0134	0.0134		0.0124	0.0124	0.0000	16.9704	16.9704	5.1200e-003	0.0000	17.0779
Total	**0.0237**	**0.2569**	**0.1935**	**1.8000e-004**	**0.0903**	**0.0134**	**0.1038**	**0.0497**	**0.0124**	**0.0620**	**0.0000**	**16.9704**	**16.9704**	**5.1200e-003**	**0.0000**	**17.0779**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.7000e-004	4.2000e-004	3.9700e-003	1.0000e-005	6.8000e-004	1.0000e-005	6.8000e-004	1.8000e-004	1.0000e-005	1.9000e-004	0.0000	0.6113	0.6113	3.0000e-005	0.0000	0.6120
Total	**2.7000e-004**	**4.2000e-004**	**3.9700e-003**	**1.0000e-005**	**6.8000e-004**	**1.0000e-005**	**6.8000e-004**	**1.8000e-004**	**1.0000e-005**	**1.9000e-004**	**0.0000**	**0.6113**	**0.6113**	**3.0000e-005**	**0.0000**	**0.6120**

3.2 Site Preparation - 2016

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0407	0.0000	0.0407	0.0223	0.0000	0.0223	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0237	0.2569	0.1935	1.8000e-004		0.0134	0.0134		0.0124	0.0124	0.0000	16.9704	16.9704	5.1200e-003	0.0000	17.0779
Total	**0.0237**	**0.2569**	**0.1935**	**1.8000e-004**	**0.0407**	**0.0134**	**0.0541**	**0.0223**	**0.0124**	**0.0347**	**0.0000**	**16.9704**	**16.9704**	**5.1200e-003**	**0.0000**	**17.0779**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.7000e-004	4.2000e-004	3.9700e-003	1.0000e-005	6.8000e-004	1.0000e-005	6.8000e-004	1.8000e-004	1.0000e-005	1.9000e-004	0.0000	0.6113	0.6113	3.0000e-005	0.0000	0.6120
Total	**2.7000e-004**	**4.2000e-004**	**3.9700e-003**	**1.0000e-005**	**6.8000e-004**	**1.0000e-005**	**6.8000e-004**	**1.8000e-004**	**1.0000e-005**	**1.9000e-004**	**0.0000**	**0.6113**	**0.6113**	**3.0000e-005**	**0.0000**	**0.6120**

3.3 Grading - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.8913	0.0000	0.8913	0.4886	0.0000	0.4886	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0522	0.5583	0.3717	4.1000e-004		0.0297	0.0297		0.0273	0.0273	0.0000	38.8063	38.8063	0.0117	0.0000	39.0521
Total	**0.0522**	**0.5583**	**0.3717**	**4.1000e-004**	**0.8913**	**0.0297**	**0.9210**	**0.4886**	**0.0273**	**0.5159**	**0.0000**	**38.8063**	**38.8063**	**0.0117**	**0.0000**	**39.0521**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.0000e-004	7.8000e-004	7.4100e-003	1.0000e-005	1.2700e-003	1.0000e-005	1.2800e-003	3.4000e-004	1.0000e-005	3.5000e-004	0.0000	1.1411	1.1411	6.0000e-005	0.0000	1.1424
Total	**5.0000e-004**	**7.8000e-004**	**7.4100e-003**	**1.0000e-005**	**1.2700e-003**	**1.0000e-005**	**1.2800e-003**	**3.4000e-004**	**1.0000e-005**	**3.5000e-004**	**0.0000**	**1.1411**	**1.1411**	**6.0000e-005**	**0.0000**	**1.1424**

3.3 Grading - 2016

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.4011	0.0000	0.4011	0.2199	0.0000	0.2199	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0522	0.5583	0.3717	4.1000e-004		0.0297	0.0297		0.0273	0.0273	0.0000	38.8062	38.8062	0.0117	0.0000	39.0520
Total	**0.0522**	**0.5583**	**0.3717**	**4.1000e-004**	**0.4011**	**0.0297**	**0.4308**	**0.2199**	**0.0273**	**0.2472**	**0.0000**	**38.8062**	**38.8062**	**0.0117**	**0.0000**	**39.0520**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.0000e-004	7.8000e-004	7.4100e-003	1.0000e-005	1.2700e-003	1.0000e-005	1.2800e-003	3.4000e-004	1.0000e-005	3.5000e-004	0.0000	1.1411	1.1411	6.0000e-005	0.0000	1.1424
Total	**5.0000e-004**	**7.8000e-004**	**7.4100e-003**	**1.0000e-005**	**1.2700e-003**	**1.0000e-005**	**1.2800e-003**	**3.4000e-004**	**1.0000e-005**	**3.5000e-004**	**0.0000**	**1.1411**	**1.1411**	**6.0000e-005**	**0.0000**	**1.1424**

3.3 Grading - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.8913	0.0000	0.8913	0.4886	0.0000	0.4886	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.3665	3.8823	2.6752	3.0500e-003		0.2053	0.2053		0.1889	0.1889	0.0000	283.6449	283.6449	0.0869	0.0000	285.4700
Total	**0.3665**	**3.8823**	**2.6752**	**3.0500e-003**	**0.8913**	**0.2053**	**1.0966**	**0.4886**	**0.1889**	**0.6775**	**0.0000**	**283.6449**	**283.6449**	**0.0869**	**0.0000**	**285.4700**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.3000e-003	5.2000e-003	0.0491	1.1000e-004	9.4000e-003	7.0000e-005	9.4700e-003	2.5000e-003	7.0000e-005	2.5700e-003	0.0000	8.1628	8.1628	4.2000e-004	0.0000	8.1717
Total	**3.3000e-003**	**5.2000e-003**	**0.0491**	**1.1000e-004**	**9.4000e-003**	**7.0000e-005**	**9.4700e-003**	**2.5000e-003**	**7.0000e-005**	**2.5700e-003**	**0.0000**	**8.1628**	**8.1628**	**4.2000e-004**	**0.0000**	**8.1717**

3.3 Grading - 2017

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.4011	0.0000	0.4011	0.2199	0.0000	0.2199	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.3665	3.8823	2.6752	3.0500e-003		0.2053	0.2053		0.1889	0.1889	0.0000	283.6446	283.6446	0.0869	0.0000	285.4696
Total	**0.3665**	**3.8823**	**2.6752**	**3.0500e-003**	**0.4011**	**0.2053**	**0.6064**	**0.2199**	**0.1889**	**0.4087**	**0.0000**	**283.6446**	**283.6446**	**0.0869**	**0.0000**	**285.4696**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.3000e-003	5.2000e-003	0.0491	1.1000e-004	9.4000e-003	7.0000e-005	9.4700e-003	2.5000e-003	7.0000e-005	2.5700e-003	0.0000	8.1628	8.1628	4.2000e-004	0.0000	8.1717
Total	**3.3000e-003**	**5.2000e-003**	**0.0491**	**1.1000e-004**	**9.4000e-003**	**7.0000e-005**	**9.4700e-003**	**2.5000e-003**	**7.0000e-005**	**2.5700e-003**	**0.0000**	**8.1628**	**8.1628**	**4.2000e-004**	**0.0000**	**8.1717**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
City Park	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
City Park	14.70	6.60	6.60	33.00	48.00	19.00	66	28	6

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.579415	0.062669	0.176431	0.113724	0.029579	0.004153	0.015740	0.004138	0.002638	0.003681	0.006622	0.000227	0.000983

5.0 Energy Detail

4.4 Fleet Mix

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
City Park	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
City Park	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	1.0111	0.0000	5.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.0000e-004	1.0000e-004	0.0000	0.0000	1.1000e-004
Unmitigated	1.0111	0.0000	5.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.0000e-004	1.0000e-004	0.0000	0.0000	1.1000e-004

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0431					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.9680					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.0000e-005	0.0000	5.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.0000e-004	1.0000e-004	0.0000	0.0000	1.1000e-004
Total	**1.0111**	**0.0000**	**5.0000e-005**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**1.0000e-004**	**1.0000e-004**	**0.0000**	**0.0000**	**1.1000e-004**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0431					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.9680					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.0000e-005	0.0000	5.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.0000e-004	1.0000e-004	0.0000	0.0000	1.1000e-004
Total	**1.0111**	**0.0000**	**5.0000e-005**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**1.0000e-004**	**1.0000e-004**	**0.0000**	**0.0000**	**1.1000e-004**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
City Park	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
City Park	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
City Park	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
City Park	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Vegetation

Pedro Point Headlands Restoration and Trail Improvement

San Mateo County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
City Park	5.69	Acre	5.69	247,856.40	0

1.2 Other Project Characteristics

Urbanization	Rural	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	70
Climate Zone	5			**Operational Year**	2018
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - 5.69 acres of graded area

Construction Phase - Assume 30 days of site prep and 295 days of grading: October 2016 through December 2017.

Off-road Equipment - Use of excavator and backhoe.

Off-road Equipment - Use of excavator and backhoe.

Trips and VMT -

Grading - Assume no import of fill from off-site.

Vehicle Trips - No additional vehicle trips during operation.

Consumer Products - No use of additional consumer products.

Area Coating - No use of architectural coatings.

Landscape Equipment - No use landscape equipment.

Water And Wastewater - No water/wastewater use.

Solid Waste - No solid waste generation.

Construction Off-road Equipment Mitigation - Standard fugitive dust controls per BAAQMD recommendations.

Area Mitigation -

Table Name	Column Name	Default Value	New Value
tblAreaCoating	Area_Nonresidential_Interior	371784	0
tblConstructionPhase	NumDays	20.00	295.00
tblConstructionPhase	NumDays	10.00	30.00
tblConstructionPhase	PhaseStartDate	11/12/2016	11/14/2016
tblGrading	AcresOfGrading	147.50	5.70
tblOffRoadEquipment	LoadFactor	0.41	0.41
tblOffRoadEquipment	OffRoadEquipmentType		Graders
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	1.00
tblProjectCharacteristics	OperationalYear	2014	2018
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural
tblSolidWaste	SolidWasteGenerationRate	0.49	0.00
tblTripsAndVMT	WorkerTripNumber	10.00	8.00
tblVehicleTrips	ST_TR	1.59	0.00
tblVehicleTrips	SU_TR	1.59	0.00
tblVehicleTrips	WD_TR	1.59	0.00
tblWater	OutdoorWaterUseRate	6,779,528.88	0.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2016	3.0120	31.9427	21.6773	0.0244	6.1180	1.6959	7.8139	3.3325	1.5602	4.8927	0.0000	2,520.5620	2,520.5620	0.7412	0.0000	2,536.1280
2017	2.8453	29.8993	20.9723	0.0244	6.1180	1.5798	7.6978	3.3325	1.4534	4.7859	0.0000	2,478.4835	2,478.4835	0.7405	0.0000	2,494.0345
Total	**5.8573**	**61.8420**	**42.6496**	**0.0488**	**12.2360**	**3.2757**	**15.5118**	**6.6649**	**3.0137**	**9.6786**	**0.0000**	**4,999.0455**	**4,999.0455**	**1.4818**	**0.0000**	**5,030.1625**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2016	3.0120	31.9427	21.6773	0.0244	2.7946	1.6959	4.4905	1.5106	1.5602	3.0708	0.0000	2,520.5619	2,520.5619	0.7412	0.0000	2,536.1280
2017	2.8453	29.8993	20.9723	0.0244	2.7946	1.5798	4.3744	1.5106	1.4534	2.9640	0.0000	2,478.4835	2,478.4835	0.7405	0.0000	2,494.0345
Total	**5.8573**	**61.8420**	**42.6496**	**0.0488**	**5.5892**	**3.2757**	**8.8649**	**3.0212**	**3.0137**	**6.0349**	**0.0000**	**4,999.0454**	**4,999.0454**	**1.4818**	**0.0000**	**5,030.1625**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**54.32**	**0.00**	**42.85**	**54.67**	**0.00**	**37.65**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	5.5402	1.0000e-005	5.9000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		1.2500e-003	1.2500e-003	0.0000		1.3200e-003
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**5.5402**	**1.0000e-005**	**5.9000e-004**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**1.2500e-003**	**1.2500e-003**	**0.0000**	**0.0000**	**1.3200e-003**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	5.5402	1.0000e-005	5.9000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		1.2500e-003	1.2500e-003	0.0000		1.3200e-003
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**5.5402**	**1.0000e-005**	**5.9000e-004**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**1.2500e-003**	**1.2500e-003**	**0.0000**	**0.0000**	**1.3200e-003**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	10/3/2016	11/11/2016	5	30	
2	Grading	Grading	11/14/2016	12/29/2017	5	295	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 5.7

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Grading	Graders	1	8.00	174	0.41
Site Preparation	Rubber Tired Dozers	1	8.00	255	0.40
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Grading	Excavators	1	8.00	162	0.38
Grading	Rubber Tired Dozers	1	8.00	255	0.40
Grading	Tractors/Loaders/Backhoes	1	8.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	2	5.00	0.00	0.00	12.40	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Grading	4	8.00	0.00	0.00	12.40	6.60	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

Clean Paved Roads

3.2 Site Preparation - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.0221	0.0000	6.0221	3.3102	0.0000	3.3102			0.0000			0.0000
Off-Road	1.5788	17.1258	12.8976	0.0120		0.8960	0.8960		0.8243	0.8243		1,247.1093	1,247.1093	0.3762		1,255.0089
Total	**1.5788**	**17.1258**	**12.8976**	**0.0120**	**6.0221**	**0.8960**	**6.9181**	**3.3102**	**0.8243**	**4.1346**		**1,247.1093**	**1,247.1093**	**0.3762**		**1,255.0089**

3.2 Site Preparation - 2016

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0185	0.0245	0.2746	5.6000e-004	0.0472	3.6000e-004	0.0475	0.0125	3.3000e-004	0.0128		47.6167	47.6167	2.4600e-003		47.6683
Total	**0.0185**	**0.0245**	**0.2746**	**5.6000e-004**	**0.0472**	**3.6000e-004**	**0.0475**	**0.0125**	**3.3000e-004**	**0.0128**		**47.6167**	**47.6167**	**2.4600e-003**		**47.6683**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.7099	0.0000	2.7099	1.4896	0.0000	1.4896			0.0000			0.0000
Off-Road	1.5788	17.1258	12.8976	0.0120		0.8960	0.8960		0.8243	0.8243	0.0000	1,247.1093	1,247.1093	0.3762		1,255.0089
Total	**1.5788**	**17.1258**	**12.8976**	**0.0120**	**2.7099**	**0.8960**	**3.6060**	**1.4896**	**0.8243**	**2.3139**	**0.0000**	**1,247.1093**	**1,247.1093**	**0.3762**		**1,255.0089**

3.2 Site Preparation - 2016

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0185	0.0245	0.2746	5.6000e-004	0.0472	3.6000e-004	0.0475	0.0125	3.3000e-004	0.0128		47.6167	47.6167	2.4600e-003		47.6683
Total	**0.0185**	**0.0245**	**0.2746**	**5.6000e-004**	**0.0472**	**3.6000e-004**	**0.0475**	**0.0125**	**3.3000e-004**	**0.0128**		**47.6167**	**47.6167**	**2.4600e-003**		**47.6683**

3.3 Grading - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.0426	0.0000	6.0426	3.3124	0.0000	3.3124			0.0000			0.0000
Off-Road	2.9825	31.9036	21.2379	0.0235		1.6953	1.6953		1.5597	1.5597		2,444.3752	2,444.3752	0.7373		2,459.8588
Total	**2.9825**	**31.9036**	**21.2379**	**0.0235**	**6.0426**	**1.6953**	**7.7379**	**3.3124**	**1.5597**	**4.8721**		**2,444.3752**	**2,444.3752**	**0.7373**		**2,459.8588**

3.3 Grading - 2016

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0295	0.0391	0.4394	9.0000e-004	0.0754	5.8000e-004	0.0760	0.0200	5.3000e-004	0.0205		76.1867	76.1867	3.9300e-003		76.2693
Total	**0.0295**	**0.0391**	**0.4394**	**9.0000e-004**	**0.0754**	**5.8000e-004**	**0.0760**	**0.0200**	**5.3000e-004**	**0.0205**		**76.1867**	**76.1867**	**3.9300e-003**		**76.2693**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.7192	0.0000	2.7192	1.4906	0.0000	1.4906			0.0000			0.0000
Off-Road	2.9825	31.9036	21.2379	0.0235		1.6953	1.6953		1.5597	1.5597	0.0000	2,444.3752	2,444.3752	0.7373		2,459.8588
Total	**2.9825**	**31.9036**	**21.2379**	**0.0235**	**2.7192**	**1.6953**	**4.4145**	**1.4906**	**1.5597**	**3.0503**	**0.0000**	**2,444.3752**	**2,444.3752**	**0.7373**		**2,459.8588**

3.3 Grading - 2016

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0295	0.0391	0.4394	9.0000e-004	0.0754	5.8000e-004	0.0760	0.0200	5.3000e-004	0.0205		76.1867	76.1867	3.9300e-003		76.2693
Total	**0.0295**	**0.0391**	**0.4394**	**9.0000e-004**	**0.0754**	**5.8000e-004**	**0.0760**	**0.0200**	**5.3000e-004**	**0.0205**		**76.1867**	**76.1867**	**3.9300e-003**		**76.2693**

3.3 Grading - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.0426	0.0000	6.0426	3.3124	0.0000	3.3124			0.0000			0.0000
Off-Road	2.8189	29.8641	20.5782	0.0235		1.5793	1.5793		1.4529	1.4529		2,405.1151	2,405.1151	0.7369		2,420.5905
Total	**2.8189**	**29.8641**	**20.5782**	**0.0235**	**6.0426**	**1.5793**	**7.6218**	**3.3124**	**1.4529**	**4.7654**		**2,405.1151**	**2,405.1151**	**0.7369**		**2,420.5905**

3.3 Grading - 2017

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0264	0.0351	0.3941	9.0000e-004	0.0754	5.6000e-004	0.0760	0.0200	5.1000e-004	0.0205		73.3684	73.3684	3.6000e-003		73.4440
Total	**0.0264**	**0.0351**	**0.3941**	**9.0000e-004**	**0.0754**	**5.6000e-004**	**0.0760**	**0.0200**	**5.1000e-004**	**0.0205**		**73.3684**	**73.3684**	**3.6000e-003**		**73.4440**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.7192	0.0000	2.7192	1.4906	0.0000	1.4906			0.0000			0.0000
Off-Road	2.8189	29.8641	20.5782	0.0235		1.5793	1.5793		1.4529	1.4529	0.0000	2,405.1151	2,405.1151	0.7369		2,420.5905
Total	**2.8189**	**29.8641**	**20.5782**	**0.0235**	**2.7192**	**1.5793**	**4.2984**	**1.4906**	**1.4529**	**2.9435**	**0.0000**	**2,405.1151**	**2,405.1151**	**0.7369**		**2,420.5905**

3.3 Grading - 2017

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0264	0.0351	0.3941	9.0000e-004	0.0754	5.6000e-004	0.0760	0.0200	5.1000e-004	0.0205		73.3684	73.3684	3.6000e-003		73.4440
Total	**0.0264**	**0.0351**	**0.3941**	**9.0000e-004**	**0.0754**	**5.6000e-004**	**0.0760**	**0.0200**	**5.1000e-004**	**0.0205**		**73.3684**	**73.3684**	**3.6000e-003**		**73.4440**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
City Park	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
City Park	14.70	6.60	6.60	33.00	48.00	19.00	66	28	6

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.579415	0.062669	0.176431	0.113724	0.029579	0.004153	0.015740	0.004138	0.002638	0.003681	0.006622	0.000227	0.000983

5.0 Energy Detail

4.4 Fleet Mix

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										fb/day					
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	5.5402	1.0000e-005	5.9000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		1.2500e-003	1.2500e-003	0.0000		1.3200e-003
Unmitigated	5.5402	1.0000e-005	5.9000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		1.2500e-003	1.2500e-003	0.0000		1.3200e-003

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.2361					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	5.3041					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	6.0000e-005	1.0000e-005	5.9000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		1.2500e-003	1.2500e-003	0.0000		1.3200e-003
Total	**5.5403**	**1.0000e-005**	**5.9000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**1.2500e-003**	**1.2500e-003**	**0.0000**		**1.3200e-003**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Consumer Products	5.3041					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	6.0000e-005	1.0000e-005	5.9000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		1.2500e-003	1.2500e-003	0.0000		1.3200e-003
Architectural Coating	0.2361					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**5.5403**	**1.0000e-005**	**5.9000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**1.2500e-003**	**1.2500e-003**	**0.0000**		**1.3200e-003**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Vegetation

Appendix C

Biological Resources Assessment

Pacifica Land Trust

Pedro Point Headlands Restoration Project

Biological Resources Assessment

December 2015

BIOLOGICAL RESOURCES ASSESSMENT

PEDRO POINT HEADLANDS RESTORATION PROJECT
PACIFICA, SAN MATEO COUNTY, CALIFORNIA

Prepared for:
Pacifica Land Trust
P.O. Box 988
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Prepared by:
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437 Figueroa Street, Suite 203
Monterey, CA 93940

December 2015

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EXECUTIVE SUMMARY

The 36.41-acre project site is undeveloped property at the Pedro Point Headlands. The site is located along the San Mateo County coastline approximately 2.1 miles southwest of the City of Pacifica. The approximate center of the project site occurs at latitude 37°35'18.17"N and longitude 122°30'40.84"W (WGS-84 datum).

The proposed Pedro Point Headlands Restoration project will restore 3.5 miles of ridges and deeply incised trails on approximately 36.41 acres of the 255-acre Pedro Point Headlands. The site was historically disturbed by off-highway vehicle use. The project will reestablish the natural topography, stabilize drainage, enhance and restore habitats, and develop a sustainable and low maintenance pedestrian trail network.

Vegetation consists primarily of coyote brush scrub - California sagebrush scrub (*Baccharis pilularis - Artemisia californica* Association). Other vegetation communities on the site include Monterey pine forest (*Pinus radiata* Alliance), Pacific reed grass meadows (*Calamagrostis nutkaensis* Alliance), red fescue grassland (disturbed) (*Festuca rubra* Alliance) and eucalyptus groves (*Eucalyptus globulus* Semi-natural Stands). An ephemeral stream that drains to San Pedro Creek is present onsite.

Thirty-seven special status plant species may occur in the biological study area based on the presence of suitable habitat. Michael's rein orchid (*Piperia michaelii*), a California Rare Plant Rank 4.2 species, was documented within the biological study area during botanical surveys conducted in 2015. Coast rockcress (*Arabis blepharophylla*) and San Francisco wallflower (*Erysimum franciscanum*) are both California Rare Plant Rank 4 species that have been documented at the Pedro Point Headlands, but not specifically in the biological study area. Two sensitive plant communities occur within the biological study area: Pacific reed grass meadows and red fescue grassland (disturbed). These vegetation communities are likely to qualify as Environmentally Sensitive Habitat Areas under the California Coastal Act.

Eleven special status wildlife species have the potential to occur within the biological study area. These species include American peregrine falcon (*Falco peregrinus anatum*), California brown pelican (*Pelecanus occidentalis californicus*), California red-legged frog (*Rana draytonii*), bank swallow (*Riparia riparia*), San Francisco dusky-footed woodrat (*Neotoma fuscipes annectens*), pallid bat (*Antrozous pallidus*), big free-tailed bat (*Nyctinomops macrotis*), short-eared owl (*Asio flammeus*), Monarch butterfly (*Danaus plexippus*), Loggerhead shrike (*Lanius ludovicianus*), and Mission blue butterfly (*Plebejus icarioides missionensis*. The eucalyptus groves provide habitat for the monarch butterfly and therefore, this vegetation community may also qualify as Environmentally Sensitive Habitat Area under the California Coastal Act. In addition, vegetation onsite offers potential nesting habitat for bird species that are protected under the federal Migratory Bird Treaty Act and California Fish and Game Code.

1.0 INTRODUCTION

Rincon Consultants, Inc. (Rincon) prepared this Biological Resources Assessment (BRA) to document the existing conditions at the project site. The approximate 36.3-acre project site is located in the Pedro Point Headlands (PPH) in Santa Mateo County (County), California (Figure 1). This BRA focuses on biological resources on the 36.41-acre project site and updates the existing conditions and findings of the *Biological Assessment of Pedro Point Headlands, San Mateo County, California* that was prepared for the Pedro Point Headlands in 1994 (Vasey, 1994). This BRA is prepared with the intent of serving as the basis for suitable analysis of potential impacts to biological resources pursuant to the California Environmental Quality Act (CEQA) environmental review process.

1.1 PROJECT LOCATION

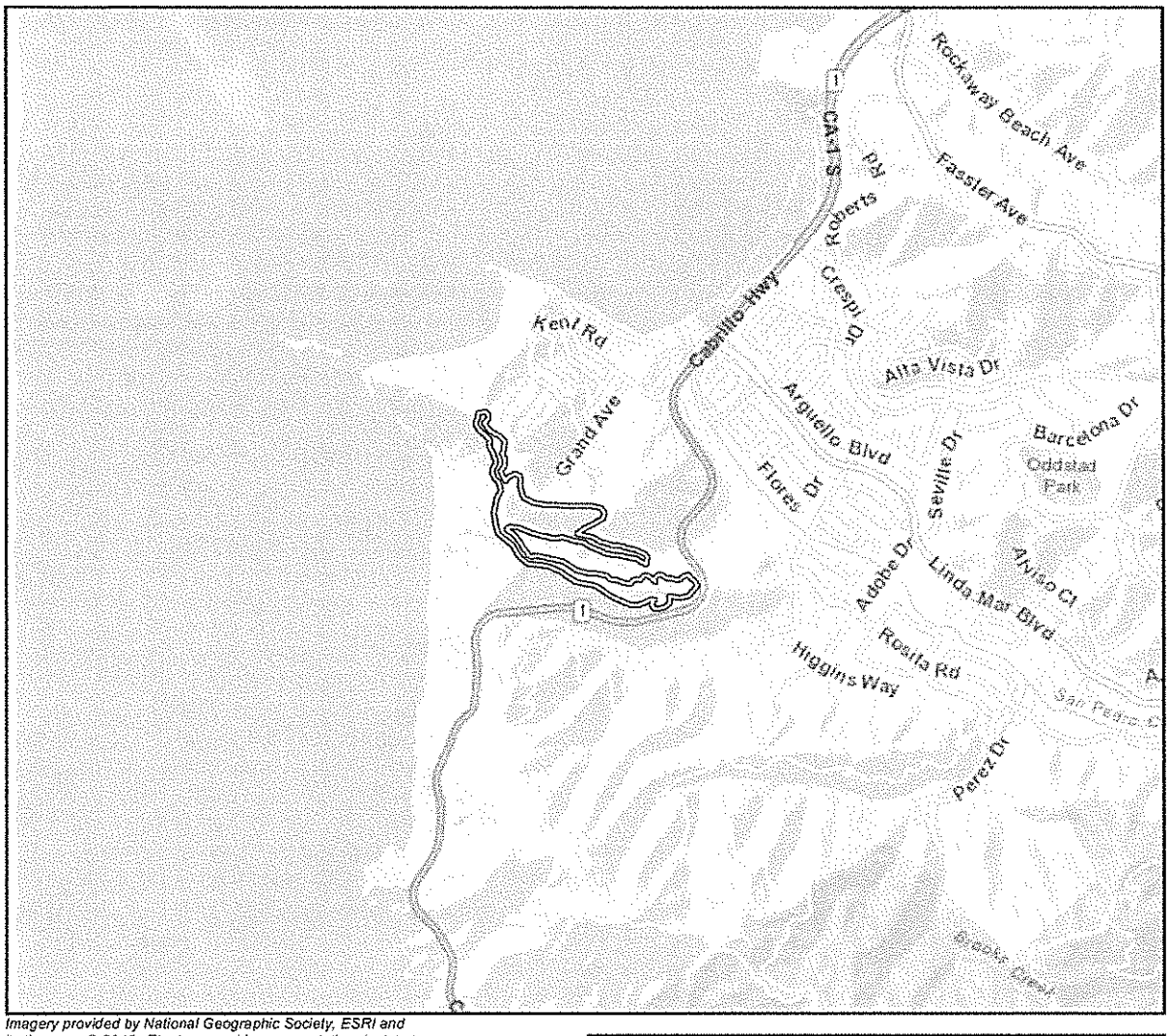
The project site is located within the 255-acre Pedro Point Headlands (PPH) along the coastline of San Mateo County, California; approximately 2.1 miles southwest of the City of Pacifica (Figure 1). Specifically, the 36.41-acre project site is west of California State Route 1 and southwest of the Point Pedro Neighborhood residential area (Figure 2).

The project site is designated Assessor's Parcel Numbers 023-730-210, 023-730-220, 023-730-020, 023-740-020 and 023-730-040 which are currently owned by the City of Pacifica and California Coastal Conservancy, respectively. The approximate center of the project site occurs at latitude 37°35'18.17"N and longitude 122°30'40.84"W (WGS-84 datum) and the project site is depicted on the *Montara Mountain, California* United States Geological Survey (USGS) 7.5-minute topographic quadrangle in Sections 10 and 15, Township 04S, Range 6W.

The Biological Study Area (BSA) analyzed in this BRA includes the entire project site and all of the project components as outlined in the project description. The BSA for the proposed project is presented in Figure 2.

1.2 PROJECT DESCRIPTION

The Pedro Point Headlands Restoration project will restore 3.5 miles of ridges and deeply incised trails over 36.41 acres of magnificent coastal property. Historically the site was used by a local motorcycle association, which created multiple trails across the property. The goals of this project include: (1) the filling and eliminating of existing gullies and trails, reestablishing the natural topography, and stabilize drainage within the highly eroded bluff areas; (2) restore coastal prairie and coastal scrub vegetation through propagation and salvage of native plants; (3) and develop a trail design and construction plan to build a network of pedestrian trails that are stable, requiring a low level of maintenance.



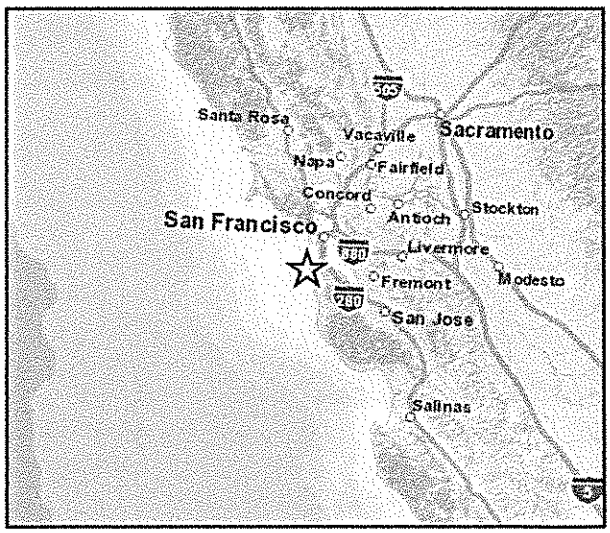
Imagery provided by National Geographic Society, ESRI and its licensors © 2015. The topographic representation depicted in this map may not portray all of the features currently found in the vicinity today and/or features depicted in this map may have changed since the original topographic map was assembled.

Project Location

N

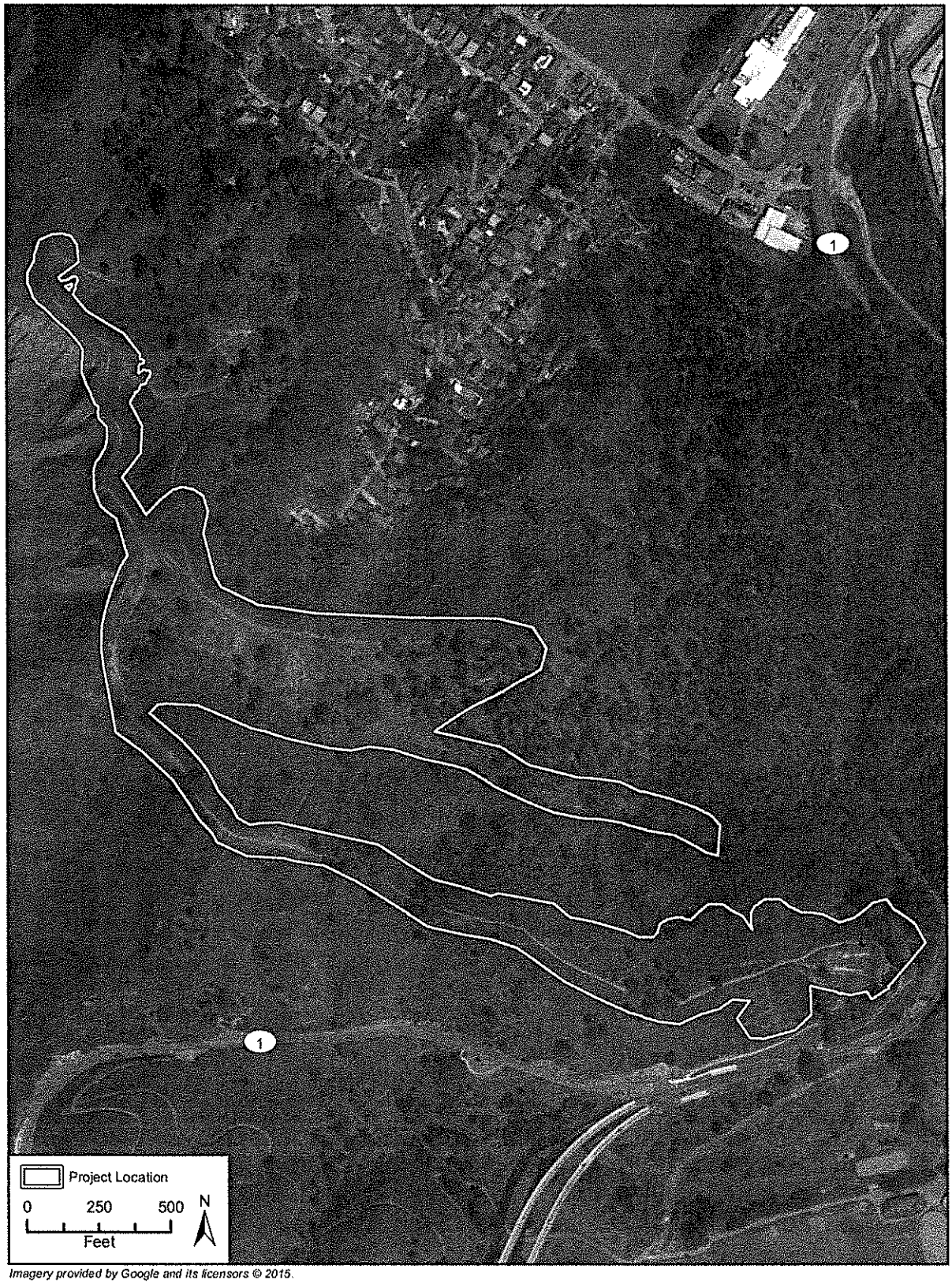
0 1,250 2,500

Feet



Regional Location

Figure 1



Imagery provided by Google and its licensors © 2015.

Biological Study Area

Figure 2

Pacific Land Trust

2.0 METHODOLOGY

2.1 REGULATORY OVERVIEW

Regulated or sensitive resources studied and analyzed herein include special status plant and wildlife species, nesting birds and raptors, sensitive plant communities, jurisdictional waters and wetlands, wildlife movement, and locally protected resources, such as protected trees.

2.1.1 Environmental Statutes

For the purpose of this report, potential impacts to biological resources were analyzed based on the following statutes:

- California Environmental Quality Act (CEQA)
- Federal Endangered Species Act (FESA)
- California Endangered Species Act (CESA)
- Federal Clean Water Act (CWA)
- California Fish and Game Code (CFGC)
- Migratory Bird Treaty Act (MBTA)
- The Bald and Golden Eagle Protection Act
- Porter-Cologne Water Quality Control Act
- Section 30240 of the California Coastal Act
- San Mateo County General Plan 1986
- San Mateo County Regulation of the Removal and Trimming of Heritage Trees on Public and Private Property (Ordinance 2727, April 5, 1977)
- San Mateo County Significant Tree Ordinance, 2010 (Part Three of Division VIII of the San Mateo County Ordinance Code).

See Appendix A for a discussion of some of these regulations.

2.2 LITERATURE REVIEW

The following existing reports and lists were reviewed for relevant project information:

- *Biological Assessment of Pedro Point Headlands*, San Mateo County, California (Vasey, 1994);
- *San Pedro Point Restoration Plan: A Transition to Public Use* (PLT and SCC, 1995);
- Pedro Point Headlands webpage (PPH, 2015a);
- *Preliminary List of Vascular Plants for the Pedro Point Headlands, Pacifica, California* (Boutell et al., 2011);
- *Preliminary Bird List for the Pedro Point Headlands* (PPH, 2015b);
- *Annotated Pedro Point Headlands Bird List* (Donahue, 2010).

- *Basis of Design – Schematic Design Plans (30% Design Plans) Pedro Point Headlands Restoration and Trail Improvement Project Pedro Point Headlands, Pacifica, California* (FCE, 2015a);
- *Pedro Point Headlands Restoration Plans, 30% Design Submittal, Pacifica, California* (FCE, 2015b); and
- *Pedro Point Headlands Trail Improvement Plans, 30% Design Submittal, Pacifica, California* (FCE, 2015c).

Queries of the United States Fish and Wildlife Service (USFWS) Information, Planning, and Conservation System (IPaC, 2015a), California Department of Fish and Wildlife (CDFW; formerly California Department of Fish and Game) California Natural Diversity Database (CNDDB) (CDFW, 2015a), and the California Native Plant Society (CNPS) Online Inventory of Rare, Threatened and Endangered Plants of California (CNPS, 2015) were conducted to obtain comprehensive information regarding state and federally listed species as well as other special status species considered to have potential to occur within the *Montara Mountain, California* USGS 7.5-minute topographic quadrangle and surrounding five quadrangles (*San Francisco South Hunters Point, San Mateo, Woodside,* and *Half Moon Bay*). The results of these scientific database queries were compiled into a table that is presented as Appendix D. (Note that for CNDDB mapping purposes, 1-mile and 5-mile search radii were used).

In addition, the following resources were reviewed for information about the BSA:

- Google Earth (2015) aerial photographs of the BSA and vicinity, including a review for perennial water bodies in a 2-mile radius of the BSA;
- *Montara Mountain, California* USGS 7.5-minute topographic quadrangle;
- US Department of Agriculture (USDA), Natural Resources Conservation Service (NRCS) Web Soil Survey (2015a and 2015b);
- USFWS IPaC list of federally listed species with potential to occur within the BSA and vicinity (2015a);
- USFWS Critical Habitat Portal (2015b);
- CDFW (2015a) CNDDB list of species status species documented within the *Montara Mountain,* California USGS 7.5-minute topographic quadrangle and surrounding five quadrangles;
- CDFW (2015a) CNDDB map of state and federally listed species that have been previously documented within a 1-mi (1.6 km) radius of the BSA; and
- CNPS/California Rare Plant Rank (CRPR) list of sensitive plant species with potential to occur within the *Montara Mountain, California* USGS 7.5-minute topographic quadrangle and surrounding five quadrangles (2015).

2.3 FIELD RECONNAISSANCE SURVEY

A field reconnaissance survey was conducted to document the existing site conditions and to evaluate the potential for presence of sensitive biological resources, including sensitive plant and animal species, sensitive plant communities, potentially jurisdictional waters of the United States and State including wetlands, habitat for federally and state protected nesting birds, and Environmentally Sensitive Habitat Areas. The field survey was intended to ground-truth

previously collected biological data and to supplement previous findings with current observations.

The field reconnaissance survey was conducted by Rincon Botanist/Ecologist Michele Lee on July 23, 2015. Weather conditions during the survey included temperatures ranging from 62 to 69 degrees Fahrenheit, with winds generally at zero miles per hour and a dense cover of 95 to 100 percent fog throughout the day. At the Pedro Point Summit at the end of the Bluff Trail in the northernmost portion of the BSA, winds were gusting from two to seven miles per hour. Ms. Lee surveyed the entire BSA on foot by walking along existing trails and occasionally off the trails and recorded all biological resources encountered in the BSA.

During the survey, an inventory of all plant and animal species observed was compiled (Appendix C) and an evaluation of potentially jurisdictional aquatic features was conducted. Plant species nomenclature and taxonomy followed *The Jepson Manual: Vascular Plants of California, Second Edition* (Baldwin et al., 2012). The vegetation classification system used for this analysis referenced the CDFW (2010) *List of Vegetation Alliances and Associations* and is based on *A Manual of California Vegetation, Second Edition* (Sawyer et al., 2009). Vegetation communities were mapped onto aerial imagery depicting the BSA and then later digitized using ArcGIS®.

Wildlife identification and nomenclature followed standard reference texts including, the American Ornithologists' Union (AUO) Check-list of North and Middle American Birds, 7th edition and the 55th supplement (AUO, 2014), Field Guide to Western Reptiles and Amphibians (Stebbins, 2003), and Mammals of North America (Bowers et al., 2004). The habitat requirements for each regionally occurring special status species were assessed and compared to the type and quality of the habitats observed within the BSA during the field survey. Several sensitive species were eliminated from consideration as potential to occur in the BSA due to lack of suitable habitat, lack of suitable soils/substrate, and/or known regional distribution. The relative density of fossorial mammal burrows and soil characteristics throughout the BSA were also noted.

2.4 BOTANICAL SURVEYS

Non-protocol level surveys for special status plants have been conducted at the Pedro Point Headlands (PPH) since 1983 (Vasey, 1994). Mike Vasey, the author of the *Biological Assessment of Pedro Point Headlands, San Mateo County, California* (Vasey, 1994) (PPH BA), is a local resident of the Pedro Point Neighborhood and Coordinator of the San Francisco State University Conservation Biology Program. He has conducted special status plant surveys at PPH since 1983. These surveys concentrated on north-facing slopes in the northern portion of Pedro Point between Olympian Way and the northern summit ridge, and on both slopes of Point San Pedro (Vasey, 1994). These areas support populations of two CRPR 4 species: coast rockcress (*Arabis blepharophylla*) and San Francisco wallflower (*Erysimum franciscanum*). The PPH BA provides a map showing the general locations of these species at PPH. This map was reviewed prior to the July 23, 2015 reconnaissance survey. Four additional special status plant surveys conducted by Mike Vasey on December 5, 7, 10, and 13, 1994 included mapping Coastal Terrace Prairie and Northern Coastal Bluff Scrub habitats at the Pedro Point Headlands. Historical plant surveys conducted by Mike Vasey probably included portions of the BSA along the Bluff Trail, which is

the ridge of the west-facing slope of the Point San Pedro. In 2015, Mike Vasey also conducted special status surveys in targeted portions of the PPH.

The *Biological Assessment of Pedro Point Headlands, San Mateo County, California* provides a list of plants observed at the Pedro Point Headlands (Vasey, 1994). The Pedro Point Headlands website also provides a more current list of plants as of 2011 (Boutell et al., 2011). Both of these lists were reviewed for the preparation of this BRA.

2.5 BIRD SURVEYS

On December 10, 1994 Mike Vasey and Dan Singer with the Golden Gate Chapter of the National Audubon Society surveyed portions of the Pedro Point Headlands for bird species (Vasey, 1994). The *Biological Assessment of Pedro Point Headlands, San Mateo County, California* provides a list of birds observed during this survey (Vasey, 1994). The Pedro Point Headlands website provides a current list of list of birds for the site as of 2015 (PPH, 2015). Both of these bird lists were reviewed for the preparation of this BRA, as well as the *Annotated Pedro Point Headlands Bird List* (Donahue, 2010).

3.0 EXISTING CONDITIONS

This section summarizes the results of the reconnaissance-level field survey and incorporates information about the environmental setting and biological resources from the PPH *Biological Assessment* (Vasey, 1994). Discussions regarding the general environmental setting, vegetation communities present, plants and animals observed, and potential special status species issues are presented below. A complete list of all the plant and animal species observed in the BSA during the 2015 field reconnaissance survey is presented as Appendix C and representative photographs of the BSA are provided in Appendix B.

3.1 PHYSICAL CHARACTERISTICS

The BSA is located in northern coastal San Mateo County, where the climate is moderate and typifies a Mediterranean coastal climate throughout the year. The majority of rainfall occurs during the winter months and the summers are cool with frequent coastal fog and onshore breezes. This part of San Mateo County has a mean annual air temperature range of 54 to 57 degrees Fahrenheit and mean annual precipitation range of 20 to 30 inches (USDA, 2015a).

The 36.41-acre BSA is located in the 255-acre Pedro Point Headlands, which is the western terminus of Montara Mountain at the Pacific Ocean. The ocean-facing slopes of the PPH consist of very steep slopes that rise dramatically from sea level to form the western and northern edges of the headlands. The PPH is owned by the California Coastal Conservancy and the City of Pacifica and consists of approximately three miles of public hiking trails that are open to the public. The BSA is located along several main ridge trails: South Ridge Trail, Middle Ridge Trail, Arroyo Trail, and Bluff Trail (Figures 2 and 3). Historically, the PPH was disturbed by motorcycles and off-road vehicles from the early 1970s until 1992, and remnant trails are visible throughout the BSA. Some of the current erosion problems can be attributed to this historical land use. Other historical land uses disturbed only the margins of the PPH, including Monterey pine (*Pinus radiata*) and eucalyptus (*Eucalyptus* sp.) that were planted on the northern and eastern parts of the PPH in the late 1800s. Construction of a railroad bed and tunnel occurred along the coastal bluffs in the early 1900s and construction of State Route 1 in the 1930s disturbed the eastern edge of the PPH (Vasey, 1994).

Elevations in the BSA range from approximately 258 feet above mean sea level (msl) in the southeastern area adjacent to the Arroyo Trail, to 649 feet above msl at the Summit of the Bluff Trail in the northern portion of the BSA. Mature northern coastal scrub is the predominant vegetation community in the BSA. Planted Monterey pine trees also occur throughout the BSA. The BSA is entirely surrounded by undeveloped property that is part of the PPH.

The BSA is within the Central Coast (CCo) geographic subregion of California. The CCo subregion is a component of the larger Central Western California geographic region, which occurs within the even larger California Floristic Province (Baldwin et al., 2012).

3.1.1 Watershed and Drainages

The BSA is in the San Pedro Creek watershed and does not contain any named streams. The San Pablo Creek watershed is the largest watershed in Pacifica. An ephemeral stream flows through the BSA adjacent to the Arroyo Trail (Figure 2). It flows east thorough the BSA and eventually drains into San Pedro Creek outside of the BSA. The San Pablo Creek drains into the Pacific Ocean. This stream was dry during the July 23, 2015 site visit.

3.1.2 Soils

The NRCS Web Soil Survey of San Mateo County, Eastern Part and San Francisco, California delineates three soil map units over the BSA: Barnabe-Candlestick complex, 30 to 75 percent slopes; Barnabe-Rock outrock complex, 15 to 75 percent slopes; and Candlestick-Barnabe complex, 30 to 50 percent slopes (USDA, 2015a). Most of the BSA consists of Barnabe-Candlestick complex, 30 to 75 percent slopes. The southern portion of the BSA south of South Ridge Trail is mapped as Barnabe-Rock outrock complex, 15 to 75 percent slopes, except for a small section in the eastern part of this area, which is mapped as Candlestick-Barnabe complex, 30 to 50 percent slopes. These soil map units are not designated as hydric soils in coastal San Mateo County (USDA, 2015b). Soils in the BSA are not serpentinite, volcanic, or highly saline or alkaline. Descriptions of each soil map unit are presented below.

Barnabe-Candlestick complex, 30 to 75 percent slopes
Barnabe-Candlestick complex, 30 to 75 percent slopes is a well-drained soil that occurs on mountain slopes. The parent material for both the Barnabe and Candlestick series is hard fractured residuum weathered from sandstone. A typical soil profile for the Barnabe series is very gravelly sandy loam in the upper 12 inches and unweathered bedrock from 12 to 16 inches. A typical soil profile for the Candlestick series is fine sandy loam in the upper 2 inches, loam from 2 to 20 inches, sandy clay loam from 20 to 24 inches, and unweathered bedrock from 24 to 28 inches.

Barnabe-Rock outrock complex, 15 to 75 percent slopes
Barnabe-Rock outrock complex, 15 to 75 percent slopes is a well-drained soil that occurs on mountain slopes. The parent material is hard fractured residuum weathered from sandstone. A typical soil profile for the Barnabe series is the same are described above; it is very gravelly sandy loam in the upper 12 inches and unweathered bedrock from 12 to 16 inches. Rock outcrops consist of unweathered bedrock from 0 to 60 inches.

Candlestick-Barnabe complex, 30 to 50 percent slopes
The Candlestick-Barnabe complex, 30 to 50 percent slopes is similar to the Candlestick and Barnabe soil series described above.

3.2 VEGETATION AND HABITATS

Five vegetation communities are associated with the 36.41-acre BSA: coyote brush scrub - California sagebrush scrub (*Baccharis pilularis – Artemisia californica* Association), Monterey pine forest (*Pinus radiata* Alliance), Pacific reed grass meadows (*Calamagrostis nutkaensis* Alliance), red fescue grassland (disturbed) (*Festuca rubra* Alliance), and eucalyptus groves (*Eucalyptus*

globulus Semi-natural Stands) (Table 1; Figure 3). Vegetation was classified and mapped during the July 23, 2015 biological survey. The floristic composition of these communities as described below is limited to one site visit during the summer; therefore, the descriptions underrepresent the diversity and abundance of native plant taxa. Included in the descriptions below is the ephemeral stream that occurs within the BSA. A map that illustrates terrestrial vegetation communities and the ephemeral stream is presented as Figure 3.

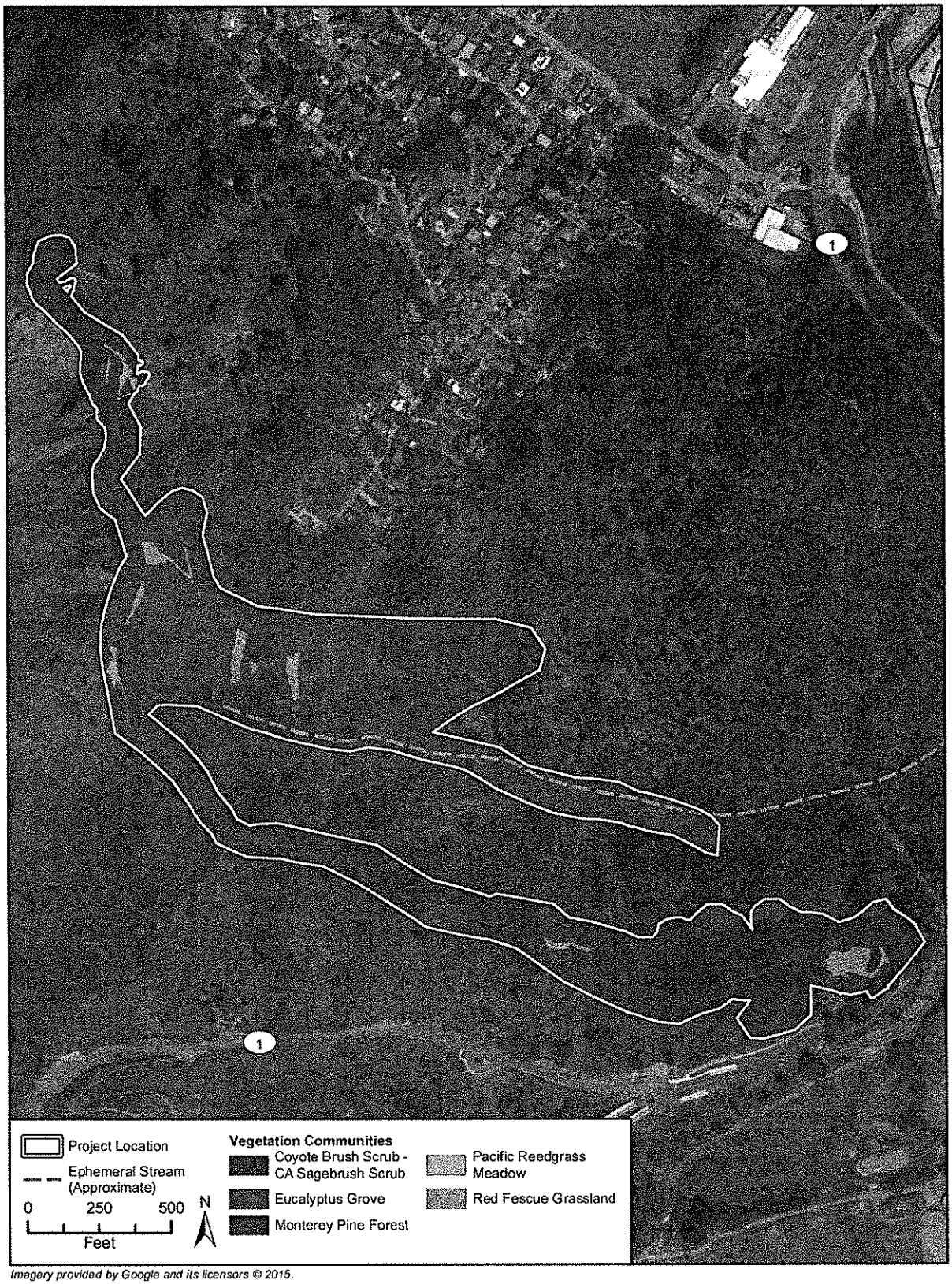
Table 1. Summary of Vegetation Communities in the BSA

Habitat Type	Approximate Acreage	Approximate Percent Area
Coyote brush scrub - California sagebrush scrub (*Baccharis pilularis – Artemisia californica* Association)	26.97	74%
Monterey pine forest (*Pinus radiata* Alliance)	6.80	19%
Pacific reed grass meadows (*Calamagrostis nutkaensis* Alliance)	0.65	2%
Red fescue grassland (disturbed) (*Festuca rubra* Alliance)	0.38	1%
Eucalyptus groves (*Eucalyptus globulus* Semi-natural Stands)	1.61	4%
Total	**36.41**	**100%**

Coyote brush scrub - California sagebrush scrub (*Baccharis pilularis -Artemisia californica* Association)

The *Baccharis pilularis-Artemisia californica* Association is the dominant vegetation community throughout most of the BSA, covering approximately 26.97 acres, or 74% of the BSA (see Figure 3). This association corresponds to Holland's (1986) Northern Coastal Scrub vegetation community. Vegetation in the BSA is characterized by a dense shrub layer dominated by coyote brush (*Baccharis pilularis*) and California sagebrush (*Artemisia californica*). Other shrubs commonly associated with this association in the BSA include sticky monkeyflower (*Mimulus aurantiacus*), California coffeeberry (*Frangula californica* ssp. *californica*), poison oak (*Toxicodendron diversilobum*), and California blackberry (*Rubus ursinus*). Less common shrubs observed in this community in the BSA include lizard tail (*Eriophyllum staechadifolium*), toyon (*Heteromeles arbutifolia*), and coastal gumplant (*Grindelia stricta* var. *platyphylla*).

Understory species include native forbs, including bracken fern (*Pteridium aquilinum* var. *pubescens*), California horkelia (*Horkelia californica ssp. californica*), lettuce bluff (*Dudleya farinosa*), coast angelica (*Angelica hendersonii*), yarrow (*Achillea millefolium*), and beach strawberry (*Fresca chiloensis*). Queen Anne's lace (*Daucus carota*), a non-native ruderal species, was also common in this association. Native bunch grasses were observed within this habitat in the BSA in openings and along edges, and include: red fescue (*Festuca rubra*), Pacific reed grass (*Calamagrostis nutkaensis*), purple needlegrass (*Stipla pulchra*), and foothill needlegrass (*Stipa lepida*). Califronia fescue (*Festuca californica*), Junegrass (*Koeleria macrantha*), and blue wildrye (*Elymus glaucus* ssp. *glaucus*) were also observed in this association, but in lower abundance than other native grasses. Common non-native annual grasses, such as wild oak (*Avena* sp.), soft chess (Bromus hordeaceus), brome vescue (*Festuca bromoides*), hare barley (*Hordeum murinum* ssp. *leporinum*), and hedgehog dogtail (*Cynosurus echinatus*) were also found associated with coyote brush scrub - California sagebrush scrub in the BSA. In the more disturbed areas of the BSA, ruderal non-native species are present, such as English plantain (*Plantago lanceolata*), rough car's ears (*Hypochaeris radicata*) and bird foot trefoil (*Lotus corniculatus*).



Imagery provided by Google and its licensors © 2015.

Vegetation Communities

Figure 3

Pacific Land Trust

The *Biological Assessment of Pedro Point Headlands (Vasey, 1994)* characterizes the distribution of vegetation communities and their floristic composition as being driven primarily by slope aspect and exposure to ocean winds (Vasey, 1994), describing North Coastal Scrub as consisting of a xeric type on south-facing slopes and a mesic type on north-facing slopes (Vasey, 1994). Slopes and valleys protected from the wind develop taller and denser vegetation than wind exposed areas. It was beyond the scope of this report to map both xeric and mesic types of the coyote brush scrub - California sagebrush scrub Association in the BSA. However, it was noted that north-facing slopes and wind protected slopes in the BSA generally have a higher abundance of species such as sword fern (*Polystichum munitum*), snowberry (*Symphoricarpos albus* var. *laevigatus)*, and coast angelica. Some species associated with the coyote brush scrub - California sagebrush scrub Association in the protected canyon along the Arroyo Trail were only observed adjacent to the Arroyo Trail, including wax myrtle (*Myrica californica*), thimbleberry (*Rubus parviflorus*), ocean spray (*Holodiscus discolor*), and coast wood fern (*Dryopteris arguta*). Blue blossom (*Ceanothus thyrsiflorus*) is also more abundant in this canyon along the Arroyo Trail compared to other portions of the BSA. Vegetation in this canyon is also dense and generally taller than in other parts of the BSA.

Vasey (1994) mapped the west ocean-facing slopes of the Point San Pedro as the Northern Coastal Bluff Scrub, a Holland (1986) community, and identified this vegetation type as a sensitive vegetation community. Here, we do not map vegetation on the west-facing slopes in the BSA as North Coastal Bluff Scrub because the dominant species are coyote brush and California sagebrush, and the area does not contain sufficient cover of succulent perrenials to be characterised as Northern Coastal Bluff Scrub. According the Vasey (1994), Northern Coastal Bluff Scrub in the PPH is dominated by succulent perennials, including bluff lettuce, seaside daisy (*Erigeron glaucus*), and ice plant (*Carpobrotus chilensis*) and occurs on steep slopes and cliffsides. Furthermore, he notes that this vegetation community intergrades into North Coastal Scrub and Coastal Terrace Prairie on ocean-facing slopes. Maps provided in the 1994 *Biological Assessment* show the western ocean-facing slope along the Bluff Trail as North Coastal Bluff Scrub. The enitre Bluff Trail is located within the BSA and consists of the ridge trail and the adjacent east and west facing slopes along the trail (Figures 2 and 3). On the lower portion of the western slope, outside of the BSA, the vegeation can be characerized as more typical Northern Coastal Bluff Scrub. Species observed in higher anbundace along the western slope of the Bluff Trail include bluff lettuce, seaside daisy, coast buckwheat (*Eriogonum latifolium*), and paintbrush (*Castilleja* sp.).

Monterey pine forest (*Pinus radiata* Alliance)

Monterey pines (*Pinus radiata*) were historically planted in the BSA. There are 6.80 acres of this alliance in the BSA, or 19% of the BSA (Figure 3). This vegetation alliance forms a dense canopy cover in relatively large stands in the BSA and also occurs as isolated trees throughout the BSA (Figure 3). The Middle Ridge Trail supports some fairly dense Monterey pine forest habitat and the densest Monterey pine forest are in the canyon along the Arroyo Trail (Figure 3). Occasionally, individual Monterey cypress (*Hesperocyparis macrocarpa*) trees are found in this alliance in the BSA. The understory is sparse, consisting of a dense layer of Monterey pine needles and debris in dense stands, and in more open stands it supports species associated with coyote brush scrub-California sagebrush scrub.

Pacific reed grass meadows (*Calamagrostis nutkaensis* Alliance)

Pacific reed grass occurs sporadically throughout the BSA in all vegetation communities, but it is not abundant. There are several eroded and partially barren areas in the BSA with erosion control fabric and pin flags that support a sparse cover of Pacific reed grass that was usually no more than approximately 5 percent of the area. This alliance has been disturbed and is associated with ruderal species and non-native grasses such as bird foot trefoil, English plantain, and soft chess. Native red fescue (*Festuca rubra*) is also present in this alliance. Pacific reed grass meadows in the BSA intergrade with coyoyte brush scrub - California sagebrush scrub, so species assoicated with this alliance are also precent. There are approximately 0.65 acre of this alliance in the BSA, or 2% of the BSA (Figure 3).

Red fescue grassland (disturbed) (*Festuca rubra* Alliance)

The BSA supports 0.38 acres of red fescue grassland (disturbed), or 1% of the BSA. These areas support a conspicuous cover of red fescue (*Festuca rubra*) that is approximately five to ten percent but also support ruderal plant species and some unvegetated areas. Ruderal species include English plantain, rough cat's ears, smooth cat's ears (*Hypochaeris glabra*), and non-native annual grasses. Coyote brush is also scattered throughout these areas.

Eucalyptus groves (*Eucalyptus globulus* Semi-natural Stands)

A dense stand of blue gum (*Eucalyptus globulus*) occurs at the eastern portion of the BSA along the Arroyo Trail (Figure 3). The BSA supports 1.61 acres of Eucalyptus groves, or 4% of the BSA. The understory consists of blue gum litter and shade tolerant species associated with the coyote brush scrub - California sagebrush scrub Association.

Ephemeral stream

An ephemeral stream flows east thorough the BSA adjacent to the Arroyo Trail (Figure 3). Approximately 1,800 linear feet is present in the BSA. It drains the surrounding watershed and drains east and eventually into San Pedro Creek outside the BSA. This stream was dry during the July 23, 2015 site visit. At its upstream portion, a defined channel was not observed. However, the vegetation is dense and the channel is not accessible in most reaches, so observations were limited to what was visible from the Arroyo Trail. Near the downstream reach within the BSA, a channel that was approximately 4 to 6 feet wide was identified. This channel has a defined bed and bank in at least the downstream portion and thus is likely to be considered a jurisdictional water of the United States and State and California. Riparian vegetation and hydrophytic vegetation is not associated with it. A higher abundance of sword fern was noted near the downstream portion in the BSA adjacent to the Arroyo Trail. Vegetation adjacent to this drainage was mapped as coyote brush scrub - California sagebrush scrub. This drainage is located in a wind protected canyon and vegetation tends to be denser and taller and it supports some species not observed in other portions of the BSA in coyote brush scrub - California sagebrush scrub, as described above.

3.3 GENERAL WILDLIFE

Wildlife activity was generally low during the reconnaissance survey. See Appendix C for a full list of species observed within the BSA. A number of bird species such as turkey vulture (*Cathartes aura*), western scrub jay (*Aphelocoma californica*), California quail (*Callipepla californica*),

tree swallow (*Tachycineta bicolor*), and barn swallow (*Hirundo rustica*) were detected within the BSA. A brush rabbit (*Sylvilagus bachmani*) was observed near the trail. Only a few small rodent burrows were observed in the BSA. No bird nests were detected within the BSA.

4.0 SENSITIVE BIOLOGICAL RESOURCES

Local, state, and federal agencies regulate special status species and require an assessment of their presence or potential presence to be conducted on site prior to the approval of any proposed development on a property. This section discusses sensitive biological resources observed in the BSA, and evaluates the potential for the BSA to support other sensitive biological resources. Assessments for the potential occurrence of special status species are based upon known ranges, habitat preferences for the species, species occurrence records from the CNDDB, species occurrence records from other sites in the vicinity of the BSA, and previous reports for the PPH. The potential for each special status species to occur in the BSA was evaluated according to the following criteria:

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

Low Potential. Few of the habitat components meeting the species requirements are present, and/or the majority of habitat on and adjacent to the BSA is unsuitable or of very poor quality. The species is not likely to be found in the BSA.

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 BSA is unsuitable. The species has a moderate probability of being found in the BSA.

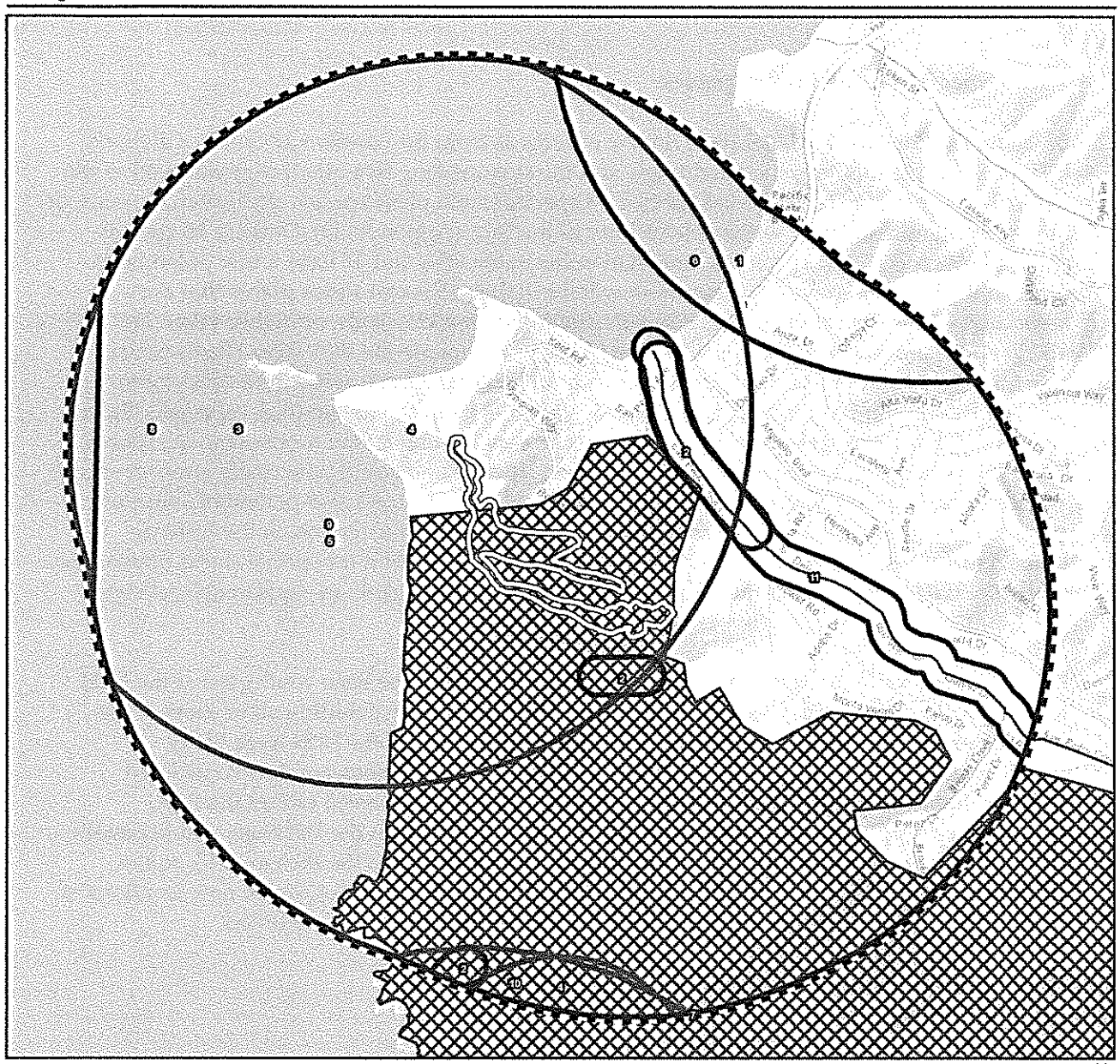
High Potential. All of the habitat components meeting the species requirements are present and/or most of the habitat on or adjacent to the BSA is highly suitable. The species has a high probability of being found in the BSA.

Present. Species is observed in the BSA or has been recorded (e.g., CNDDB, other reports) on the site recently (within the last 5 years).

The evaluation of potential to occur for each species identified in the records search is presented in Appendix D. The conclusions of this analysis are similar to the 1994 BA unless noted otherwise.

4.1 SPECIAL STATUS SPECIES

Rincon staff evaluated 112 special status species for their potential to occur in the BSA: one lichen species, 75 plants species, and 36 animal species (Appendix D). The BSA potentially supports suitable habitat for 11 special status animal species and 38 special status plant species. CNDDB occurrences of special status plants, wildlife, sensitive natural communities and critical habitats within five miles of the BSA are illustrated on Figure 4.



Imagery provided by ESRI and its licensors © 2015. U.S. Fish and Wildlife Service, June, 2015. Critical habitat shown is that most recently available from U.S. FWS. Check with U.S. FWS or Federal Register to confirm. California Natural Diversity Database, June, 2015.

0 1,100 2,200
Feet

N

Project Location

1 Mile Buffer

CNDDB

Critical Habitat

Animals

Plants

Natural Communities

California red-legged frog

Steelhead

1 - big free-tailed bat
2 - California red-legged frog
3 - coast yellow leptosiphon
4 - Franciscan thistle
5 - monarch - California overwintering population
6 - Myrtle's silverspot butterfly
7 - San Bruno elfin butterfly
8 - San Francisco collinsia
9 - San Francisco garter snake
10 - San Francisco gumplant
11 - steelhead - central California coast DPS

Sensitive Elements Reported in the California Natural Diversity Database and Federally Designated Critical Habitat

Figure 4

4.1.1 Special Status Plant Species

Based on the database and literature review of records from the *Montara Mountain, California* USGS 7.5-minute topographic quadrangle and the surrounding five quadrangles as well as the USFWS IPaC list of federally listed species, 38 special status plant species are known to occur, or have the potential to occur within the vicinity of the BSA (Appendix D). Of these 38 special status plant species, one species is known to occur in the BSA and 37 have a low potential to occur in the BSA based on the presence of suitable habitat. Special status plants that are associated with serpentinite substrates, volcanic substrates, clay soils, or highly saline or alkaline soils are not expected to be present in the BSA because the BSA lacks these specific substrates and soil types. Coyote brush scrub-California sagebrush scrub in the BSA generally has a dense canopy layer that excludes herbaceous species in the understory, especially those species that require openings. However, some areas in this habitat are more open or support a higher abundance of Northern Coastal Bluff Scrub species and could potentially support special status plants. Coyote brush scrub-California sagebrush scrub could also potentially support special status plant species. Monterey pine forests and Eucalyptus groves in the BSA are planted forests that are disturbed and thus provide limited habitat for special status plants. The limited grassland habitats in the BSA are disturbed and are unlikely to support special status plants.

Botanical surveys that targeted specific special status plants have been conducted at the PPH since 1983 and these surveys have covered much of PPH (likely including all or most of the BSA). Over 30 years of ongoing botanical surveys and studies of the PPH have likely documented all special status species within the BSA for this project, and it is considered unlikely that new species of special status plants would be discovered within the BSA. However, protocol botanical surveys have not been conducted on the PPH site, and Michael's rein orchid (*Piperia michaelii*), a CRPR 4 species, was discovered in the BSA in 2015, so the potential for new special status plant species to be observed in the BSA, or for new locations of existing special status plants species to be found in the BSA cannot be excluded.

One special status plant has been documented in the BSA:

- Michael's rein orchid (*Piperia michaelii*) – CRPR 4.2

CRPR 4 species have limited distribution globally but are fairly common within their range. CRPR List 3 and List 4 plant species are typically not considered for analysis under CEQA except where they are designated as rare or otherwise protected by local government. Michael's rein orchid and two other CRPS 4 species that are present at the PPH and discussed below are likely to qualify as Environmentally Sensitive Habitat Areas (ESHAs) in accordance with Section 30240 of the California Coastal Act.

Michael's rein orchid has been documented in the BSA during surveys conducted in July 2015. Two individuals were observed in the BSA in a section of the Bluff Trail between the Middle Ridge Trail and North Ridge Trail. This species was not observed during the 2015 reconnaissance survey conducted by Rincon.

Two special status plant species have been documented at PPH, but outside of the BSA for this project:

- Coast rockcress (*Arabis blepharophylla*) - CRPR 4.3
- San Francisco wallflower (*Erysimum franciscanum*) - CRPR 4.2

Coast rockcress was mapped at the Pedro Point Headlands during focused surveys conducted by Mike Vasey in 1994 (Vasey, 1994). At the PPH, coast rockcress inhabits shallow soils on weathered outcrops on the steep, upper north-facing slopes of Pedro Mountain (Vasey, 1994). This area is located outside of the BSA, just north of the northernmost portion of the BSA. The 1994 BA notes that specific habitat that would likely support coast rockcress was not observed in other parts of the PPH during surveys conducted prior to December 1994 (Vasey 1994). The 1994 BA states that this species is unlikely to be present in other parts of the PPH but recommends spring surveys to confirm this. Based on surveys conducted prior to 1994, the Pedro Mountain population was estimated by consist of 100-200 individuals and is associated with seaside daisy (*Erigeron glaucus*), bluff lettuce (*Dudleya farinosa*), checker bloom (*Sidalcea malviflora*), San Francisco wall flower, bracken fern (*Pteridium aquilinum* var. *pubescens*), and California polypody fern (*Polypodium californicum*) (Vasey, 1994). Coast rockcress thrives in open, rocky areas at PPH in scrub and grassland habitats. Most of the coyote brush-California sagebrush scrub in the BSA is too dense to provide quality suitable habitat coast rockcress. Pacific reed grass meadows and red fescue grassland in the BSA are disturbed and thus are also less likely to provide suitable habitat for coast rockcress. Coast rockcress was not observed during the 2015 reconnaissance survey conducted by Rincon. However, July is outside of the blooming period for this species, so it would have been less detectable.

San Francisco wallflower was mapped at the Pedro Point Headlands during focused surveys conducted by Mike Vasey in 1994 (Vasey, 1994). One of these locations occurs near the BSA along the Bluff Trail and it is possibly in the boundaries of the BSA (Rincon was not able to confirm the exact location of this individual), but all of the other mapped locations of both of these species are outside the BSA. At the PPH, San Francisco wallflower occurs primarily in inaccessible areas on the north-facing slopes of Pedro Mountain, cliffs above Shelter Cove, on north slopes of Middle Ridge Summit, and on steep ocean-facing slopes from the Middle Ridge summit to South Spur (Vasey, 1994). It grows in northern coastal bluff scrub and coastal terrace prairie in openings and in shallow, rocky soil or on the margins of rock outcrops and road cuts. Associated species include soap plant (*Chlorogalum pomeridianum*), California sagebrush, coyote brush, coast buckwheat (*Eriogonum latifolium*), sticky monkeyflower, lizard tail, bluff lettuce, and coffee berry. San Francisco wallflower was not observed during the 2015 reconnaissance survey conducted by Rincon. July is outside of the blooming period for this species, but it is a perennial herb and it could have been detected fruiting.

The following 35 special status plant species also have a low potential to occur in the BSA in the coyote brush scrub-California sagebrush scrub in BSA:

- Bent-flowered fiddleneck (*Amsinckia lunaris*) - California Rare Plant Rank (CRPR) 1B.2
- Montara manzanita (*Arctostaphylos montaraensis*) - CRPR 1B.2
- Pacific manzanita (*Arctostaphylos pacifica*) - state endangered; CRPR 1B.2
- Ocean bluff milk-vetch (*Astragalus nuttallii* var. *nuttallii*) - CRPR 4.2
- Coastal marsh milk-vetch (*Astragalus pycnostachyus* var. *pycnostachyus*) - CRPR 1B.2

- Brewer's calandrinia (*Calandrinia breweri*) – CRPR 4.2
- San Francisco Bay spineflower (*Chorizanthe cuspidata* var. *cuspidata*) – CRPR 1B.2
- Robust spineflower (*Chorizanthe robusta* var. *robusta*) – federally Endangered; CRPR 1B.1
- Franciscan thistle (*Cirsium andrewsii*) – CRPR 1B.2
- Compact cobwebby thistle (*Cirsium occidentale* var. *compactum*) – CRPR 1B.2
- San Francisco collinsia (*Collinsia multicolor*) – CRPR 4.2
- Marin checker lily (*Fritillaria lanceolata* var. *tristulis*) – CRPR 1B.1
- Fragrant fritillary (*Fritillaria liliacea*) – CRPR 1B.2
- Blue coast gilia (*Gilia capitata* ssp. *chamissonis*) – CRPR 1B.1
- San Francisco gumplant (*Grindelia hirsutula* var. *maritima*) – CRPR 1B.2
- Diablo helianthella (*Helianthella castanea*) – CRPR 1B.1
- Congested-headed hayfield tarplant (*Hemizonia congesta* ssp. *congesta*) – CRPR 1B.2
- Short-leaved evax (*Hesperevax sparsiflora* var. *brevifolia*) – CRPR 1B.2
- Kellogg's horkelia (*Horkelia cuneata* var. *sericea*) – CRPR 1B.1
- Point Reyes horkelia (*Horkelia marinensis*) – CRPR 1B.2
- Coast iris (*Iris longipetala*) – CRPR 4.2
- Serpentine leptosiphon (*Leptosiphon ambiguus*) – CRPR 4.2
- Coast yellow leptosiphon (*Leptosiphon croceus*) – CRPR 1B.1
- Rose leptosiphon (*Leptosiphon rosaceus*) – CRPR 1B.1
- Coast lily (*Lilium maritimum*) – CRPR 1B.1
- San Mateo tree lupine (*Lupinus arboreus* var. *eximius*) – CRPR 3.2
- Davidson's bush-mallow (*Malacothamnus davidsonii*) – CRPR 1B.2
- Hall's bush-mallow (*Malacothamnus hallii*) – CRPR 1B.2
- Northern curly-leaved monardella (*Monardella sinuata* ssp. *nigrens*) – CRPR 1B.2
- White-rayed pentachaeta (*Pentachaeta bellidiflora*) – federal endangered; state endangered; CRPR 1B.2
- Oregon polemonium (*Polemonium carneum*) – CRPR 2B.2
- San Francisco campion (*Silene verecunda* ssp. *verecunda*) – CRPR 1B.2
- Two-fork clover (*Trifolium amoenum*) – federal endangered; CRPR 1B.1
- San Francisco owl's-clover (*Triphysaria floribunda*) – CRPR 1B.1
- Coastal triquetrella (*Triquetrella californica*) – CRPR 1B.2

4.1.2 Special Status Wildlife Species

No special status animal species were detected during the reconnaissance field surveys. Thirty-six special status animal species were identified within the *Montara Mountain, California* USGS 7.5-minute topographic quadrangle and the surrounding five quadrangles as well as the USFWS IPaC list of federally listed species, seven of which have been documented within one mile of the BSA (Figure 4). Eleven special status animal species were determined to have a low, moderate, or high potential to occur in the BSA.

The following two species were determined to have a high potential to occur in the BSA:

- American peregrine falcon (*Falco peregrinus anatum*) – state Fully Protected: The American peregrine falcon has been documented at the PPH, within the six-quad search

area surrounding the BSA, and within five miles of the BSA. Peregrine falcons can be found in nearly any open habitat, they typically nest on cliffs from about 25–1,300 feet high. On these cliffs they choose a ledge that is typically around a third of the way down the cliff face. Peregrine Falcons eat mostly birds, of an enormous variety—450 North American species have been documented as prey, and the number worldwide may be as many as 2,000 species. According to Vasey (1994), peregrine falcons historically nested at the PPH but at the time the BA was prepared in 1994 there were no known nesting sites at the PPH and peregrine falcons were not observed during the 1994 site surveys. The BA reports that a pair of peregrine falcons were repeatedly observed in the vicinity of the cliffs of the Devil's Slide promontory, which is approximately 0.9 mile southwest of the BSA and that the PPH provides suitable nesting habitat (Vasey, 1994). More recent bird lists for the PPH include peregrine falcon (PPH 2015b; Donahue, 2010). The *Annotated Pedro Point Headlands Bird List* lists peregrine falcon as a permanent resident that has been observed flying overhead (Donahue, 2010). The PPH website reports peregrine falcon observations on cliff ledges at San Pedro Rock (PPH 2015). The western ocean-facing slope along the Bluff Trail is likely to provide suitable cliff ledges for nesting peregrine falcons. However, the upper portion of this slope along the Bluff Trail ridge that occurs within the BSA is unlikely to provide suitable nesting habitat because peregrine falcons usually select a rocky cliff ledge about a third of the way down the cliff face, not close to the ridge. However, a thorough survey of habitat along the western ocean-facing slopes of the Bluff Trail was not conducted during the July 2015 reconnaissance survey. The BSA provides suitable foraging habitat as it contains a number of potential avian prey species.

- California brown pelican (*Pelecanus occidentalis californicus*) – federally and state delisted, and state Fully Protected: California brown pelicans has been documented at the PPH, within the six-quad search area surrounding the BSA (Vasey, 1994; PPH 2015b; Donahue, 2010). This species breeds on small to moderate size coastal islands and roosts communally. It roosts, but does not breed at the PPH on San Pedro Rock (Vasey, 1994). San Pedro Rock is an important roosting site for this species before and after its breeding season (Vasey, 1994). California brown pelicans forage offshore primarily for fish, so the BSA is unlikely to provide important habitat for this species.

The following three species were determined to have a moderate potential to occur in the BSA:

- California red-legged frog (*Rana draytonii*) – federally threatened and state Species of Special Concern: California red-legged frog (CRLF) has been documented within the nine-quad search area surrounding the BSA as well as within five miles of the BSA. Most of the BSA, except for the northern portion of the Bluff Trail, is within designated Critical Habitat for CRLF (Figure 4). The BSA and PPH lack suitable breeding habitat for CRLF, but the BSA and PPH potentially provide suitable non-breeding habitat. All life history stages of the CRLF are most likely to be encountered in and around breeding sites, which include coastal lagoons, marshes, springs, permanent and semi-permanent natural ponds, and ponded and backwater portions of streams, as well as artificial impoundments such as stock ponds, irrigation ponds, and siltation ponds. Eggs are typically deposited in permanent pools, attached to emergent vegetation. The closest

CNDDB record of CRLF is approximately 0.3 mile east of the BSA in San Pedro Creek (Figure 4). This occurrence was recorded in 2002 and updated in 2008. It includes the mouth of San Pedro Creek and extends 0.5 mile upstream to San Pedro Valley. Five adults were observed in 2002 and one adult was observed in 2008 and the record states that breeding habitat is present. There are two CNDDB occurrences of CRLF at Calera Creek, which are both within 0.5 mile of the project site (Figure 4). One of these records is a breeding record and the other is an observation of one adult frog. The BSA lacks suitable breeding habitat for CRLR, and according the Vasey (1994) the PPH also lacks breeding habitat. However, the ephemeral stream in the BSA in a tributary to San Pedro Creek and it supports dense vegetation that could shelter CRLF. CRLF generally prefer to remain close to water sources, especially in the dry season, but they have been documented dispersing along stream systems up to 1.7 miles from breeding sites (Fellers and Kleeman, 2007). In addition, summer fog at the PPH provides moisture that could facilitate CRLF dispersal.

- Bank swallow (*Riparia riparia*) - state threatened: Bank swallows have not been documented at the PPH (Vasey 1994; Donahue 2010; PPH 2015). They are documented within the six-quad search area surrounding the BSA in the San Francisco South 7.5 minute quadrangle, but not within one mile of the BSA. A breeding occurrence is located at Fort Funston, which is along the coastline over 5 miles north of the BSA. Vertical banks and cliffs on the ocean-facing slopes in the BSA along the Bluff Trail potentially provide suitable breeding habitat for this species. However, these slopes in the BSA support dense scrub and few areas are open and barren. Bank swallow nests were not observed during the 2015 reconnaissance survey of the BSA. However, a thorough survey of habitat along the ocean-facing slopes of the Bluff Trail was not conducted during this survey.

- San Francisco dusky-footed woodrat (*Neotoma fuscipes annectens*) - state Species of Special Concern: This species has been documented within the six-quad search area surrounding the BSA. They are also known to occur in the north coastal scrub and maritime scrub at the nearby San Pedro County Park (Vasey, 1994). Monterey pine forests, eucalyptus groves, and coyote brush scrub-California sagebrush scrub in the BSA potentially provide suitable habitat for San Francisco dusky-footed woodrat. This species has not been observed in the BSA during site surveys.

The following six species were determined to have a low potential to occur in the BSA:

- Pallid bat (*Antrozous pallidus*) and big free-tailed bat (*Nyctinomops macrotis*)- state Species of Special Concern: Pallid bats and big-free tailed bats have been documented within the nine-quad search area surrounding the BSA. Both of these species roosting habitat includes cliff and rocky outcrops. The pallid bat could also potentially roost in hollow trees in the BSA. A limiting factor for the presence of these two species in the BSA could be the lack of perennial freshwater adjacent to the BSA. San Pedro Creek is approximately 0.3 mile from the BSA. Bats could also potentially roost in the vicinity of the BSA and forage in the BSA.

- Short-eared owl (*Asio flammeus*) – state Species of Special Concern: The short-eared owl was documented at the PPH in 1994, but not within the six-quad search area surrounding the BSA. A short-ear owl was observed roosting in scrub at the PPH on the north side of Pedro Point by Dan Singer with the Audubon Society in 1994 (Vasey, 1994). The exact location is unknown, thus, it is unclear whether or not this siting was in the BSA. Vasey (1994) notes that the presence of this species was unexpected given the fact that short-eared owls usually nest in more interior marshes, such as the San Francisco Bay, and that it is unlikely that is was breeding there (Vasey, 1994). Furthermore, the BA notes that it was probably a migrant and that this observation highlights the importance of PPH as an isolated coastal stop-over location for birds. The BSA is outside the breeding range of this species. The only CNDDB record of this species in San Mateo County is a breeding record that is located in the San Francisco Bay at Bair Island, which is located in the Redwood Point 7.5 minute quadrangle.

- Monarch butterfly (*Danaus plexippus*) – California Coast Act ESHA: Roosting habitat for Monarch butterfly is likely to qualify as an ESHA under the California Coastal Act. Monarch butterflies overwinter along the coast from northern Mendocino, California to Baja California, Mexico (CDFW 2015a). Although the CNDDB (CDFW 2015a) includes occurrences in San Mateo County and within one mile of the BSA, they are unlikely to overwinter in the BSA. Monterey pine forests and eucalyptus groves in the BSA are dense and wind-protected stands that potentially provide suitable roosting habitat for Monarch butterflies, but the BSA and adjacent habitats lack perennial water sources. Monarch butterflies were not observed during winter surveys conducted in December 1994 or during other site surveys.

- Loggerhead shrike (*Lanius ludovicianus*) – state Species of Special Concern: Loggerhead shrikes have not been documented at the PPH (Vasey, 1994; Donahue, 2010; PPH 2015b), or in the six-quad search area surrounding the BSA. This species could potentially breed at Monterey pine forests at PPH (Vasey, 1994), or in this habitat at the BSA. However, open foraging habitat in the BSA and the PPH is limited.

- Mission blue butterfly (*Plebejus icarioides missionensis*) – federally Endangered: This species inhabits coastal prairies of the San Francisco peninsula. It is known to occur within the six-quad search area for the BSA (CDFW, 2015a). One its host plants, varied lupine (*Lupinus variicolor*) is present in the BSA; however, this plant species is not abundant and open grasslands are limited and disturbed. Suitable open grassland habitat in other portions of the PPH is also limited. Grasslands at the PPH support dense perennial bunchgrasses (Vasey, 1994).

In addition, native vegetation is present in and surrounding the BSA which provides suitable habitat for nesting birds. Several species of birds common to the area that typically nest in the habitats found within the BSA, such as western scrub jay (*Aphelocoma californica*) and California quail (*Callipepla californica*) were detected during the reconnaissance surveys. Although no raptor nests were detected during the survey, any of the larger Monterey pine, Monterey cypress, or blue gum within the BSA and adjacent to the BSA could be utilized by raptors for nesting.

4.2 SENSITIVE PLANT COMMUNITIES

Two communities present in the BSA are listed as sensitive natural communities in the CDFW *List of Vegetation Alliances and Associations* (CDFW, 2010). According to the California Department of Fish and Wildlife's Vegetation Program, Alliances with State ranks of S1-S3 are considered to be imperiled, and thus, potentially of special concern. The Pacific reed grass meadows type is listed as G4 S2, and red fescue grassland is listed as G4 S3?. The reconnaissance survey conducted by Rincon was conducted in July when some native grasses are more difficult to detect because they are desiccated or lack of an evident inflorescence. Native grasslands that are considered sensitive, as well as other sensitive vegetation types are potentially present on the project site, including *Nassella pulchra* (purple needle grass grassland Alliance), *Nassella lepida* (foothill needle grass grassland) Provisional Alliance, *Elymus glaucus* (blue wild rye meadows) Alliance, and *Melica torreyana* (Torrey's melic grass patches) Provisional Alliance.

4.3 JURISDICTIONAL WATERS AND WETLANDS

The ephemeral stream that is present in the BSA has a defined bed and bank and flows to San Pedro Creek, which drains into the Pacific Ocean. This ephemeral stream is likely to qualify as waters of the United States and State of California under the jurisdictions of the United States Army Corps of Engineers (USACE), Regional Water Quality Control board (RWQCB), and CDFW, and potentially as an Environmentally Sensitive Habitat Area (ESHA) under the jurisdiction of the California Coastal Commission.

4.4 WILDLIFE MOVEMENT

Wildlife movement corridors, or habitat linkages, are generally defined as connections between habitat patches that allow for physical and genetic exchange between otherwise isolated animal populations. Such linkages may serve a local purpose, such as providing a linkage between foraging and denning areas, or they may be regional in nature. Some habitat linkages may serve as migration corridors, wherein animals periodically move away from an area and then subsequently return. Others may be important as dispersal corridors for young animals. A group of habitat linkages in an area can form a wildlife corridor network.

The habitats within the link do not necessarily need to be the same as the habitats that are being linked. Rather, the link merely needs to contain sufficient cover and forage to allow temporary inhabitation by ground-dwelling species. Typically habitat linkages are contiguous strips of natural areas, though dense plantings of landscape vegetation can be used by certain disturbance-tolerant species. Depending upon the species using a corridor, specific physical resources (such as rock outcroppings, vernal pools, or oak trees) may need to be located within the habitat link at certain intervals to allow slower-moving species to traverse the link. For highly mobile or aerial species, habitat linkages may be discontinuous patches of suitable resources spaced sufficiently close together to permit travel along a route in a short period of time. Wildlife movement corridors can be both large and small scale. The project site is not located between two well defined habitat regions and as such is unlikely to serve as an important wildlife corridor; however, it located at the northern extent of a comparatively

undeveloped area of natural habitat that extends from Pacifica south to Santa Cruz and east to the developed portions of Silicon Valley, and also represents the northern extent of relatively undisturbed coastal habitat between Santa Cruz and Pacifica.

The BSA is part of a larger undeveloped portion of the San Mateo coastlines, surrounded by development. It serves as an important stop over location of migrating birds, although sources of fresh water are limited in the vicinity of the BSA. The onsite ephemeral stream may serve as a corridor to San Pedro Creek and provide a source of water before it dries for the season.

4.5 RESOURCES PROTECTED BY LOCAL POLICIES AND ORDINANCES

4.5.1 Section 30240 of the California Coastal Act

Section 30240 of the California Coastal Act protects sensitive ecological features that qualify as an ESHA, which is defined as "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". Special status plant and animal habitats, Pacific reed grass meadows, red fescue grasslands, and the ephemeral stream can be considered ESHAs.

4.5.1 San Mateo County General Plan 1986

The San Mateo County General Plan (1986) goals and objectives that protect biological resources include the following:

- Promote the conservation, enhancement, protection, maintenance and managed use of the County's vegetative, water, fish and wildlife resources.
- Protect sensitive habitats from reduction in size or degradation of the conditions necessary for their maintenance.
- Protect the availability and encourage the productive use of the county's economically valuable vegetative, water, fish and wildlife resources in a manner which minimizes adverse environmental impacts.

General Plan policies that protect biological resources include the following:

- Policy 1.20: Consider areas designated as sensitive habitat as a priority resource requiring protection.
- Policy 1.21: Consider Vegetative, Water, Fish and Wildlife Resources which are economically valuable as a priority resource to be enhanced, utilized, managed and maintained for the needs of present and future generations.
- Policy 1.22: Regulate development to protect vegetative, water, fish and wildlife resources.
- Policy 1.23: Regulate location, density and design of development to protect vegetative, water, fish and wildlife resources.

- Policy 1.24: Ensure that development will: minimize the removal of vegetative resources and/or protect vegetation which enhances microclimate, stabilizes slopes or reduces surface water runoff, erosion or sedimentation; and/or protect historic and scenic trees.
- Policy 1.25: Ensure that development will maintain adequate stream flows and water quality for vegetative, fish and wildlife habitats.
- Policy 1.26: Ensure that development will minimize the disruption of fish and wildlife and their habitats.
- Policy 1.27: Regulate land uses and development activities within and adjacent to sensitive habitats in order to protect rare, endangered and unique plants and animals from reduction of the range or degradation of their environment and protect and maintain the biological productivity of important plant and animal habitats.
- Policy 1.28: Establish necessary buffer zones adjacent to sensitive habitats.

4.5.2 San Mateo County Heritage Tree Ordinance

The *San Mateo County Regulation of the Removal and Trimming of Heritage Trees on Public and Private Property* (Ordinance 2727, April 5, 1977) protects the removal of heritage trees (San Mateo County, 1977). A tree permit is required from the San Mateo County Planning Department for the removal of a heritage tree. Heritage trees include the following trees:

- Any tree or grove of trees so designated after Board inspection, advertised public hearing and resolution by the Board of Supervisors.
- Bigleaf maple (*Acer macrophyllum*) of more than 36 inches in diameter at breast height (dbh) west of Skyline Boulevard or 28 inches east of Skyline Boulevard.
- Madrone *(Arbutus menziesii)* with a single stem or multiple stems touching each other 4 1/2 feet above the ground of more than 48 inches in DBH, or clumps visibly connected above ground with a basal area greater than 20 square feet measured 4 1/2 feet above average ground level.
- Golden chinquapin (*Chrysolepis chrysophylla*) of more than 20 inches in dbh
- All Santa Cruz cypress (*Cupressus abramsiana*).
- Oregon ash (*Fraxinus latifolia*) of more than 12 inches in dbh
- Tan Oak (*Lithocarpus densiflorus*) of more than 48 inches in dbh
- Douglas fir (*Pseudotsuga menziesii*) of more than 60 inches in DBH east of Skyline Boulevard and north of Highway 92.
- Coast live oak (*Quercus agrifolia*) of more than 48 inches in dbh
- Canyon live oak (*Quercus chrysolepis*) of more than 40 inches in dbh
- All Oregon white oak (*Quercus garryana*)
- Black oak (*Quercus kellogii*) of more than 32 inches in dbh
- Interior live oak (*Quercus wislizenii*) of more than 40 inches in dbh
- Valley oak (*Quercus lobata*) of more than 48 inches in dbh
- Blue oak (*Quercus douglasii*) of more than 30 inches in dbh
- California bay (*Umbellularia californica*) with a single stem or multiple stems touching each other 4 1/2 feet above the ground of more than 48 inches in dbh, or clumps visibly connected above ground with a basal area of 20 square feet measured 4 1/2 feet above average ground level.
- California nutmeg (*Torreya californica*) of more than 30 inches in dbh

- Redwood (*Sequoia sempervirens*) of more than 84 inches in dbh west of Skyline Boulevard or 72 inches DBH east of Skyline Boulevard.

4.5.3 San Mateo County Significant Tree Ordinance

On private property, the San Mateo County *Significant Tree Ordinance* requires a permit for the removal of any native or non-native tree with a circumference of 38 inches (12.1 inches in diameter) as measured at breast height or immediately below the lowest branch, whichever is lower, and having the inherent capacity of naturally producing one main axis continuing to grow more vigorously than the lateral axes (San Mateo County, 2010). A permit is also required on private property for the removal of part of a community of trees, which is defined as a group of trees of any size which are ecologically or aesthetically related to each other such that loss of several of them would cause a significant ecological, aesthetic, or environmental impact in the immediate area. The proposed project is not located on private property, thus this the San Mateo County *Significant Tree Ordinance* is unlikely to apply to this project.

4.5.4 City of Pacifica Heritage Tree Preservation

Title 4, Chapter 12 of the Pacifica Municipal Code (Preservation of Heritage Trees) stipulates regulations designed to preserve and protect heritage trees on private or city-owned property. Heritage trees are defined as any trees, exclusive of eucalyptus (*Eucalyptus* spp.), which have a trunk with a circumference of 50" inches (approximately 16 inches in diameter) or more, measured at 24" inches above the natural grade. A heritage tree or trees are also defined as a tree or grove of trees, including eucalyptus (*Eucalyptus* spp.), designated by resolution of the Council to be of special historical, environmental, or aesthetic value. A tree removal permit is often required for the removal, substantial trimming, or construction work with the drip-line of a heritage tree. Compensatory mitigation for the removal of a heritage tree may include tree relocation on-site, planting replacement trees, or payment of fees in lieu thereof if on-site replacement is not feasible.

A tree protection plan (TTP) that is prepared by a qualified arborist, horticulturist, landscape architect or other botanical professional is required for construction activities within the drip-line of a heritage tree for development projects which require a discretionary permit or other land use approval under the City of Pacifica Municipal Code. The TPP should include:

- Size, species, aesthetics, state of health, and dripline location of each tree that reaches to within 20' feet of any proposed development areas, including any areas where trenching or paving is proposed.
- Mitigating measures proposed to insure the survival of remaining trees through the construction process and thereafter.
- Size, species, and location of replacement trees.

According the Pacifica Municipal Code, the TTP should include the following specific avoidance and mitigation measures for protected heritage trees:

- The entire dripline area of protected heritage trees should be marked and fenced prior to grading, paving, movement of heavy equipment, or other construction activity.
- The existing ground surface within the dripline of any heritage tree should not be cut, filled, compacted, or paved unless there is no other reasonable design alternative.
- All cuts or trenching within the dripline of a heritage tree and all root cuttings are to be made by hand. No backhoes or graders shall be used. Appropriate measures shall be taken to prevent soil upon exposed roots from drying out.

5.0 LIMITATIONS, ASSUMPTIONS, AND USE RELIANCE

This Biological Resources Assessment has been performed in accordance with professionally accepted biological investigation practices conducted at this time and in this geographic area. The biological investigation is limited by the scope of work performed. Biological surveys for the presence or absence of certain taxa have been conducted as part of this assessment but were not performed during a particular blooming period, nesting period, or particular portion of the season when positive identification would be expected if present, and therefore, cannot be considered definitive. The biological surveys are limited also by the environmental conditions present at the time of the surveys. In addition, general biological (or protocol) surveys do not guarantee that the organisms are not present and will not be discovered in the future within the site. In particular, mobile wildlife species could occupy the site on a transient basis, or re-establish populations in the future. Our field studies were based on current industry practices, which change over time and may not be applicable in the future. No other guarantees or warranties, expressed or implied, are provided. The findings and opinions conveyed in this report are based on findings derived from site reconnaissance, jurisdictional areas, review of CNDDB RareFind5, and specified historical and literature sources. Standard data sources relied upon during the completion of this report, such as the CNDDB, may vary with regard to accuracy and completeness. In particular, the CNDDB is compiled from research and observations reported to CDFW that may or may not have been the result of comprehensive or site-specific field surveys. Although Rincon believes the data sources are reasonably reliable, Rincon cannot and does not guarantee the authenticity or reliability of the data sources it has used. Additionally, pursuant to our contract, the data sources reviewed included only those that are practically reviewable without the need for extraordinary research and analysis.

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Appendix A

Regulatory Guidance

REGULATORY SETTING

Special-status habitats are vegetation types, associations, or sub-associations that support concentrations of special-status plant or wildlife species, are of relatively limited distribution, or are of particular value to wildlife.

Listed species are those taxa that are formally listed as endangered or threatened by the federal government (e.g. U.S. Fish and Wildlife Service [USFWS]), pursuant to the Federal Endangered Species Act (FESA) or as endangered, threatened, or rare (for plants only) by the State of California (i.e. California Fish and Game Commission), pursuant to the California Endangered Species Act or the California Native Plant Protection Act. Some species are considered rare (but not formally listed) by resource agencies, organizations with biological interests/expertise (e.g. Audubon Society, CNPS, The Wildlife Society), and the scientific community.

The following is a brief summary of the regulatory context under which biological resources are managed at the federal, state, and local levels. A number of federal and state statutes provide a regulatory structure that guides the protection of biological resources. Agencies with the responsibility for protection of biological resources within the project site include:

- U.S. Army Corps of Engineers (wetlands and other waters of the United States);
- Regional Water Quality Control Board (waters of the State);
- U.S. Fish and Wildlife Service (federally listed species and migratory birds);
- California Department Fish and Wildlife (riparian areas and other waters of the State, state-listed species);

U.S. Army Corps of Engineers. Under Section 404 of the Clean Water Act, the U.S. Army Corps of Engineers (USACE) has authority to regulate activities that could discharge fill of material or otherwise adversely modify wetlands or other "waters of the United States." Perennial and intermittent creeks are considered waters of the United States if they are hydrologically connected to other jurisdictional waters. The USACE also implements the federal policy embodied in Executive Order 11990, which is intended to result in no net loss of wetland value or acres. In achieving the goals of the Clean Water Act, the USACE seeks to avoid adverse impacts and offset unavoidable adverse impacts on existing aquatic resources. Any fill or adverse modification of wetlands that are hydrologically connected to jurisdictional waters would require a permit from the USACE prior to the start of work. Typically, when a project involves impacts to waters of the United States, the goal of no net loss of wetland acres or values is met through compensatory mitigation involving creation or enhancement of similar habitats.

Regional Water Quality Control Board. The State Water Resources Control Board (SWRCB) and the local Central Coast Regional Water Quality Control Board (RWQCB) have jurisdiction over "waters of the State," pursuant to the Porter-Cologne Water Quality Control Act, which are defined as any surface water or groundwater, including saline waters, within the boundaries of the State. The SWRCB has issued general Waste Discharge Requirements (WDRs) regarding discharges to "isolated" waters of the State (Water Quality Order No. 2004-0004-DWQ, Statewide General Waste Discharge Requirements for Dredged or Fill Discharges to

Waters Deemed by the U.S. Army Corps of Engineers to be Outside of Federal Jurisdiction). The Central Coast RWQCB enforces actions under this general order for isolated waters not subject to federal jurisdiction, and is also responsible for the issuance of water quality certifications pursuant to Section 401 of the Clean Water Act for waters subject to federal jurisdiction.

United States Fish and Wildlife Service and National Marine Fisheries Service. The USFWS implements the Migratory Bird Treaty Act (16 United States Code [USC] Section 703-711) and the Bald and Golden Eagle Protection Act (16 USC Section 668). The USFWS and National Marine Fisheries Service (NMFS) share responsibility for implementing the Federal Endangered Species Act (FESA) (16 USC § 153 et seq.). The USFWS generally implements the FESA for terrestrial and freshwater species, while the NMFS implements the FESA for marine and anadramous species. Projects that would result in "take" of any federally listed threatened or endangered species are required to obtain permits from the USFWS or NMFS through either Section 7 (interagency consultation with a federal nexus) or Section 10 (Habitat Conservation Plan) of FESA, depending on the involvement by the federal government in permitting and/or funding of the project. The permitting process is used to determine if a project would jeopardize the continued existence of a listed species and what measures would be required to avoid jeopardizing the species. "Take" under federal definition means to harass, harm (which includes habitat modification), pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct. Proposed or candidate species do not have the full protection of FESA; however, the USFWS and NMFS advise project applicants that they could be elevated to listed status at any time.

California Department of Fish and Wildlife. The California Department of Fish and Wildlife (CDFW) derives its authority from the Fish and Game Code of California. The California Endangered Species Act (CESA) (Fish and Game Code Section 2050 et. seq.) prohibits take of state listed threatened, endangered or fully protected species. Take under CESA is restricted to direct mortality of a listed species and does not prohibit indirect harm by way of habitat modification. The CDFW also prohibits take for species designated as Fully Protected under the Code.

California Fish and Game Code sections 3503, 3503.5, and 3511 describe unlawful take, possession, or destruction of birds, nests, and eggs. Fully protected birds (Section 3511) may not be taken or possessed except under specific permit. Section 3503.5 of the Code protects all birds-of-prey and their eggs and nests against take, possession, or destruction of nests or eggs.

Species of Special Concern (SSC) is a category used by the CDFW for those species which are considered to be indicators of regional habitat changes or are considered to be potential future protected species. Species of Special Concern do not have any special legal status except that which may be afforded by the Fish and Game Code as noted above. The SSC category is intended by the CDFW for use as a management tool to include these species into special consideration when decisions are made concerning the development of natural lands. The CDFW also has authority to administer the Native Plant Protection Act (NPPA) (Fish and Game Code Section 1900 et seq.). The NPPA requires the CDFW to establish criteria for determining if a species, subspecies, or variety of native plant is endangered or rare. Under Section 1913(c) of the NPPA, the owner of land where a rare or endangered native plant is growing is required to

notify the department at least 10 days in advance of changing the land use to allow for salvage of plant.

Perennial and intermittent streams and associated riparian vegetation, when present, also fall under the jurisdiction of the CDFW. Section 1600 et seq. of the Fish and Game Code (Lake and Streambed Alteration Agreements) gives the CDFW regulatory authority over work within the stream zone (which could extend to the 100-year flood plain) consisting of, but not limited to, the diversion or obstruction of the natural flow or changes in the channel, bed, or bank of any river, stream or lake.

California Coastal Commission. The California Coastal Commission (CCC) mission is to "protect, conserve, restore, and enhance environmental and human-based resources of the California coast and ocean for environmentally sustainable and prudent use by current and future generations." The CCC achieves this mission through enforcement of the California Coastal Act of 1976, which sets forth specific polices to achieve the goals in the mission statement. Many municipalities along the coast have adopted CCC-approved Local Coastal Plans that guide compliance with the California Coastal Act while preserving local government control over development. Project undertaken within the designated coastal zone are required to obtain a coastal permit either from the CCC or from local governments with adopted Local Coastal Plans.

City of Pacifica. The proposed project is partially located within the City of Pacifica and is subject to the Policies set forth in the City of Pacifica General Plan 2035 as well as associated ordinance in the City's Municipal Code. The City of Pacific General Plan includes eleven Guiding Policies and 45 Implementing Policies for the protection of water and biological resources.

County of San Mateo. The proposed project is partially located within the County of San Mateo and is subject to the Policies set forth in the County of San Mateo General Plan. The San Mateo county General Plan includes the following goals designed to protect vegetative, water, fish and wildlife resources:

1.1 **Conserve, Enhance, Protect, Maintain and Manage Vegetative, Water, Fish and Wildlife Resources**

Promote the conservation, enhancement, protection, maintenance and managed use of the County's Vegetative, Water, Fish and Wildlife Resources.

1.2 **Protect Sensitive Habitats**

Protect sensitive habitats from reduction in size or degradation of the conditions necessary for their maintenance.

1.3 **Protection and Productive Use of Economically Valuable Vegetative, Water, Fish and Wildlife Resources**

Protect the availability and encourage the productive use of the County's economically valuable vegetative, water, fish and wildlife resources in a manner which minimizes adverse environmental impacts.

1.4 **Access to Vegetative, Water, Fish and Wildlife Resources**

Protect and promote existing rights of public access to vegetative, water, fish and wildlife resources for purposes of study and recreation consistent with the need to protect public rights, rights of private property owners and protection and preservation of such resources.

The General Plan also designates sensitive habitats and includes general policies, regulation of development, resource protections, and other procedures/policies to achieve the general plan goals.

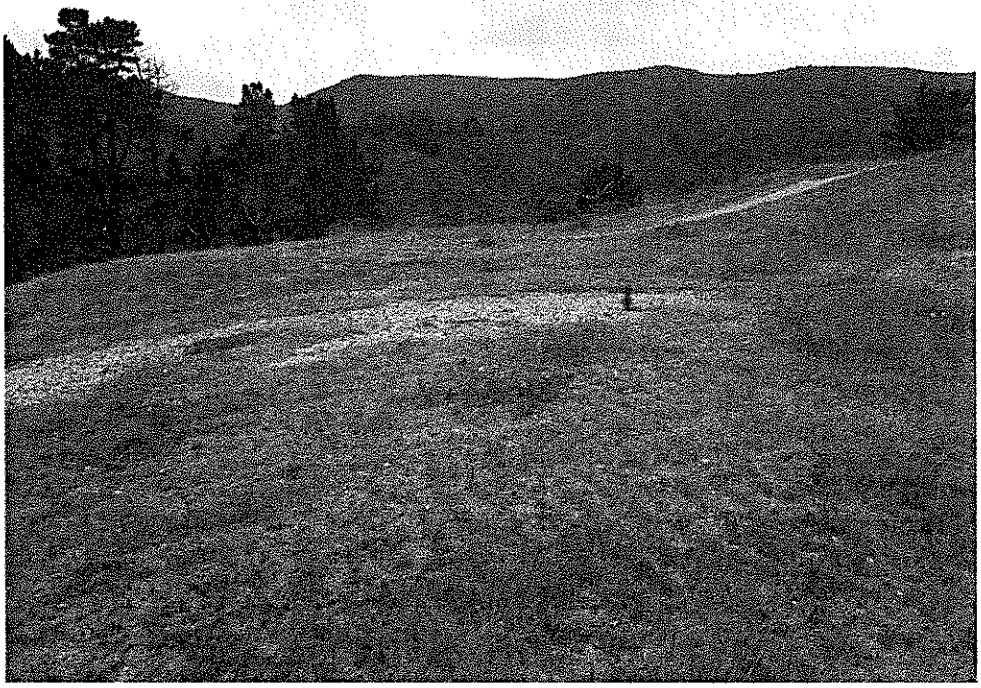
Appendix B

Site Photographs

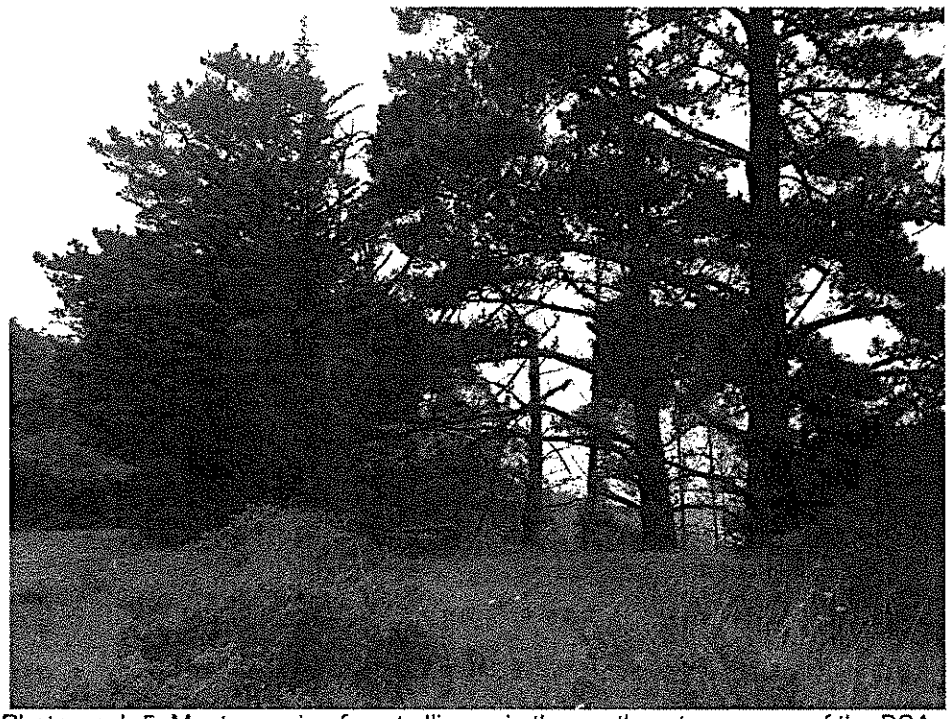
Photograph 1. Coyote brush scrub – California sagebrush scrub association on a south-facing slope along the South Ridge Trail.

Photograph 2. Coyote brush scrub – California sagebrush scrub association on a west-facing slope along the Bluff Trail.

Photograph 3. Coyote brush scrub – California sagebrush scrub association and rock outcrops at the Summit, at the end of the Bluff Trail, with Pedro Point Neighborhood in background.



Photograph 4. Red fescue grassland alliance (disturbed) in the southeastern portion of the BSA.



Photograph 5. Monterey pine forest alliance in the southeastern corner of the BSA near the South Ridge Trail.

Photograph 6. Pacific reed grass meadow restoration area.

Appendix C

Floral and Faunal Compendium

Appendix C. Plant and Animal Species Observed Within the Biological Study Area During Reconnaissance Survey.

Scientific Name	Common Name	Status[1]	Origin (Native or Introduced)[2]
PLANTS			
Trees			
Arbutus menziesii	Pacific madrone		Native
Eucalyptus globulus	blue gum		Introduced; Cal-IPC Limited
Hesperocyparis macrocarpa	Monterey cypress		Native (not local)
Morella californica	wax myrtle		Native
Pinus radiata	Monterey pine		Native (not local)
Shrubs			
Artemisia californica	California sagebrush		Native
Artemisia pycnocephala	coast sagewort		Native
Baccharis pilularis	coyote brush		Native
Berberis pinnata ssp. *pinnata*	California barberry		Native
Ceanothus thyrsiflorus	blue bloosom		Native
Eriogonum latifolium	coastal buckwheat		Native
Eriophyllum staechadifolium	lizard tail		Native
Frangula californica	California coffeeberry		Native
Grindelia stricta var. *platyphylla*	coastal gumplant		Native
Heteromeles arbutifolia	toyon		Native
Lupinus variicolor	Lindley's varied lupine		Native
Mimulus aurantiacus	sticky monkeyflower		Native
Rubus armeniacus	Himalayan blackberry		Introduced; Cal-IPC High
Rubus ursinus	California blackberry		Native
Rubus parviflorus	thimbleberry		Native
Symphoricarpos albus var. *laevigatus*	snowberry		Native
Toxicodendron diversilobum	western poison oak		Native
Herbs and Sub-shrubs			
Achillea millefolium	yarrow		Native
Anaphalis margaritacea	pearly everlasting		Native
Angelica hendersonii	coast angelica		Native
Anthriscus caucalis	bur-chervil		Introduced
Artemisia douglasiana	Mugwort		Native
Calystegia purpurata ssp. *purpurata*	western morning glory		Native
Carex sp.	sedge		Native
Castilleja sp.	paintbrush		Native
Carpobrotus chilensis	ice plant		Introduced; Cal-IPC Moderate
Chlorogalum pomeridianum var. *pomeridianum*	soap plant		Native
Cirsium vulgare	bull thistle		Introduced; Cal-IPC Moderate
Conium maculatum	Poison hemlock		Introduced; Cal-IPC Moderate
Daucus carota	Queen Anne's lace		Introduced
Daucus pusillis	rattlesnake weed		Native
Dudleya farinosa	bluff lettuce		Native
Erigeron glaucus	seaside daisy		Native
Eriogonum latifolium	coast buckwheat		Native
Eschscholzia californica	California poppy		Native
Foeniculum vulgare	fennel		Introduced;

Appendix C. Plant and Animal Species Observed Within the Biological Study Area During Reconnaissance Survey.

Scientific Name	Common Name	Status[1]	Origin (Native or Introduced)[2]
			Cal-IPC High
Fragaria chiloensis	beach strawberry		Native
Genista monspessulana	French broom		Introduced; Cal-IPC High
Gamochaeta ustulata [*Gnaphalium purpureum*]	purple cudweed		Native
Hirschfeldia incana	Mediterranean mustard		Introduced; Cal-IPC Moderate
Holcus lanatus	velvet grass		Introduced; Cal-IPC Moderate
Holodiscus discolor	ocean spray		Native
Horkelia californica ssp. californica	California horkelia		Native
Hypochaeris glabra	smooth cat's ear		Introduced; Cal-IPC Limited
Hypochaeris radicata	rough cat's ear		Introduced; Cal-IPC Moderate
Iris douglasiana	Douglas' iris		Native
Juncus patens	spreading rush		Native
Lathyrus vestitus var. *vestitus*	common Pacific pea		Native
Linum bienne	narrow-leaved flax		Introduced
Logfia gallica	herba impia		Introduced
Lonicera hispidula	hairy honeysuckle		Native
Lotus corniculatus	birdfoot trefoil		Introduced
Madia sp.	tarweed		Native
Maianthemum stellatum	false Solomon's seal		Native
Marah sp.	man-root		Native
Monardella villosa	coyote mint		Native
Navarretia squarrosa	skunk weed		Native
Oxalis pilosa	hairy wood sorrel		Native
Phacelia californica	California phacelia		Native
Plantago lanceolata	English plantain		Introduced; Cal-IPC Limited
Rumex acetosella	sheep sorrel		Introduced; Cal-IPC Moderate
Satureja douglasii	yerba buena		Native
Scrophularia californica	California figwort		Native
Silene gallica	windmill pink		Introduced
Solanum sp.	blue-witch		Native or Introduced
Sonchus asper ssp. *asper*	prickly sow thistle		Introduced
Symphyotrichum chilense	common Califoirnia aster		Native
Trifolium sp.	clover		Native or introduced
Urtica dioica ssp. *gracilis*	American stinging nettle		Native
Ferns			
Dryopteris arguta	coast wood fern		Native
Pteridium aquilinum var. *pubescens*	bracken fern		Native
Polypodium scouleri	leather-leaf fern		Native
Polystichum munitum	western sword fern		Native
Grasses			
Aira caryophyllea	silver Eureopean hair grass		Introduced
Avena sp.	wild oat		Introduced; Cal-IPC Moderate
Brachypodium distachyon	purple false brome		Introduced; Cal-IPC Moderate
Briza maxima	rattlesnake grass		Introduced; Cal-IPC Moderate

Appendix C. Plant and Animal Species Observed Within the Biological Study Area During Reconnaissance Survey.

Scientific Name	Common Name	Status[1]	Origin (Native or Introduced)[2]
Bromus diandrus	ripgut brome		Introduced; Cal-IPC Moderate
Bromus hordeaceus	soft chess		Introduced; Cal-IPC Limited
Calamagrostis nutkaensis	Pacifc reed grass		Native
Cortaderia jubata	jubata grass		Introduced; Cal-IPC High
Cynosurus echinatus	hedgehog dogtail		Introduced; Cal-IPC Moderate
Ehrharta erecta	panic veldt grass		Introduced
Festuca californica	California fescue		Native
Elymus glaucus ssp. *glaucus*	blue wildrye		Native
Festuca bromoides	brome fescue		Introduced
Festuca myuros	rattail fescue		Introduced; Cal-IPC Moderate
Festuca perennis	Italian ryegrass		Introduced; Cal-IPC Moderate
Festuca rubra	red fescue		Native
Hordeum murinum ssp. *leporinum*	hare barley		Introduced; Cal-IPC Moderate
Koeleria macrantha	Junegrass		Native
Poa annua	annual blue grass		Introduced
Stipa pulchra	purple needlegrass		Native
Stipa lepida	foothill needlegrass		Native
WILDLIFE			
Birds			
Aphelocoma californica	western scrub jay		Native
Callipepla californica	California quail		Native
Cathartes aura	turkey vulture		Native
Cyanocitta stelleri	Stellar's jay		Native
Corvus brachyrhynchos	American crow		Native
Hirundo rustica	barn swallow		Native
Larus sp.	gull		Native
Tachycineta bicolor	tree swallow		Native
Mammals			
Sylvilagus bachmani	brush rabbitt		Native

[1]*CRPR – California Rare Plant Rank, defined in California Native Plant Society Online Inventory and CDFW California Natural Diveristy Database. Ranks are also fully listed and defined in Appendix D.*

[2]*Cal-IPC – California Invasive Plant Council*

Appendix D

Special Status Species Evaluation Tables

Scientific Name	Status Fed/State ESA G-Rank/S-Rank CRPR	Habitat Requirements	Rationale
Lichens			
Usnea longissima Methuselah's beard lichen	--/-- G4/ S4 4.2	North Coast coniferous forest and broadleafed upland forest in the redwood zone on a variety of trees including big leaf maple, oaks, ash, Douglas-fir, and bay. Elevations: 50-1460 meters.	*Unlikely*. Appropriate habitat is not present in the BSA, and species was not observed during botanical surveys.
Plants-			
Acanthomintha duttonii San Mateo thorn-mint	FE/SE G1/ S1 1B.1	Annual herb. Blooms April-June. Occurs in chaparral and valley and foothill grassland in serpentinite. Elevations: 50 – 300 meters.	*Unlikely*. Appropriate serpentinite habitat is not present in the BSA. This species was not observed during botanical surveys.
Allium peninsulare var. *franciscanum* Franciscan onion	--/-- G5T1/S1 1B.2	Perennial bulbiferous herb. Bloom period: April-June. Occurs in cismontane woodland and valley and foothill grassland on clay and volcanic substrates that are often serpentine. Elevations: 52-300 meters.	*Unlikely*. Appropriate habitat is not present in the BSA, and species was not observed during botanical surveys.
Amsinckia lunaris Bent-flowered fiddleneck	--/-- G2?/S2? 1B.2	Annual herb. Blooms Mar-June. Occurs in coastal bluff scrub, cismontane woodland, and valley and foothill grassland. Elevations: 3-500 meters.	*Low Potential*. Appropriate habitat is potentially present in the BSA in coyote brush scrub-California sagebrush scrub. This species was not observed during botanical surveys.
Arabis blepharophylla Coast rockcress	--/-- G4/S4 4.3	Perennial herb. Bloom period: February-May. Occurs in rocky habitat in coastal bluff scrub, coastal scrub, coastal prairie, and broadleafed upland forest. Elevations: 3-1100 meters	*Low Potential*. Present at PPH but there is a low potential for it to be present in the BSA. Suitable microhabitat is probably not present in the BSA.
Arctostaphylos andersonii Anderson's manzanita	--/-- G2/S2 1B.2	Perennial evergreen shrub. Bloom period: November-May. Occurs in openings and edges in broadleafed upland forest, chaparral, and north coast coniferous forest. Elevations: 60-760 meters.	*Unlikely*. Appropriate habitat is not present in the BSA, and species was not observed during botanical surveys.
Arctostaphylos franciscana Franciscan manzanita	FE/ -- G1/S1 1B.1	Perennial evergreen shrub. Bloom period: February-April. Coastal scrub (serpentinite). Elevations: 60-300 meters	*Unlikely*. Appropriate serpentinite habitat is not present in the BSA. This species was not observed during botanical surveys.
Arctostaphylos imbricata San Bruno Mountain manzanita	FE/ -- G1/S1 1B.1	Perennial evergreen shrub. Bloom period: February-May. Rocky habitats in chaparral and coastal scrub. Mostly known from a few sandstone outcrops in chaparral. Elevations: 275-370 meters.	*Unlikely*. Appropriate habitat is not present in the BSA. This species was not observed during botanical surveys.
Arctostaphylos montana ssp. *ravenii* Presidio manzanita	FE/SE G3T1/S1 1B.1	Perennial evergreen shrub. Bloom period: February-March. Serpentinite outcrops in chaparral, coastal prairie, and coastal scrub. Elevations: 45-215 meters.	*Unlikely*. Appropriate serpentinite habitat is not present in the BSA. This species was not observed during botanical surveys.

Scientific Name	Status Fed/State ESA G-Rank/S-Rank CRPR	Habitat Requirements	Rationale
Arctostaphylos montaraensis Montara manzanita	-- G1/S1 1B.2	Perennial evergreen shrub. Bloom period: January-March. Chaparral (maritime) and coastal scrub. Elevations: 80-500 meters.	*Low Potential*. Appropriate habitat is potentially present in the BSA in coyote brush scrub-California sagebrush scrub. This species was not observed during botanical surveys.
Arctostaphylos pacifica Pacific manzanita	--/SE G1/S1 1B.2	Evergreen shrub. Bloom period: February-April. Chaparral and coastal scrub. Elevations: unknown.	*Low Potential*. Appropriate habitat is potentially present in the BSA in coyote brush scrub-California sagebrush scrub. There is only one CNDDB occurrence of this species near the summit of San Bruno Mountain.
Arctostaphylos regismontana Kings Mountain arctostaphylos	--/-- G2/S2 1B.2	Perennial evergreen shrub. Bloom period: January-April. Occurs on granitic and sandstone substrates in broadleafed upland forest, chaparral, and North Coast coniferous forest. Elevations: 305-730 meters.	*Unlikely*. Appropriate habitat is not present in the BSA. This species was not observed during botanical surveys.
Astragalus nuttallii var. *nuttallii* Ocean bluff milk-vetch	--/ -- G4T4/S4 4.2	Perennial herb. Blooms January-November. Coastal bluff scrub and coastal dunes. Elevations: 3-120 meters.	*Low Potential*. Appropriate habitat is potentially present in the BSA in coyote brush scrub-California sagebrush scrub. This species was not observed during botanical surveys.
Astragalus pycnostachyus var. *pycnostachyus* Coastal marsh milk-vetch	--/ -- G2T2/S2 1B.2	Perennial herb. Blooms April-October. Coastal dunes (mesic), coastal scrub, and marshes (coastal salt, streamsides). Elevations: 0-30 meters.	*Low Potential*. Appropriate habitat is potentially present in the BSA in coyote brush scrub-California sagebrush scrub. This species was not observed during botanical surveys.
Astragalus tener var. *tener* Alkali milk-vetch	--/-- G2T2/S2 1B.2	Annual herb. Bloom period: March-June. Occurs in alkaline soils in playas, vernal pools, and moist valley and foothill grassland (adobe clay). Elevations: 1-60 meters.	*Unlikely*. Appropriate moist, alkaline habitat is not present in the BSA. This species was not observed during botanical surveys.
Calandrinia breweri Brewer's calandrinia	--/-- G4/S34 4.2	Annual herb. Bloom period: March-June. Sandy or loamy, disturbed sites and burns in chaparral and coastal scrub. Elevations: 10-1220 meters.	*Low Potential*. Appropriate habitat is potentially present in the BSA in coyote brush scrub-California sagebrush scrub. This species was not observed during botanical surveys.
Calochortus umbellatus Oakland star-tulip	--/-- G4/S4 4.2	Perennial bulbiferous herb. Bloom period: March-May. Broadleafed upland forest, chaparral, cismontane woodland, lower montane coniferous forest, and valley and foothill grassland; often serpentinite. Elevations: 100-700 meters.	*Unlikely*. Appropriate habitat is not present in the BSA. This species was not observed during botanical surveys.

Scientific Name	Status Fed/State ESA G-Rank/S-Rank CRPR	Habitat Requirements	Rationale
Carex comosa Bristly sedge	--/-- G5/S2 2B.1	Perennial rhizomatous herb. Bloom period: May-September. Marshes and wetlands along lake margins, and within valley and foothill grasslands and coastal prairies. Elevations: 0-625 meters.	*Unlikely*. Appropriate wetland habitats are not present in the BSA. This species was not observed during botanical surveys.
Castilleja ambigua var. *ambigua* Johnny-nip	--/-- G4T5/S4 4.2	Annual herb (hemiparasitic). Bloom period: March-August. Wetlands, marshes, and vernal pool margins within coastal bluff scrub, coastal prairie, coastal scrub, and valley and foothill grassland. Elevations: 0-435 meters.	*Unlikely*. Appropriate wetland habitats are not present in the BSA. This species was not observed during botanical surveys.
Centromadia parryi ssp. *parryi* Pappose tarplant	--/-- G3T1/S1 1B.2	Annual herb. Bloom period: May-November. Seasonal wetlands, marshes, and seeps that are often alkaline, within chaparral, coastal prairie, meadows marshes, and mesic valley and foothill grassland (vernally mesic). Elevations: 0-420 meters.	*Unlikely*. Appropriate habitats are not present in the BSA. This species was not observed during botanical surveys.
Chloropyron maritimum ssp. *palustre* Point Reyes bird's-beak	--/-- G4?T2/S2 1B.2	Annual herb (hemiparasitic). Bloom period: June-October. Coastal salt marshes. Elevations: 0-10 meters.	*Unlikely*. Appropriate marsh habitats are not present in the BSA. This species was not observed during botanical surveys.
Chorizanthe cuspidata var. *cuspidata* San Francisco Bay spineflower	--/-- G2T1/S1 1B.2	Annual herb. Bloom period: April-August. Sandy areas in coastal bluff scrub, coastal dunes, coastal prairie, and coastal scrub. Elevations: 3-215 meters.	*Low Potential*. Appropriate habitat is potentially present in the BSA in coyote brush scrub-California sagebrush scrub. This species was not observed during botanical surveys.
Chorizanthe robusta var. *robusta* Robust spineflower	FE/ -- G2T1/S1 1B.1	Annual herb. Blooms period: April-September. Occurs on sandy or gravelly substrates within maritime chaparral, openings within cismontane woodland, coastal dunes, and coastal scrub. Elevations: 3-300 meters.	*Low Potential*. Appropriate habitat is potentially present in the BSA in coyote brush scrub-California sagebrush scrub. This species was not observed during botanical surveys.
Cirsium andrewsii Franciscan thistle	--/-- G3/S3 1B.2	Perennial herb. Blooms period: March-July. Occurs in mesic areas and sometimes serpentinite within broadleafed upland forest, coastal bluff scrub, coastal prairie and coastal scrub. Elevations: 0-150 meters.	*Low Potential*. Appropriate habitat is potentially present in the BSA in coyote brush scrub-California sagebrush scrub adjacent to the ephemeral stream along the Arroyo Trail. This species was not observed during botanical surveys.

Scientific Name	Status Fed/State ESA G-Rank/S-Rank CRPR	Habitat Requirements	Rationale
Cirsium fontinale var. *fontinale* Crystal Springs fountain thistle	FE/SE G2T1/S1 1B.1	Perennial herb. Bloom period: April-October. Cismontane woodland, grassland, meadows, chaparral openings in serpentine seeps and mesic areas. Elevations: 45-175 meters.	*Unlikely*. Appropriate serpentinite substrates and wetland habitats are not present in the BSA. This species was not observed during botanical surveys.
Cirsium occidentale var. *compactum* Compact cobwebby thistle	-- G3G4T1/S1 1B.2	Perennial herb. Blooms Aril-June. Chaparral, coastal dunes, coastal scrub, and coastal prairie. Elevations: 5-150 meters.	*Low Potential*. Appropriate habitat is potentially present in the BSA in coyote brush scrub-California sagebrush scrub. This species was not observed during botanical surveys.
Collinsia multicolor San Francisco collinsia	--/-- G2/S2 1B.2	Annual herb. Bloom period: March-May. Occurs in closed-cone coniferous forest and coastal scrub, occasionally found on serpentine substrates. Elevations: 30-250 meters.	*Low Potential*. Appropriate habitat is potentially present in the BSA in coyote brush scrub-California sagebrush scrub. This species was not observed during botanical surveys.
Dirca occidentalis Western leatherwood	--/-- G2/S2 1B.2	Perennial deciduous shrub. Bloom period: January-April. Occurs in mesic sites and brushy slopes in broadleafed upland forest, closed-cone coniferous forest, chaparral, cismontane woodland, north Coast coniferous forest, riparian forest, and riparian woodland. Elevations: 25-425 meters.	*Unlikely*. Appropriate habitats are not present in the BSA. This species was not observed during botanical surveys.
Elymus californicus California bottle-brush grass	-- / -- G4/S4 4.3	Perennial herb. Bloom period: May-November. Broadleafed upland forest, cismontane woodland, north coast coniferous forest, and riparian woodland. Elevations: 15-470 meters.	*Unlikely*. Appropriate habitats are not present in the BSA. This species was not observed during botanical surveys.
Equisetum palustre Marsh horsetail	-- / -- G5/S1S3 3	Perennial rhizomatous herb. Bloom period: --. Marshes. Elevations: 45-1000 meters.	*Unlikely*. Appropriate wetland habitats are not present in the BSA. This species was not observed during botanical surveys.
Eriophyllum latilobum San Mateo woolly sunflower	FE/SE G1/S1 1B.1	Perennial herb. Bloom period: May-June. Cismontane woodland (often serpentinite and on roadcuts). Elevations: 45-150 meters.	*Unlikely*. Appropriate habitats are not present in the BSA. This species was not observed during botanical surveys.
Erysimum franciscanum San Francisco wallflower	--/-- G3/S3 4.2	Perennial herb. Bloom period: March-June. Occurs in chaparral, coastal dunes, coastal scrub, and valley and foothill grasslands. Often serpentinite or granitic, sometimes roadsides. Elevations: 0-550 meters.	*Low Potential*. Present at PPH but there is a low potential for it to be present in the BSA. Suitable microhabitat is probably not present in the BSA.

Scientific Name	Status Fed/State ESA G-Rank/S-Rank CRPR	Habitat Requirements	Rationale
Fritillaria biflora var. *ineziana* Hillsborough chocolate lily	--/-- G1QT1Q/S1 1B.1	Perennial bulbiferous herb. Bloom period: March-April. Occurs on serpentine substrates in cismontane woodland and valley and foothill grassland. Elevations: 90-160 meters.	*Unlikely*. Appropriate serpentinite substrates are not present in the BSA. This species was not observed during botanical surveys.
Fritillaria lanceolata var. *tristulis* Marin checker lily	--/-- G5T2/S2 1B.1	Perennial bulbiferous herb. Bloom period: February-May. Coastal bluff scrub, coastal prairie, and coastal scrub. Elevations: 15-150 meters.	*Low Potential*. Appropriate habitat is potentially present in the BSA in coyote brush scrub-California sagebrush scrub. This species was not observed during botanical surveys.
Fritillaria liliacea Fragrant fritillary	--/-- G2/S2 1B.2	Perennial bulbiferous herb. Bloom period: February-April. Often occurs on serpentine substrates within cismontane woodland, coastal prairie, coastal scrub, and valley and foothill grassland. Elevations: 3-410 meters.	*Low Potential*. Appropriate habitat is potentially present in the BSA in coyote brush scrub-California sagebrush scrub. This species was not observed during botanical surveys.
Gilia capitata ssp. *chamissonis* Blue coast gilia	--/-- G5T2/S2 1B.1	Annual herb. Bloom period: April-July. Coastal dunes and coastal scrub. Elevations: 2-200 meters.	*Low Potential*. Appropriate habitat is potentially present in the BSA in coyote brush scrub-California sagebrush scrub. This species was not observed during botanical surveys.
Grindelia hirsutula var. *maritima* San Francisco gumplant	--/-- G5T1Q/S1 3.2	Perennial herb. Bloom period: June-September. Sandy or serpentinite substrates in coastal bluff scrub, coastal scrub, and valley and foothill grassland. Elevations: 15-400 meters.	*Low Potential*. Appropriate habitat is potentially present in the BSA in coyote brush scrub-California sagebrush scrub. This species was not observed during botanical surveys.
Helianthella castanea Diablo helianthella	--/-- G2/S2 1B.2	Perennial herb. Bloom period: March-June. Broadleafed upland forest, chaparral, cismontane woodland, coastal scrub, riparian woodland, and valley and foothill grassland. Elevations: 60-1300 meters.	*Low Potential*. Appropriate habitat is potentially present in the BSA in coyote brush scrub-California sagebrush scrub. This species was not observed during botanical surveys.
Hemizonia congesta ssp. *congesta* Congested-headed hayfield tarplant	--/-- G5T1T2/S1S2 1B.2	Perennial herb. Bloom period: April-November. Valley and foothill grassland, and sometimes roadsides. Elevations: 20-560 meters.	*Low Potential*. Appropriate habitat is potentially present in the BSA in coyote brush scrub-California sagebrush scrub, red fescue grassland, or Pacific reed grass meadows. This species was not observed during botanical surveys.

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Hesperevax sparsiflora var. *brevifolia* Short-leaved evax	--/-- G4T3/S2 1B.2	Annual herb. Bloom period: March-June. Coastal bluff scrub (sandy), coastal dunes and coastal prairie. Elevations: 0-215 meters.	*Low Potential*. Appropriate habitat is potentially present in the BSA in coyote brush scrub-California sagebrush. This species was not observed during botanical surveys.
Hesperolinon congestum Marin western flax	FT/ST G2/S2 1B.1	Annual herb. Bloom period: April-July. Occurs on serpentine substrates within chaparral, and valley and foothill grassland. Elevations: 5 - 370 meters.	*Unlikely*. Appropriate serpentinite substrates are not present in the BSA. This species was not observed during botanical surveys.
Heteranthera dubia water star-grass	--/-- G5/S1 2B.2	Perennial herb. Bloom period: July-October. Alkaline, still or slow-moving water in marshes. Requires a pH of 7 or higher, usually in slightly eutrophic waters. Elevations: 30-1495 meters.	*Unlikely*. Appropriate wetland habitat is not present in the BSA. This species was not observed during botanical surveys.
Horkelia cuneata var. *sericea* Kellogg's horkelia	--/-- G4T2/S2? 1B.1	Perennial herb. Bloom Period: April-September, Occurs in closed-cone conifer forest, maritime chaparral, coastal dunes, and coastal scrub on sandy or gravelly soils, often in open areas. Elevations: 10-200 meters.	*Low Potential*. Appropriate habitat is potentially present in the BSA in coyote brush scrub-California sagebrush. This species was not observed during botanical surveys.
Horkelia marinensis Point Reyes horkelia	--/-- G2/S2 1B.2	Perennial herb. Bloom period: May-September. Occurs in sandy areas near the coast within coastal dunes, coastal prairie, and coastal scrub. Elevations: 5-755 meters.	*Low Potential*. Appropriate habitat is potentially present in the BSA in coyote brush scrub-California sagebrush. This species was not observed during botanical surveys.
Iris longipetala Coast iris	--/-- G3/S3 4.2	Perennial rhizomatous herb. Bloom period: March-May. Seeps and mesic areas in coastal prairie, lower montane coniferous forest, and meadows. Elevations: 0-600 meters.	*Low Potential*. Appropriate habitat is potentially present in the BSA in coyote brush scrub-California sagebrush at the ephemeral stream along the Arroyo Trail. This species was not observed during botanical surveys.
Layia carnosa Beach layia	FE/SE G2/S2 1B.1	Annual herb. Bloom period: March-July. Occurs in coastal dunes and sandy coastal scrub. Elevations: 0-196 meters.	*Unlikely*. The BSA is outside the range of this species. This species was not observed during botanical surveys.
Leptosiphon ambiguus Serpentine leptosiphon	--/-- G4/S4 4.2	Annual herb. Bloom period: March-June. Usually serpentinite in cismontane woodland, coastal scrub, and valley and foothill grassland. Elevations: 120-1130 meters.	*Low Potential*. Appropriate habitat is potentially present in the BSA in coyote brush scrub-California sagebrush. This species was not observed during botanical surveys.

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Leptosiphon croceus Coast yellow leptosiphon	--/-- G1/S1 1B.1	Annual herb. Bloom period: April-May. Occurs in coastal bluff scrub and coastal prairie. Elevations: 10-150 meters.	*Low Potential*. Appropriate habitat is potentially present in the BSA in coyote brush scrub-California sagebrush. This species was not observed during botanical surveys.
Leptosiphon rosaceus Rose leptosiphon	--/-- G1/S1 1B.1	Annual herb. Bloom period: April-July. Occurs in coastal bluff scrub. Elevations: 0-100 meters.	*Low Potential*. Appropriate habitat is potentially present in the BSA in coyote brush scrub-California sagebrush. This species was not observed during botanical surveys.
Lessingia arachnoidea Crystal Springs lessingia	--/-- G1/S1 1B.2	Annual herb. Bloom period: July-October. Occurs in serpentine substrates and often on roadsides within cismontane woodland, coastal scrub, and valley and foothill grassland. Elevations: 60-200 meters.	*Unlikely*. Appropriate serpentinite substrates are not present in the BSA. This species was not observed during botanical surveys.
Lessingia germanorum San Francisco lessingia	FE/SE G1/S1 1B.1	Annual herb. Bloom period: June-November. Coastal scrub (remnant dunes).	*Unlikely*. Appropriate habitat is not present in the BSA. This species was not observed during botanical surveys.
Lessingia hololeuca woolly-headed lessingia	--/-- G3?/S3? 3	Annual herb. Bloom period: June-October. Clay and serpentinite substrates on broadleafed upland forest, coastal scrub, lower montane coniferous forest, and valley and foothill grassland. Elevations: 15-305 meters.	*Unlikely*. Appropriate serpentinite substrates are not present in the BSA. This species was not observed during botanical surveys.
Lilium maritimum coast lily	--/-- G2/S2 1B.1	Perennial bulbiferous herb. Bloom period: May-August. Broadleafed upland forest, closed-cone coniferous forest, coastal prairie, coastal scrub, freshwater marshes, north coast coniferous forest, and sometimes roadsides. Elevations: 5-475 meters.	*Low Potential*. Appropriate habitat is potentially present in the BSA in coyote brush scrub-California sagebrush. This species was not observed during botanical surveys.
Limnanthes douglasii ssp. *ornduffii* Ornduff's meadowfoam	--/-- G4T1/S1 1B.1	Annual herb. Bloom period: November-May. Mesic meadows, freshwater-marsh, vernal-pools, and seeps, and agricultural fields. Elevations: 10-20 meters.	*Unlikely*. Appropriate mesic habitats are not present in the BSA. This species was not observed during botanical surveys.
Lupinus arboreus var. *eximius* San Mateo tree lupine	--/-- G2Q/S2 3.2	Perennial evergreen shrub. Bloom period: April-July. Chaparral and coastal scrub. Elevations: 90-550 meters.	*Low Potential*. Appropriate habitat is potentially present in the BSA in coyote brush scrub-California sagebrush. This species was not observed during botanical surveys.

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Malacothamnus aboriginum Indian Valley bush-mallow	--/-- G2/S2 1B.2	Perennial deciduous shrub. Bloom period: April-October. Rocky, granitic, often in burned areas in chaparral and cismontane woodland. Elevations: 150-1700 meters.	*Unlikely*. Appropriate habitats is not present in the BSA. This species was not observed during botanical surveys.
Malacothamnus arcuatus Arcuate bush-mallow	--/-- G1Q/S1 1B.2	Perennial evergreen shrub. Bloom period: April-September. Occurs in chaparral and cismontane woodland. Elevations: 15-355 meters.	*Unlikely*. Appropriate habitats is not present in the BSA. This species was not observed during botanical surveys.
Malacothamnus davidsonii Davidson's bush-mallow	--/-- G2/S2 1B.2	Perennial deciduous shrub. Bloom period: June-January. Chaparral, cismontane woodland, coastal scrub, and riparian woodland. Elevations: 185-855 meters.	*Low Potential*. Appropriate habitat is potentially present in the BSA in coyote brush scrub-California sagebrush. This species was not observed during botanical surveys.
Malacothamnus hallii Hall's bush-mallow	--/-- G2Q/S2 1B.2	Perennial evergreen shrub. Bloom period: May-October. Chaparral and coastal scrub. Elevations: 10-760 meters.	*Low Potential*. Appropriate habitat is potentially present in the BSA in coyote brush scrub-California sagebrush. This species was not observed during botanical surveys.
Monardella sinuata ssp. *nigrens* Northern curly-leaved monardella	--/-- G3T2/S1 1B.2	Annual herb. Bloom period: April-Sept. In northern California, occurs in sandy soils in coastal dunes, coastal scrub, and lower montane coniferous forest. Elevations: 0-300 meters.	*Low Potential*. Appropriate habitat is potentially present in the BSA in coyote brush scrub-California sagebrush. This species was not observed during botanical surveys.
Monolopia gracilens Woodland woolythreads	--/-- G2G3/S2S3 1B.2	Annual herb. Bloom period: February-July. Occurs on serpentine substrates in openings within broadleafed upland forest, north coast coniferous forest, chaparral, cismontane woodland, and valley and foothill grassland. Elevations: 100-1200 meters.	*Unlikely*. Appropriate serpentinite substrates are not present in the BSA. This species was not observed during botanical surveys.
Pedicularis dudleyi Dudley's lousewort	--/-- G2/S2 1B.2	Perennial herb. Bloom period: April-June. Chaparral (maritime), cismontane woodland, north coast coniferous forest, and valley and foothill grassland. Elevations: 60-900 meters.	*Unlikely*. Appropriate habitats are not present in the BSA. This species was not observed during botanical surveys.
Pentachaeta bellidiflora White-rayed pentachaeta	FE/SE G1/S1 1B.1	Annual herb. Bloom period: March-May. Occurs in cismontane woodland, and valley and foothill grassland (often serpentinite). Elevations: 35-620 meters.	*Low Potential*. Appropriate habitat is potentially present in the BSA in coyote brush scrub-California sagebrush. This species was not observed during botanical surveys.

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Piperia michaelii Michael's rein orchid	-- / -- G3/S3 4.2	Perennial herb. Bloom period: April-August. Occurs in Coastal bluff scrub, closed-cone coniferous forest, chaparral, cismontane woodland, coastal scrub, and lower montane coniferous forest. Elevation: 3-915 meters.	*Present*. Occurs in the BSA along the Bluff Trail. Two individuals were found during botanical surveys conducted in 2015. Additional individuals are potentially present in coyote brush scrub-California sagebrush scrub the BSA.
Plagiobothrys chorisianus var. *chorisianus* Choris' popcorn-flower	-- / -- G3T2Q/S2 1B.2	Annual herb. Bloom period: March-June. Occurs in mesic areas in chaparral, coastal prairie, and coastal scrub. Elevations: 15-160 meters.	*Unlikely*. Appropriate mesic habitats are not present in the BSA. This species was not observed during botanical surveys.
Polemonium carneum Oregon polemonium	-- / -- G3G4/S2 2B.2	Perennial herb. Bloom period: April-September. Coastal prairie, coastal scrub, and lower montane coniferous forest. Elevations: 0-1830 meters.	*Low Potential*. Appropriate habitat is potentially present in the BSA in coyote brush scrub-California sagebrush. This species was not observed during botanical surveys.
Polygonum marinense Marin knotweed	-- / -- G2Q/S2 3.1	Annual herb. Bloom period: April-October. Coastal salt marshes and brackish marshes. Elevations: 0-10 meters.	*Unlikely*. Appropriate marsh habitats are not present in the BSA. This species was not observed during botanical surveys.
Potentilla hickmanii Hickman's cinquefoil	FE / SE G1/S1 1B.1	Perennial herb. Bloom period: April-August. Seeps (vernally mesic) and freshwater marshes within coastal bluff scrub, closed-cone coniferous forest, and meadows. Elevations: 10-149 meters.	*Unlikely*. Appropriate wetland habitats are not present in the BSA. This species was not observed during botanical surveys.
Ranunculus lobbii Lobb's aquatic buttercup	-- / -- G4/S3 4.2	Annual herb. Bloom period: February-May. Vernal pools, seasonal wetlands, and marshes in cismontane woodland, north coast coniferous forest, and valley and foothill grassland. Elevations: 15-470 meters.	*Unlikely*. Appropriate aquatic habitats are not present in the BSA. This species was not observed during botanical surveys.
Sanicula maritima adobe sanicle	--/SR G2/S2 1B.1	Perennial herb. Bloom period: February-May. Clay, serpentinite substrates in chaparral, coastal prairie, meadows and seeps, and valley and foothill grassland. Elevations: 30-240 meters.	*Unlikely*. Appropriate serpentinite substrates are not present in the BSA. This species was not observed during botanical surveys.
Silene verecunda ssp. *verecunda* San Francisco campion	--/-- G5T2/S2 1B.2	Perennial herb. Bloom period: March-August. Occurs in coastal bluff scrub, chaparral, coastal prairie, coastal scrub, and valley and foothill grassland; often on mudstone or shale; one site on serpentine. Elevations: 30-240 meters.	*Low Potential*. Appropriate habitat is potentially present in the BSA in coyote brush scrub-California sagebrush. This species was not observed during botanical surveys.

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Suaeda californica California seablite	FE/-- G1/S1 1B.1	Perennial evergreen shrub. Bloom period: July-October. Coastal salt marshes. Elevations: 0-15 meters.	*Unlikely*. Appropriate salt marsh habitats are not present in the BSA. This species was not observed during botanical surveys.
Trifolium amoenum two-fork clover	FE/-- G1/S1 1B.1	Annual herb. Bloom period: April-June. Occurs in coastal bluff scrub and valley and foothill grassland (sometimes serpentinite). Elevations: 105-610 meters.	*Low Potential*. Appropriate habitat is potentially present in the BSA in coyote brush scrub-California sagebrush. This species was not observed during botanical surveys.
Trifolium hydrophilum saline clover	--/-- G2/S2 1B.2	Annual herb. Bloom period: April-June. Occurs in mesic, alkaline areas in vernal pools, seasonal wetlands, and marshes within valley and foothill grassland. Elevations: 0-300 meters.	*Unlikely*. Appropriate mesic, alkaline habitats are not present in the BSA. This species was not observed during botanical surveys.
Triphysaria floribunda San Francisco owl's-clover	--/-- G2/S2 1B.2	Annual herb. Bloom period: April-June. Usually occurs on serpentine substrates within coastal prairie, coastal scrub, and valley and foothill grassland. Elevations: 10-160 meters.	*Low Potential*. Appropriate habitat is potentially present in the BSA in coyote brush scrub-California sagebrush. This species was not observed during botanical surveys.
Triquetrella californica Coastal triquetrella	--/-- G2/S2 1B.2	Moss. Grows on soil in coastal bluff scrub and coastal scrub. Elevations: 10-100 meters.	*Low Potential*. Appropriate habitat is potentially present in the BSA in coyote brush scrub-California sagebrush. This species was not observed during botanical surveys.

Scientific Name Common Name	Status Fed/State ESA G-Rank/S-Rank CDFW	Habitat Requirements	Potential for Occurrence
Invertebrates			
Callophrys mossii bayensis San Bruno elfin butterfly	FE/-- G4T1/S1 --	Occurs in grasslands on steep, north-facing slopes in coastal mountainous areas, mainly in the vicinity of San Bruno Mountain, San Mateo County. Larval host plant is *Sedum spathulifolium*.	*No Potential.* No suitable habitat occurs in the BSA. The host plant *Sedum spathulifolium* is not present in the BSA or PPH.
Danaus plexippus Monarch butterfly	--/-- G5/S3 --	Roosts in wind-protected tree groves (eucalyptus, Monterey pine, cypress) with nectar and water sources nearby. Species is common in general, but overwintering habitat protected by California Coastal Act.	*Low potential.* Monterey pine and blue gum stands in the BSA could potentially provide overwintering and roosting habitat; however, the BSA and immediate vicinity lack of a perennial water source. No observations were made during 2015 reconnaissance survey or other surveys, including the winter 1994 surveys.
Euphydryas editha bayensis Bay checkerspot butterfly	FT/-- G5T1/S1 --	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.	*No Potential.* No suitable serpentinite habitats occurs in the BSA.
Plebejus icarioides missionensis Mission blue butterfly	FE/-- G5T1/S1 --	Inhabits coastal prairies of the San Francisco peninsula. Three larval host plants: *Lupinus albifrons, L. variicolor*, and *L. formosus*, of which *L. albifrons* is favored.	*Low Potential.* One of the host plants, *L. variicolor* occurs within the BSA, however this plant species and open grasslands are limited and disturbed. Suitable habitat at other portions of the PPH are also limited.
Speyeria callippe callippe callippe silverspot butterfly	FE/-- G5T1/S1 --	Restricted to the northern coastal scrub of the San Francisco peninsula. Host plant is *Viola pedunculata*. Most adults found on east-facing slopes; males congregate on hilltops in search of females.	*No Potential.* Not expected to occur in the BSA. No suitable habitat occurs in the BSA. The host plant, *Viola pedunculata*, has not been observed in the BSA or the PPH during site surveys. This species has a very limited distribution in San Mateo County, primarily at San Bruno Mountain.
Speyeria zerene myrtleae Myrtle's silverspot butterfly	FE/-- G5T1/S1 --	Restricted to the foggy, coastal dunes/hills of the Point Reyes peninsula; extirpated from coastal San Mateo County. Larval food plant thought to be *Viola adunca*.	*No Potential.* No suitable habitat occurs in the BSA. The host plant *Viola adunca* is present at PPH (Vasey 1994). However, dunes are not present in the BSA or at PPH. In addition, this species is thought to be extirpated from coastal San Mateo County (CDFW 2015).
Fish			

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Eucyclogobius newberryi Tidewater goby	FE/-- G3/S3 SSC	Brackish water habitats along the California coast from San Diego county to Del Norte county.	*No Potential.* Not expected to occur in the BSA. No suitable habitat occurs in the BSA.
Hypomesus transpacificus Delta smelt	FT/SE G1/S1 --	Sacramento-San Joaquin Delta. Seasonally in Suisun Bay, Carquinez Strait and San Pablo Bay. Seldom found at salinities > 10 ppt. Most often at salinities < 2ppt.	*No Potential.* Not expected to occur in the BSA. No suitable habitat occurs in the BSA.
Mylopharodon conocephalus hardhead	--/-- G3/S3 SSC	Low to mid-elevation streams in the Sacramento-San Joaquin drainage. Also present in the Russian River. Clear, deep pools with sand-gravel-boulder bottoms and slow water velocity. Not found where exotic centrarchids predominate.	*No Potential.* Not expected to occur in the BSA. No suitable habitat occurs in the BSA.
Oncorhynchus mykiss irideus Steelhead – central California coast DPS	FT/-- G5T2T3Q/S2S3 --	From Russian River, south to Soquel Creek and to, but not including, Pajaro River. Also San Francisco and San Pablo Bay basins.	*No Potential.* Not expected to occur in the BSA. No suitable habitat occurs in the BSA.
Spirinchus thaleichthys long fin smelt	FC/ST G5/S1 FP	Euryhaline, nektonic and anadromous. Found in open waters of estuaries, mostly in middle or bottom of water column.	*No Potential.* Not expected to occur in the BSA. No suitable habitat occurs in the BSA.
Amphibians			
Ambystoma californiense California tiger salamander Central CA DPS	FT/ST G2G3/S2S3 SSC	Breeding and aestivation habitat includes vernal pools, seasonal and perennial ponds, and surrounding upland areas in grassland and oak savannah.	*No Potential.* Not expected to occur in the BSA. No suitable breeding habitat occurs in the BSA. Not documented within 1 mile of the BSA (Figure 4). There is only one record in the six-quad CNDDB search in Woodside, CA and it is extirpated. No observations were made during site surveys.
Rana draytonii California red-legged frog	FT/-- G2G3/S2S3 SSC	Semi-permanent or permanent water at least 2 feet deep, bordered by emergent or riparian vegetation, and upland grassland, forest or scrub habitats for refugia and dispersal.	*Moderate Potential.* No suitable breeding habitat occurs in the BSA or PPH. However, the BSA and PPH provide suitable non-breeding habitat. The closest CNDDB record of breeding habitat is 0.3 mile from the BSA in San Pedro Creek. No observations were made during surveys.
Reptiles			
Actinemys marmorata	--/-- G3G4/S3	Rivers, ponds, freshwater marshes; nests in upland areas (sandy banks	*No Potential.* Not expected to occur in the BSA. No suitable

Scientific Name Common Name	Status Fed/State ESA G-Rank/S-Rank CDFW	Habitat Requirements	Potential for Occurrence
[=Emys marmorata] Western pond turtle	SSC	or grassy open fields) up to 1,640 feet from water.	habitat occurs in the BSA. No observations were made during surveys.
Thamnophis sirtalis tetrataenia San Francisco garter snake	FE/SE G5T2Q/S2 --	Freshwater marshes, ponds, seasonal wetlands, and slow moving streams. Prefers dense cover and water depths of at least one foot. Grasslands and open shrublands near water are important for hunting, basking, and refuge in small mammal burrows.	*No Potential.* Not expected to occur in the BSA. No suitable habitat occurs in the BSA. No observations were made during surveys.
Birds			
Asio flammeus Short-eared owl	--/-- G5/S3 SSC	Occurs in open areas with few trees and grasslands, dunes, meadows, and irrigated croplands. Frequents saline and emergent wetlands. Nests on the ground in prairies, tundra, savannahs, or meadows with enough vegetation to conceal the incubating female.	*Low Potential.* Observed at PPH in 1994, but it was probably a migrant. No suitable nesting or foraging habitat occurs in BSA. No observations were made during reconnaissance surveys.
Athene cunicularia Burrowing owl	--/-- G4/S3 SSC	Occurs in open dry grasslands and desert habitats characterized by low-growing vegetation. Also occurs in open areas within pinyon-juniper shrublands.	*No Potential.* Not expected to occur in the BSA. No suitable habitat occurs in the BSA. No observations were made during surveys.
Brachyramphus marmoratus Marbled murrelet	FT/SE G3G4/S1 --	Feeds near-shore; nests inland along coast from Eureka to Oregon border & from Half Moon Bay to Santa Cruz. Nests in old-growth redwood-dominated forests, up to six miles inland, often in Douglas fir.	*No Potential.* Not expected to occur in the BSA. No suitable habitat occurs in the BSA. No observations were made during surveys.
Charadrius alexandrinus nivosus Western snowy plover	FT/-- G3T3/S2 SSC	Sandy beaches, salt pond levees or shores of large alkali lakes. Sandy, gravelly or friable soils required for nesting.	*No Potential.* Not expected to occur in the BSA. No suitable habitat occurs in the BSA. No observations were made during site surveys.
Cypseloides niger Black swift	--/-- G4/S2 SSC	Breeds in coastal belt in small colonies on cliffs behind or adjacent to waterfalls in deep canyons and sea-bluffs above the surf; forages widely.	*No Potential.* Not expected to occur in the BSA because the BSA is outside the known range of this species. This species occurs in the coastal belt of Santa Cruz & Monterey Co; central & southern Sierra Nevada; San Bernardino and San Jacinto Mountains (CDFW 2015). There is one CNDDB occurrence in southern San Mateo County at Año Nuevo Point.

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Falco peregrinus anatum American peregrine falcon	DL/DL G4T4/S3S4 FP	Forages near wetlands, lakes, rivers, or other water on cliffs, banks, dunes, mounds; also, human-made structures. Nest consists of a scrape or a depression or ledge in an open site.	*High potential.* Observed at the PPH at San Pedro Rock. Historically but not currently known to nest at PPH. Nesting habitat is unlikely to occur within the BSA, however suitable foraging habitat does occur in the BSA. No observations were made during site surveys.
Geothlypis trichas sinuosa Salt marsh common yellowthroat	--/-- G5T3/S3 SSC	Resident of the San Francisco Bay region, in fresh and salt water marshes. Requires thick, continuous cover down to water surface for foraging; tall grasses, tule patches, and willows for nesting.	*No Potential.* Not expected to occur in the BSA. No suitable habitat occurs in the BSA. No observations were made during site surveys.
Lanius ludovicianus Loggerhead shrike	--/-- G4/S4 SSC	Broken woodlands, savannah, pinyon-juniper, Joshua tree, riparian woodlands, desert oases, scrub and washes. Prefers open country for hunting, with perches for scanning, and fairly dense shrubs and brush for nesting.	*Low potential.* Breeding habitat potentially occurs in the BSA in Monterey pine forests. Open foraging habitat in the BSA is limited.
Laterallus jamaicensis coturniculus California black rail	--/ST G3G4T1/S1 --	Inhabits freshwater marshes, wet meadows and shallow margins of saltwater marshes bordering larger bays. Needs water depths of about 1 inch that do not fluctuate during the year and dense vegetation for nesting habitat.	*No Potential.* Not expected to occur in the BSA. No suitable habitat occurs in the BSA. No observations were made during site surveys.
Melospiza melodia pusillula Alameda song sparrow	--/-- G5T2? /S2? SSC	Resident of salt marshes bordering south arm of San Francisco Bay. Inhabits *Salicornia* spp. marshes; nests low in *Grindelia* spp. shrubs (high enough to escape high tides) and in *Salicornia* spp..	*No Potential.* Not expected to occur in the BSA. No suitable habitat occurs in the BSA.
Pelecanus occidentalis californicus California brown pelican	FD/SD GT/S3 FP	Colonial nester on coastal islands just outside the surf line. Nests on coastal islands of small to moderate size which afford immunity from attack by ground-dwelling predators. Roosts communally.	*High potential.* Observed roosting at the PPH on San Pedro Rock. Nesting habitat is not present within the BSA or PPH. They forage offshore primarily for fish, so the BSA is not likely to provide important habitat for this species. No observations were made during site reconnaissance survey.
Phoebastria [diomedea] albatrus Short-tailed albatross	FE/-- G1/S1 SSC	Nest on a few small volcanic islands near Japan. Can be observed off the Pacific coast from California they hunt for aquatic prey.	*No Potential.* Not expected to occur in the BSA. No suitable habitat occurs in the BSA.

Scientific Name Common Name	Status Fed/State ESA G-Rank/S-Rank CDFW	Habitat Requirements	Potential for Occurrence
Rallus longirostris obsoletus California clapper rail	FE/SE G5T1/S1 --	Saline and brackish marshes traversed by tidal sloughs in the vicinity of San Francisco Bay.	*No Potential.* Not expected to occur in the BSA. No suitable habitat occurs in the BSA.
Riparia riparia bank swallow	--/ST G5/S2 --	Colonial nester. Nests primarily in riparian and other lowland habitats west of the desert. Requires vertical banks/cliffs with fine-textured/sandy soils near streams, rivers, lakes, ocean to dig nesting hole.	*Moderate potential.* Breeding habitat is unlikely to occur within the BSA, however a through survey of the ocean facing slopes along the Bluff Trail was not conducted. Most of these slopes in the BSA support dense scrub, with the exception of a few open, barren areas. No observations were made during site surveys.
Sternula antillarum browni California Least tern	FE/SE G4T2T3Q/S2 FP	Nests along the coast from San Francisco Bay south to northern Baja California. Colonial breeder on bare or sparsely vegetated, flat substrates including sand beaches, alkali flats, landfills, or paved areas.	*No Potential.* Not expected to occur in the BSA. No suitable habitat occurs in the BSA. No observations were made during site surveys.
Mammals			
Antrozous pallidus Pallid bat	--/-- G5/S3 SSC	Deserts, grasslands, shrublands, woodlands, and forest. Most common in open, dry, habitats with rocky area for roosting. Roosts in rock crevices, cliffs, tree hollows, buildings, bridges, caves, and mines. Roost must protect bats from high temperatures. Very sensitive to disturbance of roosting sites.	*Low Potential.* This species could roost and forage in all habitats in the BSA. Rock outcrops are present throughout the site. Few water sources are in the vicinity of the BSA. No observations were made during surveys.
Corynorhinus townsendii Townsend's big-eared bat	--/CT G3G4/S2 SSC	Variety of habitats in California, especially mesic habitats. Requires caves, tunnels, mines, or abandon buildings for roosting. Roosting sites are limiting. Extremely sensitive to human disturbance.	*No Potential.* Not expected to occur in the BSA. No suitable habitat occurs in the BSA. No observations were made during surveys.
Neotoma fuscipes annectens San Francisco dusky-footed woodrat	--/-- G5T2T3/S2S3 SSC	Typically inhabits chaparral and forest and oak woodland habitats, with a moderate canopy and a moderate to dense understory. May prefer chaparral and redwood habitats. Builds nests/middens in suitable habitat and lives in these structures year-round.	*Moderate Potential.* This species has potential to occur in the BSA in Monterey pine forests, eucalyptus groves, and coyote brush scrub-California sagebrush scrub. No observations were made during site surveys.
Nyctinomops macrotis big free-tailed	--/-- G5/S3 SSC	Low-lying arid areas mainly in Southern California. Need high cliffs or rocky outcrops for roosting sites. Feeds principally on large moths.	*Low Potential.* Roosting habitat potentially occurs in the BSA. Rocky outcrops are present in the BSA. Open foraging habitat in the BSA is

Scientific Name **Common Name**	**Status** **Fed/State ESA** **G-Rank/S-Rank** **CDFW**	**Habitat Requirements**	**Potential for Occurrence**
bat			limited. Few water sources are adjacent to the BSA.
Reithrodontomys raviventris salt-marsh harvest mouse	FE/SE G1G2/S1S2 ---	Only in the saline emergent wetlands of San Francisco Bay and its tributaries.	*No Potential.* Not expected to occur in the BSA. No suitable habitat occurs in the BSA.
Taxidea taxus American badger	--/-- G5/S3 SSC	Most abundant in drier open stages of most shrub, forest, and herbaceous habitats with friable soils. Needs sufficient food, friable soils, and open uncultivated ground. Cannot live in frequently plowed fields. Preys on burrowing rodents.	*No Potential.* Not expected to occur in the BSA. No suitable habitat occurs in the BSA.

Appendix D

Noise Measurements Results

Freq Weight : A
Time Weight : FAST
Level Range : 40-100
Max dB : 87.6 ~ 2015/11/12 12:52:18
Level Range : 40-100
SEL : 99.5
Leq : 70.0

No.s	Date Time	(dB)
1	2015/11/12 12:38:47	65.3
2	2015/11/12 12:38:48	62.3
3	2015/11/12 12:38:49	52.7
4	2015/11/12 12:38:50	47.4
5	2015/11/12 12:38:51	47.5
6	2015/11/12 12:38:52	48.8
7	2015/11/12 12:38:53	51.9
8	2015/11/12 12:38:54	59.9
9	2015/11/12 12:38:55	71.3
10	2015/11/12 12:38:56	74.2
11	2015/11/12 12:38:57	74.7
12	2015/11/12 12:38:58	73.6
13	2015/11/12 12:38:59	72.1
14	2015/11/12 12:39:00	74.0
15	2015/11/12 12:39:01	72.5
16	2015/11/12 12:39:02	73.3
17	2015/11/12 12:39:03	72.7
18	2015/11/12 12:39:04	76.1
19	2015/11/12 12:39:05	83.0
20	2015/11/12 12:39:06	79.3
21	2015/11/12 12:39:07	76.1
22	2015/11/12 12:39:08	71.7
23	2015/11/12 12:39:09	67.4
24	2015/11/12 12:39:10	64.7
25	2015/11/12 12:39:11	62.1
26	2015/11/12 12:39:12	64.8
27	2015/11/12 12:39:13	67.5
28	2015/11/12 12:39:14	69.9
29	2015/11/12 12:39:15	71.6
30	2015/11/12 12:39:16	71.2
31	2015/11/12 12:39:17	67.4
32	2015/11/12 12:39:18	62.2
33	2015/11/12 12:39:19	57.1
34	2015/11/12 12:39:20	54.0
35	2015/11/12 12:39:21	53.4
36	2015/11/12 12:39:22	55.3
37	2015/11/12 12:39:23	50.3
38	2015/11/12 12:39:24	50.3
39	2015/11/12 12:39:25	52.0
40	2015/11/12 12:39:26	58.6
41	2015/11/12 12:39:27	64.3
42	2015/11/12 12:39:28	65.1
43	2015/11/12 12:39:29	69.1
44	2015/11/12 12:39:30	72.0
45	2015/11/12 12:39:31	68.2
46	2015/11/12 12:39:32	62.1
47	2015/11/12 12:39:33	61.8
48	2015/11/12 12:39:34	65.6
49	2015/11/12 12:39:35	69.4
50	2015/11/12 12:39:36	75.3
51	2015/11/12 12:39:37	77.8
52	2015/11/12 12:39:38	74.1
53	2015/11/12 12:39:39	73.9
54	2015/11/12 12:39:40	72.9
55	2015/11/12 12:39:41	72.4
56	2015/11/12 12:39:42	69.9
57	2015/11/12 12:39:43	70.1
58	2015/11/12 12:39:44	73.3
59	2015/11/12 12:39:45	71.3
60	2015/11/12 12:39:46	70.8
61	2015/11/12 12:39:47	72.0
62	2015/11/12 12:39:48	69.7
63	2015/11/12 12:39:49	68.0
64	2015/11/12 12:39:50	69.4
65	2015/11/12 12:39:51	72.7
66	2015/11/12 12:39:52	68.2
67	2015/11/12 12:39:53	60.3
68	2015/11/12 12:39:54	53.0
69	2015/11/12 12:39:55	52.3
70	2015/11/12 12:39:56	43.8
71	2015/11/12 12:39:57	48.6
72	2015/11/12 12:39:58	49.7
73	2015/11/12 12:39:59	52.8
74	2015/11/12 12:40:00	54.2
75	2015/11/12 12:40:01	62.2
76	2015/11/12 12:40:02	76.5
77	2015/11/12 12:40:03	74.9
78	2015/11/12 12:40:04	79.1
79	2015/11/12 12:40:05	78.3
80	2015/11/12 12:40:06	77.0
81	2015/11/12 12:40:07	75.9
82	2015/11/12 12:40:08	72.8
83	2015/11/12 12:40:09	76.5
84	2015/11/12 12:40:10	77.2
85	2015/11/12 12:40:11	73.4

86	2015/11/12	12:40:12	72.9
87	2015/11/12	12:40:13	71.2
88	2015/11/12	12:40:14	67.8
89	2015/11/12	12:40:15	77.3
90	2015/11/12	12:40:16	74.7
91	2015/11/12	12:40:17	75.6
92	2015/11/12	12:40:18	75.4
93	2015/11/12	12:40:19	74.7
94	2015/11/12	12:40:20	75.4
95	2015/11/12	12:40:21	68.8
96	2015/11/12	12:40:22	67.1
97	2015/11/12	12:40:23	77.1
98	2015/11/12	12:40:24	74.9
99	2015/11/12	12:40:25	67.8
100	2015/11/12	12:40:26	64.5
101	2015/11/12	12:40:27	62.7
102	2015/11/12	12:40:28	58.9
103	2015/11/12	12:40:29	54.5
104	2015/11/12	12:40:30	53.3
105	2015/11/12	12:40:31	48.6
106	2015/11/12	12:40:32	47.4
107	2015/11/12	12:40:33	45.5
108	2015/11/12	12:40:34	41.9
109	2015/11/12	12:40:35	40.6
110	2015/11/12	12:40:36	40.2
111	2015/11/12	12:40:37	41.1
112	2015/11/12	12:40:38	42.2
113	2015/11/12	12:40:39	44.6
114	2015/11/12	12:40:40	47.0
115	2015/11/12	12:40:41	49.3
116	2015/11/12	12:40:42	59.9
117	2015/11/12	12:40:43	70.8
118	2015/11/12	12:40:44	74.5
119	2015/11/12	12:40:45	72.2
120	2015/11/12	12:40:46	68.8
121	2015/11/12	12:40:47	74.5
122	2015/11/12	12:40:48	78.6
123	2015/11/12	12:40:49	75.4
124	2015/11/12	12:40:50	75.6
125	2015/11/12	12:40:51	73.8
126	2015/11/12	12:40:52	75.8
127	2015/11/12	12:40:53	72.3
128	2015/11/12	12:40:54	74.1
129	2015/11/12	12:40:55	69.9
130	2015/11/12	12:40:56	66.8
131	2015/11/12	12:40:57	64.9
132	2015/11/12	12:40:58	62.0
133	2015/11/12	12:40:59	64.2
134	2015/11/12	12:41:00	69.0
135	2015/11/12	12:41:01	70.6
136	2015/11/12	12:41:02	72.9
137	2015/11/12	12:41:03	73.9
138	2015/11/12	12:41:04	71.0
139	2015/11/12	12:41:05	69.5
140	2015/11/12	12:41:06	73.1
141	2015/11/12	12:41:07	74.1
142	2015/11/12	12:41:08	75.1
143	2015/11/12	12:41:09	75.8
144	2015/11/12	12:41:10	72.9
145	2015/11/12	12:41:11	67.4
146	2015/11/12	12:41:12	68.0
147	2015/11/12	12:41:13	72.4
148	2015/11/12	12:41:14	72.8
149	2015/11/12	12:41:15	77.6
150	2015/11/12	12:41:16	78.3
151	2015/11/12	12:41:17	78.0
152	2015/11/12	12:41:18	73.4
153	2015/11/12	12:41:19	69.6
154	2015/11/12	12:41:20	72.0
155	2015/11/12	12:41:21	74.7
156	2015/11/12	12:41:22	72.7
157	2015/11/12	12:41:23	69.1
158	2015/11/12	12:41:24	69.5
159	2015/11/12	12:41:25	77.3
160	2015/11/12	12:41:26	75.6
161	2015/11/12	12:41:27	72.3
162	2015/11/12	12:41:28	68.0
163	2015/11/12	12:41:29	70.5
164	2015/11/12	12:41:30	76.4
165	2015/11/12	12:41:31	72.2
166	2015/11/12	12:41:32	66.4
167	2015/11/12	12:41:33	61.2
168	2015/11/12	12:41:34	61.1
169	2015/11/12	12:41:35	60.7
170	2015/11/12	12:41:36	75.5
171	2015/11/12	12:41:37	78.8
172	2015/11/12	12:41:38	77.1
173	2015/11/12	12:41:39	75.6
174	2015/11/12	12:41:40	78.8
175	2015/11/12	12:41:41	75.0
176	2015/11/12	12:41:42	72.5
177	2015/11/12	12:41:43	75.0
178	2015/11/12	12:41:44	69.4
179	2015/11/12	12:41:45	65.5
180	2015/11/12	12:41:46	62.1
181	2015/11/12	12:41:47	59.3
182	2015/11/12	12:41:48	56.1
183	2015/11/12	12:41:49	54.8
184	2015/11/12	12:41:50	53.2

185	2015/11/12	12:41:51	52.1
186	2015/11/12	12:41:52	50.8
187	2015/11/12	12:41:53	50.0
188	2015/11/12	12:41:54	48.9
189	2015/11/12	12:41:55	49.5
190	2015/11/12	12:41:56	47.7
191	2015/11/12	12:41:57	49.6
192	2015/11/12	12:41:58	50.5
193	2015/11/12	12:41:59	52.7
194	2015/11/12	12:42:00	54.9
195	2015/11/12	12:42:01	60.2
196	2015/11/12	12:42:02	66.0
197	2015/11/12	12:42:03	68.7
198	2015/11/12	12:42:04	72.2
199	2015/11/12	12:42:05	71.6
200	2015/11/12	12:42:06	64.2
201	2015/11/12	12:42:07	61.0
202	2015/11/12	12:42:08	61.6
203	2015/11/12	12:42:09	68.0
204	2015/11/12	12:42:10	76.7
205	2015/11/12	12:42:11	76.1
206	2015/11/12	12:42:12	72.9
207	2015/11/12	12:42:13	69.7
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211	2015/11/12	12:42:17	56.8
212	2015/11/12	12:42:18	58.4
213	2015/11/12	12:42:19	60.6
214	2015/11/12	12:42:20	64.0
215	2015/11/12	12:42:21	65.9
216	2015/11/12	12:42:22	68.7
217	2015/11/12	12:42:23	69.7
218	2015/11/12	12:42:24	74.7
219	2015/11/12	12:42:25	74.0
220	2015/11/12	12:42:26	67.1
221	2015/11/12	12:42:27	63.5
222	2015/11/12	12:42:28	58.7
223	2015/11/12	12:42:29	58.8
224	2015/11/12	12:42:30	69.4
225	2015/11/12	12:42:31	75.2
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230	2015/11/12	12:42:36	50.8
231	2015/11/12	12:42:37	49.8
232	2015/11/12	12:42:38	47.0
233	2015/11/12	12:42:39	45.1
234	2015/11/12	12:42:40	45.2
235	2015/11/12	12:42:41	46.9
236	2015/11/12	12:42:42	52.7
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240	2015/11/12	12:42:46	73.9
241	2015/11/12	12:42:47	72.9
242	2015/11/12	12:42:48	68.5
243	2015/11/12	12:42:49	77.4
244	2015/11/12	12:42:50	75.4
245	2015/11/12	12:42:51	69.4
246	2015/11/12	12:42:52	66.1
247	2015/11/12	12:42:53	59.9
248	2015/11/12	12:42:54	58.6
249	2015/11/12	12:42:55	58.8
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251	2015/11/12	12:42:57	77.9
252	2015/11/12	12:42:58	72.9
253	2015/11/12	12:42:59	67.1
254	2015/11/12	12:43:00	63.4
255	2015/11/12	12:43:01	67.3
256	2015/11/12	12:43:02	76.6
257	2015/11/12	12:43:03	74.6
258	2015/11/12	12:43:04	72.0
259	2015/11/12	12:43:05	73.7
260	2015/11/12	12:43:06	68.7
261	2015/11/12	12:43:07	65.5
262	2015/11/12	12:43:08	62.8
263	2015/11/12	12:43:09	61.4
264	2015/11/12	12:43:10	62.4
265	2015/11/12	12:43:11	63.8
266	2015/11/12	12:43:12	68.0
267	2015/11/12	12:43:13	70.3
268	2015/11/12	12:43:14	70.6
269	2015/11/12	12:43:15	72.6
270	2015/11/12	12:43:16	70.8
271	2015/11/12	12:43:17	68.6
272	2015/11/12	12:43:18	67.2
273	2015/11/12	12:43:19	68.2
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275	2015/11/12	12:43:21	76.4
276	2015/11/12	12:43:22	73.6
277	2015/11/12	12:43:23	71.7
278	2015/11/12	12:43:24	75.3
279	2015/11/12	12:43:25	74.6
280	2015/11/12	12:43:26	72.3
281	2015/11/12	12:43:27	67.6
282	2015/11/12	12:43:28	64.4
283	2015/11/12	12:43:29	63.4

284	2015/11/12	12:43:30	68.1
285	2015/11/12	12:43:31	71.6
286	2015/11/12	12:43:32	72.8
287	2015/11/12	12:43:33	69.6
288	2015/11/12	12:43:34	63.5
289	2015/11/12	12:43:35	62.0
290	2015/11/12	12:43:36	71.6
291	2015/11/12	12:43:37	71.3
292	2015/11/12	12:43:38	66.3
293	2015/11/12	12:43:39	62.9
294	2015/11/12	12:43:40	60.6
295	2015/11/12	12:43:41	65.3
296	2015/11/12	12:43:42	69.0
297	2015/11/12	12:43:43	71.1
298	2015/11/12	12:43:44	71.4
299	2015/11/12	12:43:45	71.6
300	2015/11/12	12:43:46	75.3
301	2015/11/12	12:43:47	71.8
302	2015/11/12	12:43:48	73.4
303	2015/11/12	12:43:49	69.8
304	2015/11/12	12:43:50	75.1
305	2015/11/12	12:43:51	78.9
306	2015/11/12	12:43:52	77.6
307	2015/11/12	12:43:53	77.3
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316	2015/11/12	12:44:02	65.9
317	2015/11/12	12:44:03	60.3
318	2015/11/12	12:44:04	57.8
319	2015/11/12	12:44:05	56.2
320	2015/11/12	12:44:06	57.2
321	2015/11/12	12:44:07	57.1
322	2015/11/12	12:44:08	67.2
323	2015/11/12	12:44:09	77.4
324	2015/11/12	12:44:10	80.2
325	2015/11/12	12:44:11	73.4
326	2015/11/12	12:44:12	68.0
327	2015/11/12	12:44:13	71.8
328	2015/11/12	12:44:14	74.2
329	2015/11/12	12:44:15	76.0
330	2015/11/12	12:44:16	74.6
331	2015/11/12	12:44:17	72.9
332	2015/11/12	12:44:18	69.7
333	2015/11/12	12:44:19	69.6
334	2015/11/12	12:44:20	72.7
335	2015/11/12	12:44:21	70.8
336	2015/11/12	12:44:22	66.6
337	2015/11/12	12:44:23	63.5
338	2015/11/12	12:44:24	61.3
339	2015/11/12	12:44:25	58.9
340	2015/11/12	12:44:26	59.6
341	2015/11/12	12:44:27	60.0
342	2015/11/12	12:44:28	58.6
343	2015/11/12	12:44:29	56.0
344	2015/11/12	12:44:30	52.5
345	2015/11/12	12:44:31	53.7
346	2015/11/12	12:44:32	57.7
347	2015/11/12	12:44:33	59.9
348	2015/11/12	12:44:34	61.0
349	2015/11/12	12:44:35	65.4
350	2015/11/12	12:44:36	70.2
351	2015/11/12	12:44:37	78.7
352	2015/11/12	12:44:38	76.2
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356	2015/11/12	12:44:42	61.5
357	2015/11/12	12:44:43	65.7
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364	2015/11/12	12:44:50	79.5
365	2015/11/12	12:44:51	76.1
366	2015/11/12	12:44:52	71.0
367	2015/11/12	12:44:53	68.4
368	2015/11/12	12:44:54	60.8
369	2015/11/12	12:44:55	58.8
370	2015/11/12	12:44:56	55.2
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378	2015/11/12	12:45:04	48.1
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380	2015/11/12	12:45:06	69.8
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795	2015/11/12	12:52:01	51.0
796	2015/11/12	12:52:02	56.7
797	2015/11/12	12:52:03	68.6
798	2015/11/12	12:52:04	74.8
799	2015/11/12	12:52:05	71.5
800	2015/11/12	12:52:06	66.4
801	2015/11/12	12:52:07	64.0
802	2015/11/12	12:52:08	60.4
803	2015/11/12	12:52:09	57.4
804	2015/11/12	12:52:10	54.7
805	2015/11/12	12:52:11	57.1
806	2015/11/12	12:52:12	60.5
807	2015/11/12	12:52:13	62.8
808	2015/11/12	12:52:14	65.9
809	2015/11/12	12:52:15	70.2
810	2015/11/12	12:52:16	75.4
811	2015/11/12	12:52:17	83.3
812	2015/11/12	12:52:18	86.6
813	2015/11/12	12:52:19	80.3
814	2015/11/12	12:52:20	76.8
815	2015/11/12	12:52:21	73.3
816	2015/11/12	12:52:22	69.3
817	2015/11/12	12:52:23	67.0
818	2015/11/12	12:52:24	75.2
819	2015/11/12	12:52:25	74.8
820	2015/11/12	12:52:26	69.0
821	2015/11/12	12:52:27	72.9
822	2015/11/12	12:52:28	78.3
823	2015/11/12	12:52:29	78.4
824	2015/11/12	12:52:30	73.6
825	2015/11/12	12:52:31	68.8
826	2015/11/12	12:52:32	65.1
827	2015/11/12	12:52:33	61.7
828	2015/11/12	12:52:34	64.6
829	2015/11/12	12:52:35	74.4
830	2015/11/12	12:52:36	73.1
831	2015/11/12	12:52:37	75.9
832	2015/11/12	12:52:38	72.3
833	2015/11/12	12:52:39	69.4
834	2015/11/12	12:52:40	64.6
835	2015/11/12	12:52:41	64.0
836	2015/11/12	12:52:42	66.7
837	2015/11/12	12:52:43	76.4
838	2015/11/12	12:52:44	75.9
839	2015/11/12	12:52:45	73.2
840	2015/11/12	12:52:46	76.0
841	2015/11/12	12:52:47	72.0
842	2015/11/12	12:52:48	69.4
843	2015/11/12	12:52:49	66.6
844	2015/11/12	12:52:50	61.9
845	2015/11/12	12:52:51	61.0
846	2015/11/12	12:52:52	61.0
847	2015/11/12	12:52:53	58.5
848	2015/11/12	12:52:54	59.6
849	2015/11/12	12:52:55	54.3
850	2015/11/12	12:52:56	59.6
851	2015/11/12	12:52:57	56.5
852	2015/11/12	12:52:58	59.4
853	2015/11/12	12:52:59	61.0
854	2015/11/12	12:53:00	65.5
855	2015/11/12	12:53:01	69.2
856	2015/11/12	12:53:02	72.8
857	2015/11/12	12:53:03	76.9
858	2015/11/12	12:53:04	83.5
859	2015/11/12	12:53:05	80.0
860	2015/11/12	12:53:06	72.9
861	2015/11/12	12:53:07	70.3
862	2015/11/12	12:53:08	68.5
863	2015/11/12	12:53:09	73.9
864	2015/11/12	12:53:10	72.4
865	2015/11/12	12:53:11	66.7
866	2015/11/12	12:53:12	70.2
867	2015/11/12	12:53:13	75.5
868	2015/11/12	12:53:14	76.2
869	2015/11/12	12:53:15	74.2
870	2015/11/12	12:53:16	68.3
871	2015/11/12	12:53:17	64.4
872	2015/11/12	12:53:18	59.7
873	2015/11/12	12:53:19	58.3
874	2015/11/12	12:53:20	56.4
875	2015/11/12	12:53:21	57.0
876	2015/11/12	12:53:22	67.3
877	2015/11/12	12:53:23	73.3

878	2015/11/12	12:53:24	73.3
879	2015/11/12	12:53:25	73.9
880	2015/11/12	12:53:26	72.2
881	2015/11/12	12:53:27	65.8
882	2015/11/12	12:53:28	60.6
883	2015/11/12	12:53:29	57.3
884	2015/11/12	12:53:30	57.9
885	2015/11/12	12:53:31	60.3
886	2015/11/12	12:53:32	74.8
887	2015/11/12	12:53:33	83.5
888	2015/11/12	12:53:34	81.4
889	2015/11/12	12:53:35	68.6
890	2015/11/12	12:53:36	62.9
891	2015/11/12	12:53:37	60.2
892	2015/11/12	12:53:38	56.2
893	2015/11/12	12:53:39	55.8
894	2015/11/12	12:53:40	51.5
895	2015/11/12	12:53:41	50.5
896	2015/11/12	12:53:42	51.1
897	2015/11/12	12:53:43	54.2
898	2015/11/12	12:53:44	72.1
899	2015/11/12	12:53:45	75.0
900	2015/11/12	12:53:46	69.3

Appendix E

Mitigation Monitoring and Reporting Program

PEDRO POINT HEADLANDS RESTORATION AND TRAIL IMPROVEMENT PROJECT MITIGATION MONITORING AND REPORTING PROGRAM

CEQA requires that a reporting or monitoring program be adopted for the conditions of project approval that are necessary to mitigate or avoid significant effects on the environment (Public Resources Code 21081.6). The mitigation monitoring and reporting program (MMRP) is designed to ensure compliance with adopted mitigation measures during project implementation. For each applicable mitigation measure recommended in this IS-MND, specifications are made herein that identify the action required and the monitoring that must occur. In addition, a responsible agency is identified for verifying compliance with individual conditions of approval contained in the MMRP.

In order to implement this MMRP, the Pacifica Land Trust shall designate a Project Mitigation Monitoring and Reporting Coordinator ("coordinator"). The coordinator shall be responsible for ensuring that the mitigation measures incorporated into the Project are complied with during project implementation.

The following table shall be used as the coordinator's checklist to determine compliance with required mitigation measures.

Mitigation Measure/Condition of Approval	Action Required	Timing	Monitoring Frequency	Responsible Agency or Party	Initial	Date	Comments
Air Quality							
AQ-1 Fugitive Dust Emissions Reduction. The contractor shall implement the following BAAQMD BMPs to reduce the impacts on air quality from fugitive dust during construction: • All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day; • All haul trucks transporting soil, sand, or other loose material off-site shall be covered; • All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited; • All vehicle speeds on unpaved roads shall be limited to 15 mph; • Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes (as required by the California airborne toxics control measure Title 13, Section 2485 of California Code of Regulations [CCR]). Clear signage shall be provided for construction workers at all access points; • All construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. All equipment shall be checked by a certified mechanic and determined to be running in proper condition prior to operation; and • Post a publicly visible sign with the telephone number and person to contact	Perform site inspection to confirm compliance.	Spot check for compliance during all excavation, grading, and construction.	Ongoing throughout construction	Pacifica Land Trust			

Mitigation Measure/Condition of Approval	Action Required	Timing	Monitoring Frequency	Responsible Agency or Party	Initial	Date	Comments
at the Lead Agency regarding dust complaints. This person shall respond and take corrective action within 48 hours. The Air District's phone number shall also be visible to ensure compliance with applicable regulations.							
BIOLOGICAL RESOURCES							
B-1 Botanical Special Status Plant Surveys. • Prior to the commencement of any ground-disturbing activities, surveys for special status plants shall be conducted in all areas of the Project site that would be potentially impacted and within a 50-foot buffer. The surveys shall be conducted in general accordance with CDFW (CDFG, 2009), California Native Plant Society (CNPS, 2001), and U.S. Fish and Wildlife Service (USFWS, 2000) protocols for conducting special status plant surveys. The surveys shall be seasonally timed to coincide with the blooming periods for the 38 species that have potential to occur on-site or that are known to occur on-site. A list of these 38 species is provided in Appendix D of the BRA (see Appendix C). All plant surveys shall be conducted by a qualified biologist before initial ground disturbance so that sufficient time is allotted to develop a restoration plan and complete agency consultations, if necessary. All special status plant species identified on-site shall be mapped onto a site-specific aerial photograph and their location shall be recorded with a Global Positioning System (GPS). CNDDB form field data shall be recorded and submitted concerning the population size, cover,	Review and approve results of pre-construction/grading surveys conducted by a qualified biologist to determine presence or absence special status species on-site. If plants are present, confirm plants have been recorded appropriately and mitigation and monitoring plan has been approved. Confirm any Michael's rein orchards have been relocated and that any other special status species that cannot be avoided are restored appropriately. Confirm special status plant species within 50 feet of disturbance are appropriately protected.	Review completed preconstruction survey reports and as necessary the special status species mitigation monitoring plans prior of the start of any vegetation removal or construction activity, prior to issuance of grading permit. Spot check for compliance with special status species protection, relocation and restoration requirements, as applicable, during construction.	Once prior to issuance of a grading permit and periodically during construction	Pacifica Land Trust			

Mitigation Measure/Condition of Approval	Action Required	Timing	Monitoring Frequency	Responsible Agency or Party	Initial	Date	Comments
and associated species. • If feasible, measures shall be implemented to avoid special status plants within the limits of disturbance. Michael's rein orchard in the Project site boundaries shall be relocated during the appropriate blooming period for this species. If other special status plants cannot be avoided, each species shall be restored on-site at a minimum of a 2:1 (number of acres/individuals restored to number of acres/individuals impacted) ratio. A mitigation and monitoring plan shall be prepared and submitted to the jurisdiction overseeing the Project for approval. If a state-listed plant species would be impacted, the restoration plan shall be submitted to CDFW for review. If a federally listed plant species would be impacted, the restoration plan shall be submitted to USFWS for review. The plan shall be in place for no less than three (3) years. The restoration plan shall include specific descriptions of the mitigation site, rationale for expecting successful restoration, site preparation, planting plan, maintenance activities during the monitoring period, success criteria based on the goals and measurable objectives, adaptive management plan, and notification of completion of compensatory mitigation and agency confirmation. • Prior to ground disturbance, special status plant occurrences that are not within the immediate disturbance footprint, but are located within 50 feet of the disturbance limits shall have brightly colored protective fencing installed at							

Mitigation Measure/Condition of Approval	Action Required	Timing	Monitoring Frequency	Responsible Agency or Party	Initial	Date	Comments
least 30 feet beyond their extent, or other distance as approved by a qualified biologist, to protect them from damage during construction.							
BIO-2: Invasive Weed Management. The following mitigation measures shall be implemented to prevent the spread of invasive weeds on the Project site that could potentially displace habitats for special status species or reduce the quality of their habitats. • The removal or disturbance of all non-native plant species that are listed by the California Invasive Plant Council (Cal-IPC, 2007) as having a high, moderate, or limited invasiveness shall be conducted in a manner that does not increase the risk of spreading these species within the Project site or adjacent areas. An Invasive Weed Management Plan shall be prepared and implemented prior to ground disturbing activities. • All construction equipment shall be power-washed prior to entering the site so that it is free of soil, seeds, and vegetation that could translocate invasive species into the site from elsewhere. The Inspection & Cleaning checklist from the California Invasive Plant Council's *Preventing the Spread of Invasive Plants: Best Management Practices for Land Managers*, 3rd Edition, (2012) shall be utilized to verify compliance with invasive species minimization measures.	Review and approve the Invasive Weed Management Plan prepared by a qualified botanist. Confirmation that non-native plants are being removed or disturbed appropriately. Confirm compliance with the Inspection & Cleaning checklist from the California Invasive Plant Council's *Preventing the Spread of Invasive Plants: Best Management Practices for Land Managers*, 3rd Edition, (2012).	Review completed Invasive Weed Management Plan prior to any ground disturbing activity, prior to issuance of grading permit. Spot check for construction equipment compliance during construction.	Once prior to issuance of a grading permit and periodically during construction	Pacifica Land Trust			
BIO-3: Preservation and Restoration of Native Vegetation Communities. The following mitigation measures shall be implemented to prevent the degradation of existing vegetation communities that provide habitat for special status species.	Review and approval of revegetation plan. Confirm that revegetation of project site occurs according to approved plan.	Review completed revegetation plan prior to end of project construction activities.	Once prior to the end of project construction activities and periodically during restoration	Pacifica Land Trust			

Mitigation Measure/Condition of Approval	Action Required	Timing	Monitoring Frequency	Responsible Agency or Party	Initial	Date	Comments
• All areas temporarily disturbed by the Project shall be returned to their original configuration at the end of Project activities. Native plant species that are known to occur at the site and that are appropriate for each specific vegetation community shall be used to restore any temporarily disturbed areas and to revegetate new habitats. To the extent that is feasible, native plants that are propagated from on-site propagules shall be used for revegetating the Project site. • A revegetation plan shall be prepared by a qualified restoration ecologist that describes the restoration of disturbed areas and revegetation of the trail buffers and newly created trails. The plan shall include the acreages of each constructed habitat (including Pacific reed grass meadows and red fescue grassland), a plant palette, planting plans, irrigation methods, and maintenance activities.							
BIO-4: General Wildlife Best Management Practices. The following general wildlife BMPs shall be required: • The number of access routes, number and size of staging areas, and the total area of the activity shall be limited to the minimum necessary to achieve the goals of the Project. All vehicles and equipment shall be parked and operated only within the designated access routes, staging areas, and work areas. All Environmentally Sensitive Areas that are marked by orange temporary fencing shall be avoided. • All vehicles shall be in good working condition and free of leaks. All leaks shall be contained and cleaned up	Perform site inspection to confirm compliance with BMPs.	Spot check for compliance during all excavation, grading, and construction.	Ongoing throughout construction	Pacifica Land Trust			

Mitigation Measure/Condition of Approval	Action Required	Timing	Monitoring Frequency	Responsible Agency or Party	Initial	Date	Comments
immediately to reduce the potential or soil/vegetation contamination. • Drip pans shall be placed under all stationary vehicles and mechanical equipment. • All trash that may attract predators must be properly contained and removed from the work site. All such debris and waste shall be picked up daily and properly disposed of at an appropriate site. • All refueling, maintenance, and staging of equipment and vehicles shall occur at least 60 feet from the ephemeral/intermittent stream and in a location where a spill would not drain toward the channel. A plan must be in place for prompt and effective response to any accidental spills prior to the onset of work activities. All workers shall be informed of the appropriate measures to take should an accidental spill occur. • To control sedimentation during and after Project implementation, appropriate erosion control best management practices (i.e., use of coir rolls, jute netting, etc.) shall be implemented. Fiber rolls (straw wattles) and other erosion control materials that are proposed for the Project shall not have monofilament netting. • All trenches, pipes, culverts or similar structures shall be inspected for animals prior to burying, capping, moving, or filling. All excavations in excess of two feet deep shall be sloped, have escape ramps installed that are suitable for the escape of wildlife, or be thoroughly covered at the end of the day. All trenches and excavations shall be							

Mitigation Measure/Condition of Approval	Action Required	Timing	Monitoring Frequency	Responsible Agency or Party	Initial	Date	Comments
inspected for wildlife at the beginning of the work day and prior to backfilling. If a special status species is discovered in a trench or excavation, work in the area shall be redirected, and the special status species shall be allowed to leave the trench and the area of its own accord. In the event any special-status species is trapped in a trench or an excavation and unable to leave on its own accord, USFWS and CDFW shall be contacted to relocate the special-status species or an individual with appropriate permits (e.g. a CDFW collecting permit) shall relocate the special status species. • No exposed hollow open-ended posts or pipes in a vertical, skyward orientation shall be installed as part of the Project or stored/staged on-site. All pipes or posts on the Project site during construction which are exposed to the environment shall be capped, screened or filled with material. • Any post with exposed perforations installed on the Project site and exposed to the environment shall have the holes permanently filled within the top six inches of the post upon installation. • No pets shall be allowed at the Project site.							
BIO-5: Worker Environmental Awareness Program (WEAP). The following steps to reduce the potential impacts to all special-status species are required: Prior to initiation of construction activities (including staging and mobilization), all personnel associated with Project construction shall attend WEAP training, conducted by a qualified biologist,	Confirm content of WEAP course and collect signed documentation of attendance.	Prior to commencement of construction	Once prior to commencement of construction	Pacifica Land Trust			

Mitigation Measure/Condition of Approval	Action Required	Timing	Monitoring Frequency	Responsible Agency or Party	Initial	Date	Comments
to aid workers in recognizing special status resources that may occur on-site. The specifics of this program shall include identification of the special status species and their habitats, a description of the regulatory status and general ecological characteristics of sensitive resources, and review of the limits of construction and mitigation measures required to reduce impacts to biological resources within the work area. The fenced boundaries for all Environmentally Sensitive Areas (ESAs) shall be discussed, including ESAs for special status species, nesting birds, the ephemeral/intermittent stream, Pacific reed grass meadow, red fescue grasslands, and the Tree Protection Zone (TPZ) for protected trees. A fact sheet conveying this information shall also be prepared for distribution to all contractors, their employers, and other personnel involved with construction of the Project. All employees shall sign a form documenting that they have attended the WEAP and understand the information presented to them. The form(s) shall be submitted to the implementing agency to document compliance.							
BIO-6: California Red-legged Frog Avoidance and Minimization Measures. The following steps to reduce the potential impacts to California red-legged frogs (CRLF) are required: • If feasible, initial ground disturbing activities and any work associated with the Project site shall be conducted between May 1 and October 31 during dry weather conditions to minimize the potential for encountering CRLF. Work shall be restricted to daylight hour. • Water shall not be impounded in a manner that may attract CRLF. • To ensure that diseases are not conveyed between work sites by the	Perform site inspection to confirm compliance.	Spot check for compliance during all excavation, grading, and construction.	Ongoing throughout construction	Pacifica Land Trust			

Mitigation Measure/Condition of Approval	Action Required	Timing	Monitoring Frequency	Responsible Agency or Party	Initial	Date	Comments
qualified biologist, the fieldwork code of practice developed by the Declining Amphibian Populations Task Force shall be followed at all times.							
BIO-7: Mission Blue Butterfly Avoidance and Minimization Measures. The following to steps reduce the potential impacts to Mission Blue Butterfly are required: Special status plant surveys as described in Mitigation Measure BIO-1 shall include surveys for the known host plants for this species: varied lupine (*Lupinus variicolor*), silver bush lupine (*L. albifrons*), and western lupine (*L. formosus*). These lupine species shall be avoided if possible. If avoidance is not feasible, then the location of any plants that would be removed or disturbed during construction shall be recorded with a Global Positioning System and flagged in the field. An entomologist shall then conduct appropriately timed surveys of these plants for evidence of mission blue butterfly occupation. Since species has an adult this flight period that typically lasts from March to June, surveys in the summer months shall be focused on larval stages (e.g., caterpillars). If mission blue butterflies are detected, work shall cease in the immediate area and a 50-foot buffer shall be established. USFWS shall be notified and consulted regarding appropriate compensatory mitigation for the loss of habitat, including possible salvage and translocation of impacted plants. This measure includes development of specific performance standards as part of a salvage and relocation plan to ensure that if translocation of impacted plants is approved as a component of compensatory mitigation, the transplantation would be effective.	Review and approve results of pre-construction/grading surveys conducted by a qualified biologist to determine presence or absence host plant species on-site. Confirm plants are recorded. Confirm necessary steps are taken if blue butterflies are detected.	Review completed preconstruction surveys within 14 days of the start of any vegetation removal or construction activity, prior to issuance of grading permit. Review of plant specific surveys as needed during summer months, prior to issuance of grading permit.	Once prior to issuance of a grading permit and periodically during construction	Pacifica Land Trust			

Mitigation Measure/Condition of Approval	Action Required	Timing	Monitoring Frequency	Responsible Agency or Party	Initial	Date	Comments
BIO-8: San Francisco Dusky-Footed Woodrat Avoidance and Minimization Measures. A qualified biologist shall conduct a pre-construction survey for San Francisco dusky-footed woodrat middens within 50 feet of the work limits within 30 days of proposed construction activity. At the discretion of a qualified biologist, an exclusion buffer shall be established around any woodrat middens that can be avoided, and these exclusion zones shall be fenced as Environmentally Sensitive Areas to protect the nest during the breeding season (October through June). If a woodrat midden cannot be avoided, potential relocation strategies (e.g., use of a back-hoe or similar mechanized equipment to pick up and move intact midden) shall be developed and presented to the County and/or CDFW, as appropriate, by a qualified biologist, for review and/or approval.	Review and approve results of pre-construction surveys conducted by a qualified biologist to determine presence or absence dusky footed woodrat within 50 feet of the work limits. Confirm exclusion buffers are installed as necessary. Review and approve relocation strategies as needed.	Review completed pre-construction survey within 30 days of proposed construction activity. Spot check exclusion buffers as necessary during construction.	Once prior to issuance of a grading permit and periodically during construction	Pacifica Land Trust			
BIO-9: Roosting Bats Avoidance and Minimization Measures. • A qualified biologist shall conduct a pre-construction survey for roosting pallid bats and big-free tailed bats. These species could potentially roost in rocky outcrops. The pallid bat could also potentially roost in hollow trees. The survey shall be conducted within 200 feet of Project activities within 15 days prior to any grading of rocky outcrops or removal of trees (particularly trees 12 inches in diameter or greater at 4.5 feet above grade with loose bark or other cavities). • A buffer zone of 100 feet that excludes construction activities or other disturbances should be established around active bat roosts. • If active maternity roosts or non-breeding bat hibernacula are found in trees	Review and approve results of pre-construction surveys conducted by a qualified biologist to determine presence of roosting pallid bats and big-free tailed bats within 200 feet of project activities. Confirm installation of buffers as needed.	Review completed pre-construction surveys15 days prior to any grading of rocky outcrops or removal of trees. Spot check exclusion buffers as necessary during construction.	Once prior to issuance of a grading permit and periodically during construction	Pacifica Land Trust			

Mitigation Measure/Condition of Approval	Action Required	Timing	Monitoring Frequency	Responsible Agency or Party	Initial	Date	Comments
scheduled to be removed, relocation or other measures shall be determined in consultation with the County and/or CDFW, as appropriate, and a qualified biologist.							
BIO-10: Monarch Butterfly Avoidance and Minimization Measures. Monterey pine forest and blue gum stands adjacent to the Project site could potentially provide overwintering and roosting habitat for monarch butterflies. No tree trimming or removal of trees within 100 feet of project activities and considered suitable for winter roosting shall be conducted between October 15 and February 28. Removal of trees shall be conducted between June 15 and October 15 to the extent feasible.	Perform site inspection to confirm compliance.	Spot check for compliance during all excavation, grading, and construction.	Ongoing throughout construction	Pacifica Land Trust			
BIO-11: Nesting Birds Avoidance and Minimization Measures. • If possible, trees and shrubs that would be impacted by Project construction shall be removed during the non-nesting season (between September 1 and January 31). • If trees and shrubs are removed during the nesting season (February 1 to August 31), all suitable nesting habitat within the limits of work shall be surveyed by a qualified biologist prior to initiating construction-related activities. A pre-construction survey shall be conducted within 3-5 days prior to the start of work. If no nests are observed, construction activities shall be initiated within 3-5 days. If more than 3-5 days pass and construction has not been initiated, another survey shall be required. • Nesting bird surveys shall include loggerhead shrike habitat and surveys of the western slope of the Project site for	Review and approve results of pre-construction/grading surveys conducted by a qualified biologist to determine presence or absence of breeding birds on-site. If birds are present, confirm appropriate buffers have been established.	Review completed preconstruction surveys within 3-5 days of the start of any vegetation removal or construction activity during the nesting season, prior to issuance of grading permit. Spot check exclusion buffers as necessary during construction.	Once prior to issuance of a grading permit and periodically during construction	Pacifica Land Trust			

Mitigation Measure/Condition of Approval	Action Required	Timing	Monitoring Frequency	Responsible Agency or Party	Initial	Date	Comments
American peregrine falcon and bank swallow nests. Surveys for nesting short-eared owl and California brown pelican shall not be required because although these species could potentially be present on-site, suitable breeding habitat for these species is not present on-site. • If, during the breeding season, an active nest is discovered in trees or shrubs to be removed, the shrubs shall be protected using orange construction fence or the equivalent. The protective fencing shall be placed around the shrubs at the following distance depending on species: 250 feet from the drip line of the shrubs for passerines and non-raptors; 300 feet from the drip line of the brush for raptors. No parking, storage of materials, or work would be allowed within this area until the end of the breeding season or until the young have fledged, as determined by a qualified biologist. • The monitoring biologist, in consultation with the Project manager, shall determine the appropriate protection for active nests on a case-by-case basis using the criteria described above.							
BIO-12: Sensitive Vegetation Communities Mitigation Measures. The following measures shall be implemented: • The special status plant survey described in Mitigation Measure BIO-1 shall include surveys for sensitive vegetation communities. If they are present in the Project site, their location shall be mapped and details shall be recorded on the floristic and cover of the dominant plant species for each community.	Review and approve results of pre-construction/grading surveys conducted by a qualified biologist to determine presence or absence of sensitive vegetative communities, re-vegetation plan described in BIO-3, and approve three-year monitoring plan. Confirm communities are mapped and recorded appropriately. Confirm adequate mitigation is incorporated	Review completed preconstruction surveys prior to the start of any vegetation removal or construction activity, prior to issuance of grading permit. Spot check avoidance as necessary during construction. Review revegetation plan prior	Once prior to issuance of a grading permit and periodically during construction. Review revegetation plan once. Review monitoring program annually for three years.	Pacifica Land Trust			

Mitigation Measure/Condition of Approval	Action Required	Timing	Monitoring Frequency	Responsible Agency or Party	Initial	Date	Comments
Acreages of each area shall be calculated based on detailed mapping. • Impacts to sensitive vegetation communities shall be avoided to the extent that is feasible. If impacts are unavoidable, then compensatory mitigation shall be implemented as described below. • The revegetation plan described in Mitigation Measure BIO-3 shall include compensatory mitigation of at least 1:1 for impacts to Pacific reed grass meadow (0.30 acre), red fescue grassland (0.01 acre), and any other sensitive community that is impacted by the Project. Because the current occurrence of Pacific reed grass meadow on the project site is restricted to previously restored areas, and the pacific reed grass within these areas is non-reproducing, restoration for Pacific reed grass shall be limited to those areas that preexisted previous restoration efforts, or areas where appropriate and suitable habitat is present to ensure successful restoration efforts (i.e. located on north-facing slopes). The plan shall include a three-year monitoring program to ensure the success of the revegetation plans. The plan shall include details on quantitative vegetation monitoring methods, performance standards, acreages to be established, success criteria based on goals and measurable objectives, and an adaptive management program.	as necessary.	to end of construction activities. Review monitoring program periodically for three years following construction.					
BIO-13: Tree Protection Plan. A tree protection plan shall be prepared by a certified arborist or professional botanist that describes the location and measures to protect trees within the County of	Review and approve tree protection plan. Perform site inspection to confirm compliance.	Review complete preconstruction surveys prior to the start of any vegetation removal or	Once prior to issuance of a grading permit and periodically during	Pacifica Land Trust			

Mitigation Measure/Condition of Approval	Action Required	Timing	Monitoring Frequency	Responsible Agency or Party	Initial	Date	Comments
San Mateo during construction, and the methods of delineating and fencing tree protection zones. The tree protection plan shall include the following measures: • The entire dripline area of protected heritage trees shall be marked and fenced prior to grading, paving, movement of heavy equipment, or other construction activity. • The existing ground surface within the dripline of any heritage tree shall not be cut, filled, or compacted unless there is no other reasonable design alternative. • All cuts or trenching within the dripline of a heritage tree and all root cuttings are to be made by hand. No backhoes or graders shall be used. Appropriate measures shall be taken to prevent soil upon exposed roots from drying out.		construction activity, prior to issuance of grading permit.	construction				
Cultural Resources							
CUL-1: Unanticipated Discovery of Cultural Resources. If cultural resources are encountered during ground-disturbing activities, work within a 50-foot (15 meters) radius shall be halted and an archaeologist meeting the Secretary of the Interior's Professional Qualifications Standards for archaeology shall be contacted immediately to assess the nature, extent, and potential significance of the cultural resources. If necessary, the evaluation may require preparation of a treatment plan and archaeological testing for CRHR eligibility. If the discovered cultural resources are determined to be significant under CEQA, appropriate actions to mitigate impacts to the remains shall be identified in consultation with the qualified archaeologist. Depending upon the nature of the find, such mitigation may include, but would not be limited to: avoidance, documentation, or other appropriate actions to be	Stop work and notify appropriate agencies. Preparation of treatment plan, as necessary. Development and approval of mitigation for any findings determined to be significant.	Upon unanticipated discovery of cultural remains	Ongoing throughout construction	Pacifica Land Trust			

Mitigation Measure/Condition of Approval	Action Required	Timing	Monitoring Frequency	Responsible Agency or Party	Initial	Date	Comments
determined by the qualified archaeologist. For example, if significant archaeological resources cannot be avoided, impacts may be reduced by filling on top of the sites rather than cutting into the cultural deposits. Alternatively and/or in addition, a data collection program may be warranted, including mapping the location of artifacts, surface collection of artifacts, or excavation of the cultural deposit to characterize the nature of the buried portions of sites. Curation of the excavated artifacts or samples would occur as specified by the archaeologist.							
CUL-2: Unanticipated Discovery of Human Remains. The discovery of human remains is always a possibility during ground disturbing activities. If human remains are found, the State of California Health and Safety Code Section 7050.5 states that no further disturbance shall occur until the County coroner has made a determination of origin and disposition pursuant to PRC Section 5097.98. In the event of an unanticipated discovery of human remains, the County coroner shall be notified immediately. If the human remains are determined to be prehistoric, the coroner shall notify the Native American Heritage Commission (NAHC), which will determine and notify a Most Likely Descendant (MLD). The MLD shall complete the inspection of the site within 48 hours of notification and may recommend scientific removal and nondestructive analysis of human remains and items associated with Native American burials.	Adhere to State Health and Safety Code Section 7050.5.	Upon unanticipated discovery of human remains	Ongoing throughout construction	Pacifica Land Trust			

Appendix F

Responses to Comments

RESPONSES to COMMENTS on the DRAFT INITIAL STUDY

This section includes the comments received during circulation of the Draft Initial Study-Mitigated Negative Declaration (IS-MND) prepared for the Pedro Point Headlands Restoration and Trail Improvement Project and responses to those comments. Corrections or additional text discussed in the responses to comments are also shown in the text of the Final IS-MND in ~~strikethrough~~ (for deleted text) and underline (for added text) format.

The IS-MND was circulated for a 30-day public review period that began on February 23, 2016 and concluded on March 23, 2016. The County received three comment letters on the Draft IS-MND. The original comment letters and responses follow. The list below shows the page number for each letter:

Each comment letter has been numbered sequentially and each separate issue raised by the commenter has been assigned a number. The responses to each comment identify the number of the comment letter and the number assigned to each issue (i.e., Response 1.2 indicates that the response is for the second issue raised in comment letter 1).

DEPARTMENT OF TRANSPORTATION
DISTRICT 4
P.O. BOX 23660, MS-10D
OAKLAND, CA 94623-0660
PHONE (510) 286-5528
FAX (510) 286-5559
TTY 711
http://www.dot.ca.gov/dist4/

Letter 1

Serious Drought. Help save water!

February 17, 2016

SM001409
SM-1- 39.8/40.3

Mr. Mike Schaller, Project Planner
County of San Mateo
Planning and Building Department
455 County Center, 2nd Floor
Redwood City, CA 94063

Dear Mr. Schaller:

Pedro Point Headlands Restoration and Trail Improvement Project APN 023730020 – Application

Thank you for including the California Department of Transportation (Caltrans) in the environmental review process for the above project. The mission of Caltrans is to provide a safe, sustainable, integrated, and efficient transportation system to enhance California's economy and livability. The Local Development – Intergovernmental Review Program reviews land use projects and plans to ensure consistency with our mission and State planning priorities of conservation, efficient development, and infill. To ensure a safe and efficient transportation system, we encourage early consultation and coordination with local jurisdictions and project proponents on all development projects that utilize the multi-modal transportation network.

Project Understanding
This project proposes activity to restore degraded land and improve trails within the approximate 255-acres Pedro Point Headlands open space preserve. The project lies approximately 15-miles south of San Francisco in San Mateo County bounded by the Pacific Ocean to the west and State Route (SR) 1 to the east and south. The project area consists of 600-foot high cliffs, steep ridgelines, and a small valley.

The intention of the project is to reduce sediment transport to waterways through restoration of areas scarred by past off-road motorcycle use, while improving the existing trail network. Work would include filling and eliminating existing gullies and trail scars, reestablishing the natural topography and positive drainage within the eroded coastal bluff areas, restoring disturbed trail and gullies to coastal prairie and scrub vegetation, propagate and salvage native plants, and incorporate a trail design and construction plan to build sustainable trails in place of one to be decommissioned.

The project does not propose to change access and parking. The Pedro Point Headlands is accessible by a trailhead to the California Coastal Trail on the north side of SR 1 and parking will continue to be available at nearby pull-offs on SR 1 and at the northern terminus of the Devil's Slide Trail.

Lead Agency

As the lead agency, the County of San Mateo, is responsible for all project mitigation, including any needed improvements to the State highway system. A Mitigation Monitoring and Reporting Plan (MMRP) will need to be prepared and the project's fair share contribution, financing, scheduling, implementation responsibilities and lead agency monitoring should be fully discussed for all proposed mitigation measure in the MMRP. The project's specific traffic mitigation fee should be identified. Any required roadway improvements should be completed prior to issuance of the project's opening day. 1.1

Design

Please provide a site plan clearly showing the project's access to SR 1.The plan should identify the State's right-of-way (ROW), ingress and egress, driveways, pull-outs, formal and informal parking areas for autos, bicycles, and horse trailers as well as roadside obstacles such as trees, utility poles, and signs that could impair sight lines. Please also show local roads and intersections, bicycle parking, transit facilities, and pedestrian crossings; formal and informal. Potential safety issues for all road users should be identified and fully mitigated. Any improvements within the State ROW must conform to Caltrans standards and be approved by Caltrans. 1.2

Traffic Impact Study

The environmental document should include an analysis of the travel demand expected from the proposed project. If it is found that a Traffic Impact Study (TIS) is not required, please provide a verifiable explanation for this finding. The following criteria are among those that may be used to determine whether a TIS is warranted:

1. Project-related trip generation, distribution, and assignment.
2. Describe any increase in the number of visitors expected due to project improvements. 1.3
3. Impacts on bicyclists and pedestrians resulting from any projected vehicle miles travelled (VMT) should be analyzed. The analysis should describe any pedestrian and bicycle mitigation measures and safety countermeasures that would be needed as a means of maintaining and improving access to alternative modes of transportation and reducing vehicle trips.
4. Consider pedestrian, bicycle, transit performance or quality of service measures and modeling as a means of estimating the project impact to these modes and evaluating

mitigation measures and tradeoffs.

5. Please evaluate the need for an increase in the Pacifica/Devil's Slide weekend shuttles.

6. The traffic evaluation should include construction as well as post-construction traffic.

We recommend using Caltrans "Guide for the Preparation of Traffic Impact Studies" for determining which scenarios and methodologies to use in the analysis. The guide can be accessed from the following webpage: http://www.dot.ca.gov/hq/tpp/offices/ocp/igr_ceqa_files/tisguide.pdf. 1.3

Cultural Resources

Caltrans requires that a project's environmental document include documentation of a current archaeological record search from the Northwest Information Center of the California Historical Resources Information System if construction activities are proposed within the State ROW. Current record searches must be no more than five years old. Caltrans requires the records search, and if warranted, a cultural resource study by a qualified, professional archaeologist, and evidence of Native American consultation to ensure compliance with the California Environmental Quality Act, Section 5024.5 and 5097 of the California Public Resources Code, and Volume 2 of Caltrans' Standard Environmental Reference (http://ser.dot.ca.gov). These requirements, including applicable mitigation, must be fulfilled before an encroachment permit can be issued for project-related work in State ROW; these requirements also apply to National Environmental Policy Act documents when there is a federal action on a project. Work subject to these requirements includes, but is not limited to: lane widening, channelization, auxiliary lanes, and/or modification of existing features such as slopes, drainage features, curbs, sidewalks and driveways within or adjacent to State ROW. 1.4

Transportation Permit

Project work that requires movement of oversized or excessive load vehicles on State roadways, such as SR 1 requires a transportation permit that is issued by Caltrans. To apply, a completed transportation permit application with the determined specific route(s) for the shipper to follow from origin to destination must be submitted to the following address: Transportation Permits Office, 1823 – 14th Street, Sacramento, CA 95811-7119. 1.5

See the following website link for more information: http://www/hq/traffops/permits/.

Transportation Management Plan

If it is determined that traffic restrictions and detours are needed on or affecting the State highway system, a Transportation Management Plan (TMP) or construction TIS may be required and approved by Caltrans prior to construction. TMPs must be prepared in accordance with *California Manual on Uniform Traffic Control Devices* (CA-MUTCD). 1.6

Further information is available for download at the following web address: http://www.dot.ca.gov/hq/traffops/signtech/mutcdsupp/pdf/camutcd2012/Part6.pdf.

1.6

Please ensure that such plans are also prepared in accordance with the transportation management plan requirements of the corresponding jurisdictions. For further TMP assistance, please contact the Office Traffic Management Plans at (510) 286-4579.

Encroachment Permit

Work that encroaches onto the State ROW requires an encroachment permit that is issued by Caltrans. To apply, a completed encroachment permit application, environmental documentation, and five (5) sets of plans clearly indicating the State ROW must be submitted to: Mr. David Salladay, Office of Permits, California Department of Transportation, District 4, P.O. 23660, Oakland, CA 94623-0660. Traffic-related mitigation measures should be incorporated into the construction plans during the encroachment permit process. See the website link below for more information: http://www.dot.ca.gov/hq/traffops/developserv/permits/.

1.7

Please provide at least one hard copy and one CD of the environmental document, including technical appendices, for our review as soon as they are available.

Please feel free to call or email Sandra Finegan at (510) 622-1644 or sandra_finegan@dot.ca.gov with any questions regarding this letter.

Sincerely,

PATRICIA MAURICE
District Branch Chief
Local Development – Intergovernmental Review

Letter 1

COMMENTER: Patricia Maurice, District Branch Chief, Local Development – Intergovernmental Review, Caltrans

DATE: February 17, 2016

Response 1.1

The commenter states that the lead agency will need to prepare a Mitigation Monitoring and Reporting Plan (MMRP) with mitigation measures that fully discuss the Project's fair share contribution, financing, scheduling, implementation responsibilities, and lead agency monitoring. The commenter requests that the Project's specific traffic mitigation fee be identified and that any required roadway improvements be completed prior to operation of the Project. As discussed in Section 16, *Transportation/Traffic*, of the Draft IS-MND, the Project would not generate traffic that would adversely affect the circulation system near the Project site. While it is estimated that construction would generate a total of 894 vehicle trips to the site, this number of trips would be spread over a construction period of up to 1.5 years, minimizing traffic impacts. Furthermore, proposed restoration activities and the operational phase of the Project (i.e., long-term use of the improved trails) would not substantially increase visitorship at the Pedro Point Headlands or result in an increase in vehicle trips to and from the site. The Pedro Point Headlands' existing trail network is currently open for public use, and the Project involves realignment of existing trails, closure of trail scars, installation of overlooks with educational signs, and revegetation. Although these improvements would make the open space area more appealing for public use, they would not drive a substantial increase in visitorship beyond existing public use after construction. Therefore, traffic impacts would be less than significant without mitigation, and the MMRP prepared for the Final IS-MND (see Appendix E) does not include mitigation measures or prescribe a traffic mitigation fee to further reduce impacts.

Response 1.2

The commenter requests a site plan that clearly shows the Project's access to SR 1 (Highway 1), identifying the State's right-of-way, ingress and egress, driveways, pull-outs, formal and informal parking areas for autos, bicycles, and horse trailers as well as roadside obstacles that could impair sight lines. The commenter also requests that a site plan show local roads and intersections, bicycle parking, transit facilities, and pedestrian crossings. The Trail Improvement Plans and Restoration Plans Sheet, Detail 1 – Existing Site Layout has been revised to include right-of-way (ROW), ingress, egress, driveway, and pullout. There is no bicycle or horse trailer parking proposed as part of this Project. Local roads are shown in the appropriate sheets within each plan set.

The commenter also requests that potential safety issues for all road users be identified and fully mitigated. As discussed in Section 16, *Transportation/Traffic*, of the Draft IS-MND, the Project would not involve design features or incompatible uses that could increase traffic hazards. There are no roadside obstacles that impair line of sight with the single ingress and egress point for construction related traffic and no permanent changes in roadway design features such as sharp curves or dangerous intersections would be introduced to the site. Therefore, the Project would not generate safety issues for road users.

In addition, the commenter states that any improvements within the State right-of-way on Highway 1 must conform to Caltrans standards and be approved by Caltrans. The Project does not propose to improve any features within the State ROW. However, the Draft IS-MND acknowledges that the Project would require an encroachment permit approved by Caltrans to cross through the State agency's right-of-way during construction.

Response 1.3

The commenter requests that the IS-MND analyze the Project's expected travel demand and, if applicable, provide a verifiable explanation for finding that a traffic impact study (TIS) is not required. The commenter also lists criteria for determining whether such a study is warranted and recommends that the traffic analysis refer to Caltrans' "Guide for the Preparation of Traffic Impact Studies." Please refer to Response 1.1 for an explanation of why neither construction nor operation of the Project would generate significant traffic impacts. In summary, because truck trips during construction would be spread over a period of up to 1.5 years and the proposed trail improvements would not generate substantial additional traffic during operation of the Project, the Draft IS-MND finds that traffic impacts would be less than significant without the need for a formal TIS. Based on discussions between the Project engineer and Caltrans, a formal Traffic Study is not required for this Project.

Response 1.4

The commenter states that Caltrans requires documentation of a current archaeological record search from the Northwest Information Center of the California Historical Resources Information System (CHRIS) in environmental documents, if construction activities are proposed within the State right-of-way. The commenter adds that, if warranted, Caltrans requires preparation of a cultural resource study by a qualified archaeologist, evidence of Native American consultation, and mitigation as applicable before issuance of an encroachment permit. As discussed in Section 5, *Cultural Resources*, of the Draft IS-MND, a Cultural Resources Study was prepared for the Project by qualified archaeologists, which reports the results of both a current search of the cultural resource records housed at CHRIS and the Native American consultation process. The Draft IS-MND also includes mitigation measures CUL-1 and CUL-2 to protect cultural resources and human remains in the event of their discovery during construction on-site. Therefore, the IS-MND meets Caltrans standards for documentation of cultural resources prior to the issuance of an encroachment permit.

Response 1.5

The commenter states that Caltrans requires a transportation permit for any project work involving movement of oversized or excessive load vehicles on State roadways. Because construction of the Project would not involve the use of oversized or excessive load vehicles, a transportation permit is not required.

Response 1.6

The commenter states that a Transportation Management Plan or construction TIS may be required if traffic restrictions and detours are needed on or affecting the State highway system. As the Project would not involve traffic restrictions or detours on Highway 1, such traffic plans or studies would not be required.

Response 1.7

The commenter notes that any work encroaching onto the State right-of-way requires a Caltrans encroachment permit. The commenter also details the application process for an encroachment permit. As acknowledged in the Draft IS-MND, the Project would need an encroachment permit approved by Caltrans to cross through the Caltrans right-of-way during construction. The applicant would complete a permit application in accordance with Caltrans requirements.

Letter 2

From: mailto:lyla.reinero@gmail.com
Sent:
To: sherzberg@smcgov.org
Cc: mfinley@smcgov.org
Subject:

Greetings Sam and Marlene,

I am writing in response to the Pedro Point Headlands Improvement and Restoration Project. As a resident of Pedro Point, I am wondering where specifically the public access points will be for the new and improved trails will be, as well if there will be parking planned near the access points. Street parking in Pedro Point is already very limited, so I hope that public parking has been taken into consideration for this project. 2.1

Thanks and best,
Lyla
415.596.2740

Letter 2

COMMENTER: Lyla Reinero

DATE: February 23, 2016

Response 2.1

The commenter asks where the public access points for the new and improved trails would be located. The proposed Project would not include any changes to existing parking and access to the Pedro Point Headlands site. The current point of access to the site is located at the northern Devil's Slide Parking Area to the south of Pedro Point Headlands, on the western side of Highway 1. This access point is identified in Detail 1, sheet C1.1 of the Restoration and Trail Improvement Plans (Appendix A to the Draft IS-MND).

The commenter also states that street parking in Pedro Point is already very limited and asks if the Project would provide parking near the access points. Parking for the site would continue to be located at the northern Devil's Slide parking lot. Although the Project would not create additional parking, it would not generate a substantial number of new vehicle trips relative to existing use of open space at the Pedro Point Headlands, as discussed in Section 16, *Transportation/Traffic*, of the Draft IS-MND.

STATE OF CALIFORNIA—CALIFORNIA STATE TRANSPORTATION AGENCY EDMUND G. BROWN Jr., Governor

DEPARTMENT OF TRANSPORTATION
DISTRICT 4
P.O. BOX 23660, MS-10D
OAKLAND, CA 94623-0660
PHONE (510) 286-5528
FAX (510) 286-5559
TTY 711
http://www.dot.ca.gov/dist4/

Letter 3

Serious Drought. Help save water!

March 23, 2016

SM001409
SM-1 - 39.8/40.3

Mr. Mike Schaller, Project Planner
County of San Mateo
Planning and Building Department
455 County Center, 2nd Floor
Redwood City, CA 94063

Dear Mr. Schaller:

Pedro Point Headlands Restoration and Trail Improvement Project APN 023730020 – Mitigated Negative Declaration

Thank you for continuing to include the California Department of Transportation (Caltrans) in the environmental review process for the above project. We provide these comments to promote the State's smart mobility goals that support a vibrant economy and build active communities rather than sprawl.

Highway Operations
Please provide the following information:

1. Project's average trip generation defined by AM/PM peak hour to and from the project site. | 3.1
2. Location map that shows the project's construction ingress/egress from State Route (SR) 1. | 3.2

We recommend the project's generated truck trips be restricted to non-peak hours on SR 1. | 3.3

Please feel free to call or email Sandra Finegan at (510) 622-1644 or sandra.finegan@dot.ca.gov with any questions regarding this letter.

Sincerely,

PATRICIA MAURICE
District Branch Chief
Local Development – Intergovernmental Review

Letter 3

COMMENTER: Patricia Maurice, District Branch Chief, Local Development – Intergovernmental Review, Caltrans

DATE: March 23, 2016

Response 3.1

In a follow-up letter to the same commenter's original letter dated February 17, 2016, the commenter requests information about the Project's average trip generation during a.m. and p.m. peak hours to and from the Project site. As indicated in Response 3.3 below, construction-related trips would be limited to non-peak hours and therefore would not generate traffic during peak hours. As discussed in Section 16, *Transportation/Traffic*, of the Draft IS-MND, the operational phase of the Project would not substantially increase visitorship at the Pedro Point Headlands or result in an increase in vehicle trips to and from the site. The Pedro Point Headlands' existing trail network is currently open for public use, and the Project would involve realignments of existing trails, closure of trail scars, installation of overlooks with educational signs, and revegetation. Existing trips to the Project site may be roughly estimated using the most applicable trip rate (for County Parks) provided by the Institute of Transportation Engineers' (ITE) *Trip Generation Manual*, 9th Edition. For County Parks, this rate is 0.09 daily trips per acre of land. Calculating this rate for the 32.3-acre Project site, the existing open space area and trail network at Pedro Point Headlands generates an estimated 2.9 trips per day. Although proposed trail improvements would make the open space area more appealing for public use, they would not drive a substantial increase in visitorship beyond existing public use after construction. The Project also would abandon existing informal trails and would not expand the total length of trails available for public use at the Pedro Point Headlands. Therefore, it is assumed that after construction of the Project, the Pedro Point Headlands would continue to generate an estimated 2.9 trips per day by visitors. Operation of the Project would not substantially increase peak-hour trips on Highway 1. Traffic impacts would be less than significant.

Response 3.2

The commenter requests a map showing the Project's construction ingress/egress from Highway 1. Please refer to Sheets C1.1 and C4.1 in the proposed site plans in Appendix A of the Draft IS-MND. Sheet C1.1 shows the location of the proposed stabilized construction entrance to the Project site from Highway 1, and Sheet C4.1 diagrams a typical design of this entrance.

Response 3.3

The commenter recommends that the Project's generated truck trips be restricted to non-peak hours on Highway 1. In response to this comment, the proposed site plans have been amended to restrict truck trips during construction to non-peak hours. Additionally, the Description of the Project in the Final IS-MND has been amended to reflect this change. The discussion of construction-related traffic impacts in Section 16, *Transportation/Traffic*, of the Final IS-MND has also been amended accordingly:

In total, construction and operation of the temporary native plant nursery would generate 894 trips. This number of trips, spread over a construction period of up to 1.5 years and restricted to non-peak hours on Highway 1, would not adversely affect the circulation system near the Project site.

Letter 4

STATE OF CALIFORNIA

Governor's Office of Planning and Research

State Clearinghouse and Planning Unit

Edmund G. Brown Jr.
Governor

Ken Alex
Director

March 24, 2016

Sam HErzberg
San Mateo County
455 County Center - Fourth Floor
Redwood City, CA 94063

Subject: PEdro Point Headlands Restorationa nd Trail Improvement Project
SCH#: 2016022068

Dear Sam HErzberg:

The State Clearinghouse submitted the above named Mitigated Negative Declaration to selected state agencies for review. The review period closed on March 23, 2016, and no state agencies submitted comments by that date. This letter acknowledges that you have complied with the State Clearinghouse review requirements for draft environmental documents, pursuant to the California Environmental Quality Act.

4.1

Please call the State Clearinghouse at (916) 445-0613 if you have any questions regarding the environmental review process. If you have a question about the above-named project, please refer to the ten-digit State Clearinghouse number when contacting this office.

Sincerely,

Scott Morgan
Director, State Clearinghouse

1400 TENTH STREET P.O. BOX 3044 SACRAMENTO, CALIFORNIA 95812-3044
TEL (916) 445-0613 FAX (916) 323-3018 www.opr.ca.gov

Document Details Report
State Clearinghouse Data Base

SCH#	2016022068
Project Title	PEdro Point Headlands Restorationa nd Trail Improvement Project
Lead Agency	San Mateo County

Type	**MND** Mitigated Negative Declaration
Description	The proposed Project is intended to minimize sediment transport to waterways through restoration of areas scarred by past off-road motorcycle use. Restoration would primarily involve the use of erosion and sediment control measures and native landscaping to improve the existing trail network on approx. 32.3 acres at Pedro Point Headlands The Project would involve properly filling and eliminating existing gullies and trails cars; re-establishing the natural topography and positive drainage within highly eroded coastal bluff areas; restoring disturbed trails and gullies to coastal prairie and coastal scrub vegetation; propagating and salvaging native plants using volunteers; incorporating a trail design and construction plan to build sustainable trails; installing kiosks and signage, and establishing a temporarily native plant nursery on-site.

Lead Agency Contact

Name	Sam HErzberg		
Agency	San Mateo County		
Phone	650-363-1823	*Fax*	
email			
Address	455 County Center - Fourth Floor		
City	Redwood City	*State* CA	*Zip* 94063

Project Location

County	San Mateo		
City	Pacifica		
Region			
Lat / Long			
Cross Streets	Highway 1		
Parcel No.	023-730-020, 040, 210, 220; 023		
Township	*Range*	*Section*	*Base*

Proximity to:

Highways	1
Airports	
Railways	
Waterways	San Pedro Creek
Schools	Linda Mar. Edu. Center
Land Use	San Mateo County: Open Space, RM-CZ/CD; City of Pacifica; Open-Space Residential, A/B-5

Project Issues	Aesthetic/Visual; Agricultural Land; Air Quality; Archaeologic-Historic; Biological Resources; Drainage/Absorption; Coastal Zone; Flood Plain/Flooding; Forest Land/Fire Hazard; Geologic/Seismic; Minerals; Noise; Population/Housing Balance; Public Services; Recreation/Parks; Schools/Universities; Septic System; Sewer Capacity; Soil Erosion/Compaction/Grading; Solid Waste; Toxic/Hazardous; Traffic/Circulation; Vegetation; Water Quality; Water Supply; Wetland/Riparian; Landuse; Cumulative Effects; Growth Inducing

Reviewing Agencies	Resources Agency; Department of Fish and Wildlife, Region 3; Department of Parks and Recreation; Department of Water Resources; California Highway Patrol; Caltrans, District 4; Air Resources Board; Air Resources Board, Transportation Projects; State Water Resources Control Board, Division of Water Quality; State Water Resources Control Board, Division of Water Rights; Regional Water Quality Control Board, Region 2; Native American Heritage Commission

Date Received 02/23/2016 *Start of Review* 02/23/2016 *End of Review* 03/23/2016

Letter 4

COMMENTER: Scott Morgan, Director, State Clearinghouse

DATE: March 24, 2016

Response 4.1

The commenter notes that the public review period closed on March 23, 2016 and that the project complied with CEQA public review requirements. The comment is noted.