

PUBLIC REVIEW DRAFT INITIAL STUDY

March 19, 2014

WAVECREST COASTAL TRAIL PROJECT

for the City of Half Moon Bay



City File No. PDP-074-13
State Clearinghouse No. #XXXX-XX-XXXX



Public Review Draft
Initial Study
March 19, 2014

WAVECREST COASTAL TRAIL PROJECT

For the City of Half Moon Bay



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State Clearinghouse No. #XXXX-XX-XXXX

Prepared By:

1625 Shattuck Avenue, Suite 300
Berkeley, California 94709
510.848.3815



PLACEWORKS

In Association With: **WRA**
TIMOTHY C. BEST
TOA

Exhibit 2: CEQA Documents: Initial Study and Mitigated Negative Declaration



CITY OF HALF MOON BAY

City Hall • 501 Main Street • Half Moon Bay • CA • 94019

PUBLIC NOTICE

INTENT TO ADOPT MITIGATED NEGATIVE DECLARATION CITY OF HALF MOON BAY

File No. and Project Name/Description: File No. PDP-074-13. Coastal Development Permit for the Wavecrest Coastal Trail Project in Half Moon Bay. The Wavecrest Coastal Trail Project is a project of the Coastside Land Trust that would formalize a 1,698-linear-foot segment of the California Coastal Trail within the limits of the City of Half Moon Bay in San Mateo County, California (Parcel Number 065-011-150). The project is located within the Coastal Commission Appeal Zone. The Property is roughly at the mid-point of the Half Moon Bay coastline, south of Seymour Street and three-quarters of a mile west of Highway 1, and just inland from the Pacific Ocean on 50-foot-high bluffs. In addition to formalizing a segment of Coastal Trail, the project would develop spur trails to coastal overlooks, provide split-rail fencing and signage, and restore 19,834 square feet of informal trail areas.

The City has performed environmental review on the project in conformance with the requirements of the California Environmental Quality Act. Environmental review consisted of preparation of an Initial Study to examine the nature and extent of any adverse effects on the environment that could occur if the project is approved and implemented. Based on the review, the City has prepared a draft Mitigated Negative Declaration (MND) for this project. An MND is a statement by the City that the project will not have a significant effect on the environment based on protective measures (mitigation measures) included in the project.

The public is welcome to review this draft Initial Study and Mitigated Negative Declaration. The Public comment period begins on **March 20, 2014** and ends at 5:00 on **April 18, 2014**.

The Draft Initial Study and Mitigated Negative Declaration and reference documents are available on the City's website at <http://www.hmbcity.com>. The documents are also available for review from 8:30 am to 5:00 pm Monday through Friday at the City of Half Moon Bay Planning Department at 501 Main Street, Half Moon Bay.

For additional information, please contact Scott Phillips at (650) 726-8299 or by email at SPhillips@hmbcity.com.

Please provide your comments on the Initial Study and Negative Declaration by **April 18, 2014**.

March 19, 2014

Scott Phillips, Associate Planner

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Appendix A Biological Resources Assessment

Appendix B Cultural Resources Survey

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1. INITIAL STUDY CHECKLIST

1. Project Title:

Wavecrest Coastal Trail

2. Lead Agency Name and Address:

City of Half Moon Bay
501 Main Street
Half Moon Bay, CA 94019

3. Contact Person and Phone Number:

Scott Phillips
Associate Planner
(650) 726-8299

4. Project Location:

Wavecrest Property, Half Moon Bay, CA

5. Project Sponsor's Name and Address:

Jo Chamberlain, Coastside Land Trust
788 Main Street
Half Moon Bay, CA 94019

6. General Plan Land Use Designations:

The City of Half Moon Bay's 1993 Local Coastal Program (LCP) Land Use Plan (LUP) designates the Wavecrest property for Planned Development District (PDD).

7. Zoning:

The City of Half Moon Bay is within the Coastal Zone, as defined by the California Coastal Act. The Project Area is zoned Planned Unit Development (PUD)

8. Description of Project:

Please see page 4 of this Initial Study

9. Surrounding Land Uses and Setting:

Please see page 3 of this Initial Study

10. Other Public Agencies Whose Approval is Required:

The Project will be approved by the City of Half Moon Bay with oversight from permitting agencies.

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2. 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, as indicated by the checklist on the following pages.

- | | | |
|--|---|---|
| <input type="checkbox"/> Aesthetics | <input type="checkbox"/> Agriculture & Forestry Resources | <input checked="" type="checkbox"/> Air Quality |
| <input checked="" type="checkbox"/> Biological Resources | <input checked="" type="checkbox"/> Cultural Resources | <input type="checkbox"/> Geology & Soils |
| <input type="checkbox"/> Greenhouse Gas Emissions | <input type="checkbox"/> Hazards & Hazardous Materials | <input checked="" type="checkbox"/> Hydrology & Water Quality |
| <input type="checkbox"/> Land Use | <input type="checkbox"/> Mineral Resources | <input checked="" type="checkbox"/> Noise |
| <input type="checkbox"/> Population & Housing | <input type="checkbox"/> Public Services | <input type="checkbox"/> Recreation |
| <input checked="" type="checkbox"/> Transportation/Traffic | <input type="checkbox"/> Utilities & Service Systems | <input type="checkbox"/> Mandatory Findings of Significance |

Determination:

On the basis of this initial evaluation:

- I find that the proposed Project COULD NOT have a significant effect on the environment and a NEGATIVE DECLARATION will be prepared.
- I find that, although the proposed Project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the Project have been made by or agreed to by the Project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.
- I find that the proposed Project MAY have a significant effect on the environment, and an ENVIRONMENTAL ASSESSMENT will be prepared.
- I find that the proposed Project MAY have a “potentially significant impact” or “potentially significant unless mitigated” impact on the environment, but at least one effect (1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and (2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.
- I find that although the proposed Project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed Project, nothing further is required.



Signature

03/19/14

Date

Scott Phillips

Printed Name

Associate Planner

Title

3. EXECUTIVE SUMMARY

The purpose of this Initial Study/ Mitigated Negative Declaration (IS/MND) is to identify potential environmental impacts from implementation of the Wavecrest Coastal Trail Project. The Wavecrest Coastal Trail Project is a project of the Coastsides Land Trust that would formalize a 1,698-linear-foot segment of the California Coastal Trail within the limits of the City of Half Moon Bay in San Mateo County, California (Parcel Number 065-011-150). The Property is roughly at the mid-point of the Half Moon Bay coastline, south of Seymour Street and three-quarters of a mile west of Highway 1, and just inland from the Pacific Ocean on 50-foot-high bluffs. The 30.63 Project Area includes the area of trail development within the Coastsides Land Trust's Wavecrest Property, a temporary construction access route through adjacent properties, and surrounding habitat. In addition to formalizing a segment of Coastal Trail, the project would develop spur trails to coastal overlooks, provide split-rail fencing and signage, and restore 19,834 square feet of informal trail areas. The proposed trail would be unpaved, and would be elevated as a boardwalk trail where necessary to protect resources.

No significant, unavoidable impacts were identified by this Initial Study. However, without mitigation, impacts to air quality, biological resources, cultural resources, hydrology & water quality, noise, and transportation/traffic could be significant without the mitigation identified within this document.

4. PROJECT DESCRIPTION

A. Location and Setting

The proposed Wavecrest Coastal Trail would be located on the 50-acre Wavecrest CLT Property (owned by the Coastsides Land Trust (CLT)), which is entirely within the limits of the City of Half Moon Bay in San Mateo County, California (Parcel Number 065-011-150). The Property is roughly at the mid-point of the Half Moon Bay coastline, south of Seymour Street and three-quarters of a mile west of Highway 1, and just inland from the Pacific Ocean on 50-foot-high bluffs. The existing conditions and potential impacts discussed in this initial study is confined to a 30.63 acre Project Area that includes the area of trail development within the Wavecrest Property and the temporary construction access route (which together comprise 3.64 acres), as well as surrounding area as described in Section II.C below. The location and boundaries of the Wavecrest CLT Property and the Project Area are shown Figure 1, Regional Project Location, and Figure 2, Project Area and Vegetation Communities.

The Wavecrest CLT Property is one property of many properties situated along a 1-mile gap of the California Coastal Trail. The California Coastal Trail presently provides trail access along more than half of the California coastline from Oregon to Mexico for a variety of users including hikers, bikers, dog walkers, equestrians, and wheelchairs. The nearest segments of the California Coastal Trail are immediately to the north, and ½-mile to the south of the Wavecrest Property. The Property consists of a gently sloping landscape including one ravine (Ravine 1, a steep-sided small canyon), and one gully (Gully 2, a narrow, short stream that originates on the bluff top terrace and spills down the bluffs onto the beach).

The Wavecrest CLT Property is used informally for recreation, as demonstrated by a series of well-worn foot trails that range from 1 to 14 feet wide and have resulted in a complete lack of groundcover in comparison to the densely vegetated areas immediately adjacent. Pedestrians, cyclists, equestrians, and others access the Wavecrest CLT Property several ways. From the north, the Seymourbridge from the Poplar Beach/Bluff Top Park connects to the prop

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erty, and from the south, an informal parking lot off of Redondo Beach connects to other undeveloped properties and informal trails¹ which lead to the Wavecrest CLT Property.² From the east, informal trails connect from the Smith Fields Little League Park staging area. West of the Property is a public beach and the Pacific Ocean.

Several habitat types occur on the Project Area, however, the majority of the property is non-native grassland. There are two groves of Monterey cypress trees at the northern and southern property ends, as well as cypress trees along the gully and the southern bluff edge. There are also small areas of sea cliffs, northern coyote brush scrub, seasonal wetlands, coastal seasonal wetlands, and disturbed areas, distributed across the property, as shown in Figure 2, Project Area and Vegetation Communities.

Of the 45 special status plant and wildlife species known to occur in the vicinity of the Wavecrest Property, 14 plants and 18 animal species were determined to have a high to moderate potential to occur in the Project Area. These include the nesting raptors, the San Francisco Garter Snake, the California red-legged Frog, Monarch butterfly, several species of bats, and the San Francisco dusky-footed woodrat. Additionally, the wetlands, sea cliffs, and coastal scrub are considered sensitive habitat under the Local Coastal Plan, U.S. Fish and Wildlife Service (USFWS) and California Department of Fish and Wildlife (CDFW) and are given special protection.

B. Proposed Project

This Initial Study evaluates the proposed Project referred to as “the Project,” which includes trail improvements and re-vegetation. In accordance with Section 18.38.070.E (Coastal Access Ways – Bluff Edge Trails) of the City of Half Moon Bay Municipal Zoning Code, the Wavecrest Coastal Trail project would improve public access while reducing erosion of the bluff edge by (1) creating a sufficient set back from the bluff edge and (2) revegetating the existing informal trail that is located closed to the bluff edge. In addition, the Wavecrest Coastal Trail would be consistent with the intent of Section 18.38.070 in that:

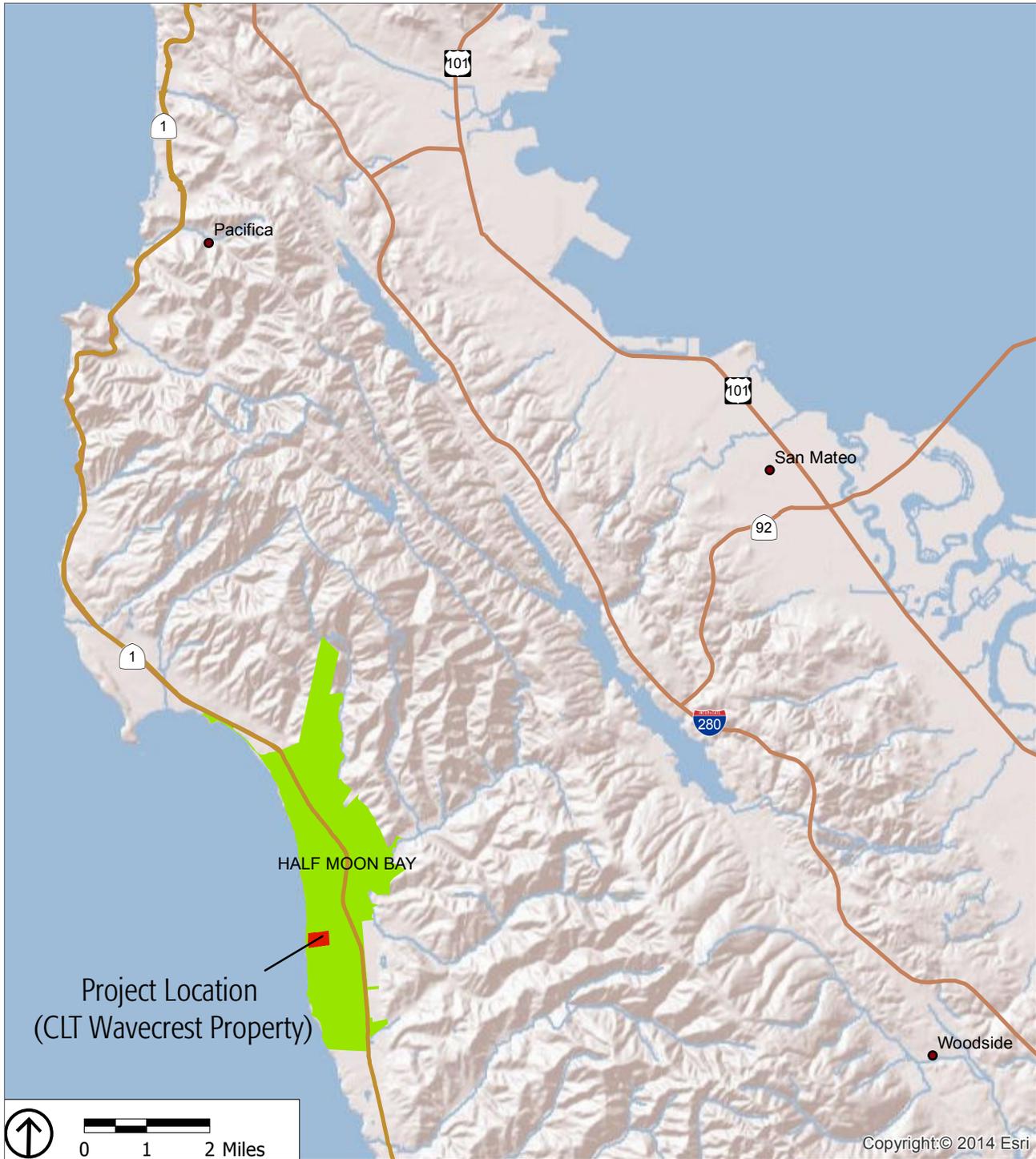
- It will provide connectivity to the existing beach access point located at Poplar Beach/Blufftop Park. The provision of beach access from the Project Area is not feasible given topography and sensitivity of the bluff edge.
- It is consistent with the Access Improvements Map (1993 Local Coastal Program/ Land Use Plan). Public access, including horses, within the Project Area would be limited to the formalized trail and spur trails described that constitute this project. Horses would be allowed on the compacted shoulders located on either side of the gravel trail, and signs would provide information indicating allowable uses.

¹ “Informal” trails, also called social trails or desire paths, are footpaths created unintentionally by visitors repeatedly using the exact same path for crossing terrain. Informal trails form when visitors cross through an area lacking an official path, and can be problematic depending on their alignment. Sensitive natural resources such as delicate plants, ground nesting animals, or highly erodible ground can be damaged or even destroyed through trampling. Another related issue is visitor safety, as informal trails may be routed through hazardous locations, such as a cliff or ravine edge, or areas that are slippery or unstable, or be aligned in such a way as to be extremely steep and hazardous to cross.

² Preliminary planning efforts by CLT have identified a potential trail alignment from the Wavecrest CLT Property to Redondo Beach to the south with a formal trail. The trail would require connections through both publicly and privately owned land. No plans have been adopted at this time, and the feasibility of development of such a connection is not anticipated.



INITIAL STUDY



SOURCE: CITY OF HALF MOON BAY; PlaceWorks, 2012; ESRI 2010; FHA 2002.

Figure 1
Regional Location

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WAVECREST COASTAL TRAIL

INITIAL STUDY MITIGATED NEGATIVE DECLARATION

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Source: WRA Environmental Consultants.

Figure 2
Project Area and Vegetation Communities

The proposed trail alignment is also consistent with conceptual alignments identified by the Access Improvements Map (1993 Local Coastal Program/ Land Use Plan) and the Wavecrest Restoration Plan, and would be responsive to Wavecrest Restoration Plan's guidelines for protecting bluff edges and riparian corridors and minimizing runoff.³

The proposed trail and other project components are identified in Figure 3, Project Overview, and Figure 4, Proposed Project, and described in greater detail below.

1. Trail

The Project includes a 1,698-linear-foot segment of the California Coastal Trail and 342 linear feet of spur trails to coastal overlooks and through a Monterey cypress grove. The proposed trail would provide formal public access through the Project Area, directing users to a safe route that respects coastal resources. The proposed trail segment alignment respects coastal resources by directing foot and bicycle traffic away from wetlands and other sensitive areas, reducing multiple informal footpaths, and reducing erosion caused by informal recreation. The relationship between the proposed trail alignment and sensitive natural features is shown in the Layout Plan of the 65% Construction Documents included in the application submittal. Other Project components consist of vegetation enhancement, wetland protection, and incorporation of construction measures to minimize wildlife and soil disturbance through construction methods and timing. Grading and heavy construction will occur outside of the wet-season to reduce potential erosion.

a. Trail Design and Features

While trail design details will be finalized during the preparation of final (100%) construction documents for the proposed Project, general parameters of the trail alignment, including materials, dimensions and features as identified in the 65% construction documents (shown in Figure 4) are as follows. The primary trail would be a compacted rock 8-foot-wide trail. Spurs, which are shorter, narrower trail segments that branch from the main trail and lead to overlooks, would be compacted rock and 6-foot-wide. These spur trails would steer visitors away from the worn footpaths that presently contribute to the bluff top erosion.

Compacted rock would be used to ensure durability and provide a firm surface for the trail, while a 2-foot-wide soft shoulder will provide for equestrian use. In areas of the alignment near wetlands, the trail would be elevated using a 12-foot-long puncheon (raised wooden trail) and 58-foot-long boardwalk made up of wooden decking material on top of wooden stringers and posts to allow for a continuous pathway.

Trail features would include 42-inch tall split-rail fencing in hazardous areas and/or sensitive habitat areas, two 48 x 36-inch signs to provide directions at each trail ends mounted at eye level on redwood posts. At each of the three overlooks, one sign warning of dangerous eroding cliff edge will be mounted at a height of 4-feet, -2inches on redwood posts and one 32 x 22-inch interpretive sign would be installed at eye level to educate trail users.

b. Trail Alignment

The proposed trail would adhere to a 60-foot setback from the edges of the sea cliff, ravine and gully, with the exception of spur trails to overlooks. Key aspects of the alignment are described below.

³ The Wavecrest Restoration Plan was reviewed by the PlaceWorks in January, 2014 as a PDF document. Although image quality of the document is substandard, the general intent of the plan and locations of key features remains legible.

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- **Connection to Seymour Bridge.** The north end of the trail would connect with Seymour Bridge at Ravine 1. To minimize the impacts of trail development within proximity to the ravine, the trail would cross the Monterey cypress grove perpendicularly (rather than at an angle) to minimize potential impacts and to direct the trail out of the setback as quickly as possible. Removing lower limbs of the Monterey cypress trees would be required to ensure adequate clearance for the multi-use trail. It is not anticipated that removal of any trees will be necessary. Although Monterey cypress is not a sensitive species, it provides habitat for sensitive bat species and the Monarch butterfly, and therefore mitigation including surveys and appropriate scheduling of work would be conducted prior to any tree removal or limbing. The Seymour Bridge is not located within the Project site and modifications to the bridge are not listed as potential project components. The Seymour Bridge is in danger of collapsing due to erosion and unstable footings, however the replacement or repair of the bridge would be completed as a separate project at a time yet to be determined.
- **Avoidance of Ravine Mouth.** The alignment at Seymour Bridge provides a rich trail experience through the cypress groves, and is designed to avoid the hazardous ravine mouth. The proposed trail alignment passes through the cypress grove, exits into the grasslands away from the ravine and bluff top, and then gently pulls back to the existing informal trail while angling towards the proposed northern overlook near the lone cypress tree.
- **Avoidance of Gully and Seasonal Wetlands.** The primary alignment would wrap around the outside of the grove, while avoiding the seasonal wetland to the south to the extent possible. This alignment would require a boardwalk or puncheon near the wetland area. An additional spur trail would connect underneath the existing grove. Since the existing clearance is not adequate for a multi-use trail, the spur trail would be limited to pedestrian use to avoid the need for significant limb removal.
- **Overlooks and Spur Trails.** Overlook areas would be focused at three key locations, with the intention of enhancing trail experience and steering visitors away from the worn footpaths that are contributing to the bluff top erosion. Spur trails should be provided to overlooks that are located off the primary path. These overlooks will draw viewers and therefore reduce overall visitor impact along the bluffs. Interpretive signage and warning signage will be installed to guide visitors.

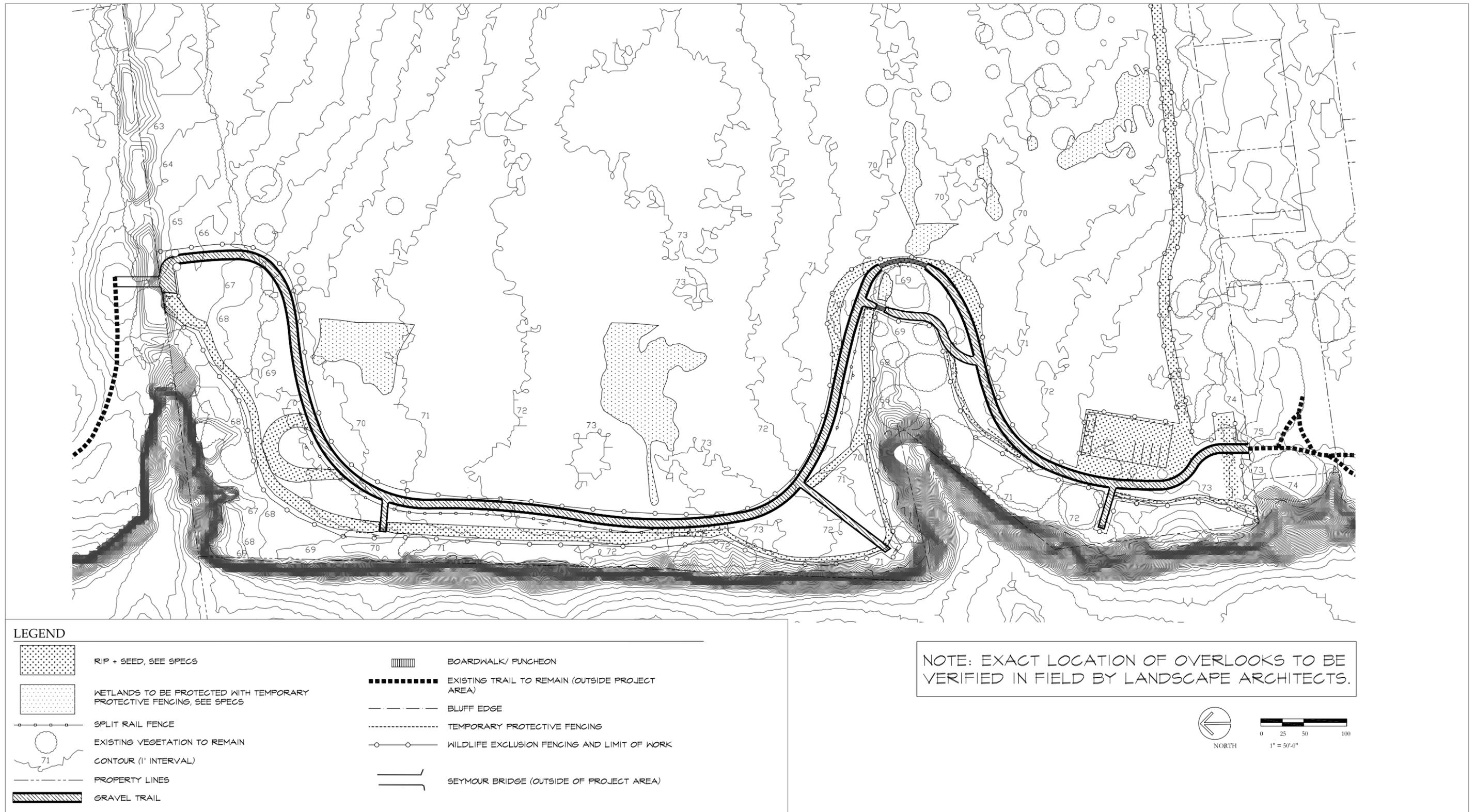
2. Restoration

The project area has multiple informal trails. In addition to building a formal trail alignment, the project would include restoration of 19,834 square feet of informal trail areas.

The use of the existing informal trails has resulted in significant erosion from lack of vegetation. Restoration of informal trails will involve site preparation measures to include topsoil treatment, soil de-compaction, erosion control, or other measures as appropriate. These areas will be ripped and reseeded with a Native Coastal seed mix (e.g., seed potted nursery stock and other materials collected from within 5 miles of the restoration site). Removal of non-native plants will be conducted by mowing, hand weeding, and raking, with minimal usage of herbicide application or burning.



Figure 3
Project Overview



Source: PlaceWorks.

Figure 4
Proposed Project

3. Temporary Construction Requirements

Construction of the proposed Project would require the establishment of temporary construction access and staging areas and the use of wildlife exclusion fencing, as described below and shown in Figure 3, Project Overview. To ensure implementation of the actions described in this section, detailed mitigation measures are described in Section IV of this Initial Study Mitigated Negative Declaration, and will be included in the Mitigation Monitoring and Reporting Plan for the Project.

a. Construction Access and Staging

Construction crews would access the site from State Route 1 using Wavecrest Road and a temporary access route that would connect from the western terminus of Wavecrest Road to a designated construction staging area. At the end of the construction staging area an access route would be ripped and reseeded with a Native Coastal seed mix. These temporary construction features are described in more detail below.

The staging area would be located adjacent to the trail and be 100 feet by 50 feet and provide adequate space for two 20-foot-long storage containers; several parking spaces for construction crew. At the north end of the trail alignment space will be provided for vehicles to turn around prior to exiting the Project Area.

The access route is anticipated to be a temporary 12-foot-wide compacted dirt road and would be located within the City's road easement immediately west of Smith Fields on City-owned Smith Fields (Parcel Number 065-011-050), the adjacent property owned by the Peninsula Open Space Trust (Parcel Number 065-011-140), and the Coastside Land Trust's property (Parcel Number 065-011-010). The proposed alignment for the temporary road avoids wetlands and sensitive habitat.

In order for construction vehicles to make the right turn from Wavecrest Road onto the temporary access route, an existing sign with wood posts, metal pole, and dirt berm would need to be removed and replaced after construction. Parking at Smith Fields would not be impacted by the construction entrance, however the existing dirt trail along the City of Half Moon Bay parcel would be temporarily closed and temporary signage will be placed to warn trail users. Prior to construction the project applicant will obtain an encroachment permit from the City of Half Moon Bay Public Works for this work within City owned property and/or public-right-of-way.

The construction period will last eight weeks. It is anticipated that the temporary access road will see on average of ten inbound vehicle trips and ten outbound vehicle trips each day. During five of the construction days, it is anticipated that 16 additional inbound and 16 additional outbound trips will be required to deliver the rock for the trail surface.

b. Wildlife Exclusion Fencing

Wildlife exclusion fencing will be erected and maintained around the perimeter of the Limit of Work, including the Project staging areas and access route, to prevent San Francisco garter snake (SFGS) and California red-legged frog (CRLF) from entering the site. Any wetland areas within the Limit of Work would also be protected by silt fencing. The vehicle access point at the parking lot of smith fields would have a temporary silt fence gate which is opened to allow construction vehicle access while the contractor's trained personnel is present. At night the seal on the temporary gate would be augmented by sandbags.

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Installation of fencing will be performed under the supervision of a USFWS-approved biologist. Once the fencing is installed, workers will clear all vegetation within this area with belt driven weed whackers or other hand tools to a height of 4 to 6 inches. Following the removal of vegetation, preconstruction surveys for SFGS and CRLF will be performed prior to the start of any ground breaking activities by a USFWS-approved biologist. Fencing will be equipped with one-way escape funnels. Fencing will extend a minimum of 36 inches above ground level and will be buried 4 to 6 inches into the ground. Exclusion fencing will be checked a minimum of one time per week by biological monitors for the duration of the Project to identify problems or weaknesses in fence integrity and function. All compromised portions will be repaired and/or replaced immediately.

5. ENVIRONMENTAL CHECKLIST

I. AESTHETICS

Would the Project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Have a substantial adverse effect on a scenic vista?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings and historic buildings within a State scenic highway?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Create a new source of substantial light or glare that would adversely affect day or nighttime views in the area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

DISCUSSION:

a) The Half Moon Bay Local Coastal Program identifies existing visual resources in the city in a Visual Resources Overlay Map.⁴ There are no officially recognized scenic vistas in the immediate Project Area. Views from the Wavecrest Property are of the Pacific Ocean to the west, Monterey cypress to the north and south, and a eucalyptus grove and the Santa Cruz Mountains to the east. Components of the public trail Project would include signage and the construction of trails suitable for multiple non-motorized user types, including establishment of scenic overlooks of the Pacific Ocean. The Project would not include any components that would block scenic vistas. Therefore, the Project would enhance scenic vistas of the Pacific Ocean from the Project Area but would not affect scenic vistas from other locations. **Less Than Significant Impact.**

b) Portions of Highway 1 are designated as a state scenic highway, but the designated scenic portion running 26 miles from Santa Cruz to Half Moon Bay ends at city limits.⁵ In addition, improvements included in the Project would not be visible from Highway 1. **No Impact.**

c) The Project does not propose any new buildings or structures that would affect views or character. The formalized trails would facilitate and not obstruct views of scenic resources. The proposed connection to the California Coastal Trail on the northern side of the Wavecrest Property would require minor thinning of a stand of cypress trees, but would otherwise leave the cypress stand intact. Proposed improvements including signage and split-rail fence, would be small in relation to the natural surroundings, and not affect the existing rural character. The temporary access road would temporarily affect visual character of the site but it would be removed and the area would be replanted following construction. **Less Than Significant Impact.**

⁴ City of Half Moon Bay, 1993. Half Moon Bay Local Coastal Program. Page 225. Accessed December 12, 2012 from http://www.half-moon-bay.ca.us/index.php?option=com_content&view=article&catid=38%3Aplanning-homepage&id=88%3Aland-use-coastal-program-documents&Itemid=80

⁵ Caltrans State Scenic Highway, n.d., Accessed December 12, 2012 from http://www.dot.ca.gov/hq/LandArch/scenic_highways/index.htm.

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d) The Project is limited to gravel trail with limited wood features and signage, and would not include any sources of artificial lighting or any features with potential to create glare. **No Impact.**

II. AGRICULTURE AND FORESTRY RESOURCES

Would the Project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Convert Prime Farmland, Unique Farmland or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Conflict with existing zoning for, or cause rezoning of, forest land (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))?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Result in the loss of forest land or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of farmland to non-agricultural use or of conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

DISCUSSION:

a) The Wavecrest Property does not include Prime Farmland, Unique Farmland, or Farmland of Statewide Importance per the Farmland Mapping and Monitoring Program of the California Resources Agency.⁶ **No impact.**

b) No properties affected by the Project within San Mateo County are under the Williamson Act.⁷ **No impact.**

c), d) According to 2003 mapping data from the California Department of Forestry and Fire Protection, the Project Area does not contain woodland or forest land cover;⁸ thus the Project Area contains no land zoned for Timberland Production and no impact would occur. **No impact.**

⁶ California Department of Conservation, 2010, San Mateo County Farmland Mapping and Monitoring Program, 2010, <ftp://ftp.consrv.ca.gov/pub/dlrp/FMMP/2010/sanmateo2010.shp>, accessed on December 12, 2012

⁷ California Department of Conservation, 2010, California Land Conservation (Williamson) Act 2010 Status Report, page 23, http://www.conservation.ca.gov/dlrp/lca/stats_reports/Documents/2010%20Williamson-%20Act%20Status%20Report.pdf, accessed on December 12, 2012.

e) See items b), c), and d) above. The Project would not lead to conversion of farmland or forest land to different uses. **No impact.**

III. AIR QUALITY

Would the Project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Conflict with or obstruct implementation of the applicable air quality plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the Project Area is in non-attainment under applicable federal or State ambient air quality standards (including releasing emissions which exceed quantitative thresholds for ozone precursors)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Expose sensitive receptors to substantial pollutant concentrations?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Create objectionable odors affecting a substantial number of people?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

DISCUSSION:

a) The Bay Area 2010 Clean Air Plan is the current control strategy to reduce ozone, particulate matter (PM), air toxics, and greenhouse gases (GHGs) for the Bay Area, including Half Moon Bay and all of San Mateo County. The Project, a coastal trail, would neither conflict nor obstruct implementation of the plan. Instead, the Project would support the Plan’s Transportation Control Measure (TCM) D-2 by improving pedestrian access and supporting facilities improvements.⁹ **Less Than Significant Impact.**

b) Long-term operation of the Project, a coastal trail segment designed for non-motorized transport such as walking, biking, and horseback riding, would not contribute significantly to air quality violations. However, the short-term construction phase impacts could potentially represent a significant impact, if not mitigated.

Half Moon Bay is within the San Francisco Bay Area Air Ozone Non-Attainment Area, as delineated by the U.S. Environmental Protection Agency (EPA). The entire Bay Area is in “non-attainment” for particulate matter (PM₁₀), fine

⁸ California Department of Forestry and Fire Protection Fire and Resource Assessment Program, Land Cover map, http://frap.cdf.ca.gov/webdata/maps/statewide/fvegwhr13_map.pdf, accessed on May 16, 2013.

⁹ BAAQMD, 2010. Draft CAP Vol. 2 Section C: Transportation Control Measures, page C-64 http://www.baaqmd.gov/~media/Files/Planning%20and%20Research/Plans/2010%20Clean%20Air%20Plan/Draft%202010%20CAP/Vol2_SectionC_TCMs.ashx

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particulate matter (PM_{2.5}), and ozone¹⁰. These problematic criteria pollutants can result from motor vehicle emissions, though other sources include excavation, diesel equipment exhaust, grading, or vehicle travel on unpaved surfaces. Construction of the proposed project would involve small amounts of grading and usage of diesel equipment. Emissions would be temporary, occurring during trail construction. With the implementation standard construction practices required by the City of Half Moon bay and the following mitigation measured by BAAQMD, potential air quality related impacts would be consistent with the City's LCP/LUP and be reduced to a less-than-significant level.¹¹

Mitigation Measure AIR-1. The Project contractor shall prepare a dust control plan prior to commencement of construction activities. Specification of the approved dust control measures shall be included in all construction documents. The dust control plan shall include all applicable measures listed below:

- Water all active construction areas at least twice daily.
- Grading and construction equipment shall be shut down when not in use.
- Construction activities shall not occur during windy periods.
- Exposed soil shall be periodically sprinkled to retard dust; no City water shall be used for this.
- Water all active construction areas at least twice daily.
- Cover all trucks hauling soil, sand, and other loose materials or require all trucks to maintain at least 2 feet of space from the top of the holding area.
- Apply water three times daily on all unpaved access roads, parking areas, and staging areas at construction sites.
- Sweep daily (preferably with water sweepers) all paved access roads, parking areas, staging areas at construction sites, and adjacent public streets if soil material is visible.
- Hydroseed or apply soil stabilizers (non-toxic) to inactive construction areas.
- Enclose, cover, water twice daily, or apply soil stabilizers (non-toxic) to exposed stockpiles (dirt, sand, etc.).
- Limit traffic speeds on unpaved roads to 15 miles per hour (mph).
- Replant vegetation in disturbed areas as quickly as possible.
- To minimize combustive emissions from construction equipment, internal combustive engines should be idled at a minimum and properly maintained and operated.

c) The Bay Area is designated as a non-attainment area of the national 8-hour ozone standard and non-attainment area of the State 1-hour ozone standard, as well as in non-attainment of 24-hour particulate matter (PM₁₀), and non-attainment of annual arithmetic mean of fine particulate matter (PM_{2.5}).¹² Construction of the proposed trail and as-

¹⁰ BAAQMD, n.d., Air Quality Standards and Attainment Status, accessed December 31, 2012 from: http://hank.baaqmd.gov/pln/air_quality/ambient_air_quality.htm.

¹¹ City of Half Moon Bay, 2010. Initial Study, Highway 1 Trail Improvements. File Number PDP-003-10. Accessed December 31, 2012 from http://hmbcity.com/index.php?option=com_docman&task=doc_download&gid=282&Itemid=68.

¹² BAAQMD, n.d., Air Quality Standards and Attainment Status, accessed December 31, 2012 from: http://hank.baaqmd.gov/pln/air_quality/ambient_air_quality.htm

sociated features could result in a slight, temporary increase of particulate matter. However, given the relatively the limited amount of construction proposed and implementation of Mitigation Measure AIR-1, the Project would result in a less-than-significant impact on the cumulative net increase in ozone or PM₁₀ and PM_{2.5}. **Less Than Significant Impact.**

d) The Project does not propose new residences or other sensitive receptors. The proposed Project includes the construction of 2,040 linear feet of trails and revegetation of disturbed habitat, and will affect less than one-acre of the 50-acre parcel. The Project does involve a temporary and a relatively small amount of excavation and grading to prepare an unpaved trail, involving heavy machinery. The nearest existing sensitive receptors would be people living in housing on Seymour Street, roughly 1,300 feet away from the Project Area. These people would not be exposed to substantial pollutant concentrations during operation of the Project, and only a temporary, small scale increase from dust and diesel equipment used during trail construction, which will be reduced through Mitigation Measure AIR-1. **Less Than Significant Impact.**

e) Implementation of the proposed Project, which include trails and trail accessories, would not create objectionable odors. **No Impact.**

IV. BIOLOGICAL RESOURCES

Would the Project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or US Fish and Wildlife Service?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Have a substantial 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

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Would the Project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

The discussion below reflects the findings of the Biological Resources Assessment (BRA) prepared by WRA Environmental Associates in November 2012 and revised August 5, 2013. This report is included in Appendix A. The biological resources assessment was based on field reconnaissance conducted on foot on August 29 and September 26, 2012, as well as protocol-level rare plant surveys within the Study Area conducted on May 20, 2013, and July 25, 2013. The field visits resulted in observations of the habitat types and conditions in the Project Area, identification of present plant and wildlife species, and professional biologist opinion of the suitability of the Project Area for special status plant and wildlife species. Prior to field reconnaissance, the following literature sources were reviewed to determine which sensitive habitat types and special status plant and wildlife species have documented occurrences in the vicinity of the Project Area, and thus may have potential to occur in the Project Area:

- California Natural Diversity Database (CNDDDB) (CDFG, 2012)
- USFWS species lists for the following quadrangles: Half Moon Bay, Montara Mountain OE W, Montara Mountain, San Mateo, Woodside, La Honda, and San Gregorio (USFWS, 2012)
- CNPS Electronic Inventory records (CNPS, 2012)
- CDFG publication “California’s Wildlife, Volumes I-III” (Zeiner et al., 1990)
- CDFG publication “Amphibians and Reptile Species of Special Concern in California” (Jennings, 1994)
- “A Field Guide to Western Reptiles and Amphibians” (Stebbins, R.C., 2003)
- “San Mateo County Soil Survey” (NRCS, 2012)

DISCUSSION:

a) The BRA identifies habitat for 18 special status animals, and 14 special status plant species, including those listed as candidate, threatened, or endangered under either the federal or California law. None of these species were directly observed during the field reconnaissance visits; one special status plant species was observed during protocol surveys.

Special Status Animals

General

Eighteen special status animal species were determined to have moderate to high probability to occur in the Project Area due to presence of suitable habitat. If general measures to protect sensitive species and their habitat is not taken during construction, adverse impacts could occur.

Mitigation Measure BIO-1A: Prior to the start of groundbreaking activities, all construction personnel will receive training on listed species and their habitats by a qualified biologist. The importance of these species and their habitat will be described to all employees as well as the minimization and avoidance measures that are to be implemented as part of the Project. An educational brochure containing color photographs of all listed species in the work area(s) will be distributed to all employees working within the Project Area(s). The original list of employees who attend the training sessions will be maintained by the applicant and be made available for review by the USFWS and the CDFG upon request.

Mitigation Measure BIO-1B: The contractor or applicant shall designate a person to monitor on-site compliance with all minimization measures. The on-site monitor(s) will remain on-site for the duration of the proposed Project, including vegetation removal, grading and cleanup activities.

Mitigation Measure BIO-1C: Designated construction staging areas will be utilized as the staging areas for the trail construction activities. All vehicles associated with project activities will be clustered within these areas at the end of each work day or when not in use to minimize habitat disturbance and water quality degradation. Fueling and maintenance of equipment will be conducted off-site if practicable, and at least 50 feet from any wetland.

Mitigation Measure BIO-1D No trash shall be deposited on the site during construction activities. All trash shall be placed in trash receptacles with secure lids stored in vehicles and removed nightly from the Project Area. With mitigation measures Bio 1A to Bio 1D, these general impacts to the habitat would be reduced.

Birds

Nesting birds, including red-tailed hawks, short eared owls, and white tailed kites, are known to use the Project Area and have been documented in the vicinity by both expert scientists and citizens.¹³ These nesting birds use trees such as the Monterey cypress trees in the Project Area and the immediate vicinity for nesting during winter. These animals are special status species protected by the Migratory Bird Treaty Act, as well other regulations and the Local Coastal Program of Half Moon Bay¹⁴ If construction, including clearing of vegetation or the initiation of construction, were to occur during the bird breeding season from February through August, these species could be adversely affected.

White-tailed Kite (*Elanus leucurus*), CDFG Fully Protected Species. Kite occur in low elevation grassland, agricultural, wetland, oak woodland, and savannah habitats. Riparian zones adjacent to open areas are also used. Vegetative structure and prey availability seem to be more important than specific associations with plant species or vegetative

¹³ Half Moon Bay Patch, March 1, 2011. Boutell, A. Winter Is a Hot Time for Hawks and Other Raptors in Half Moon Bay, International bird expert Alvaro Jaramillo gives a talk and leads a bird walk at Wavecrest with fellow local resident and biologist Gary Deghi. Accessed from: <http://halfmoonbay.patch.com/articles/winter-is-a-hot-time-for-hawks-and-other-raptors-in-half-moon-bay>

¹⁴ City of Half Moon Bay. 1993. Local Coastal Program. Page 62. Accessed January 2, 2012 from http://www.half-moon-bay.ca.us/index.php?option=com_content&view=article&catid=38%3Aplanning-homepage&id=88%3Aland-use-coastal-program-documents&Itemid=80.

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communities. Lightly grazed or ungrazed fields generally support large prey populations and are often preferred to other habitats. Kites primarily prey on small mammals, and occasionally on birds, reptiles, amphibians,. Nest trees range from single isolated trees to trees within large contiguous forests. Preferred nest trees are extremely variable, ranging from small shrubs (less than 10 ft. tall), to large trees (greater than 150 ft. tall) (Dunk 1995). Suitable foraging habitat is present and suitable nesting habitat may be present in the trees and shrubs in the Project Area. This species has been observed during the WRA site visits within the Project Area.

Ferruginous Hawk (*Buteo regalis*), CDFG Species of Special Concern, USFWS Bird of Conservation Concern. The ferruginous hawk breeds in the semiarid grasslands of the Great Plains. This species is a winter visitor to California and occupies open terrain including, grasslands, agricultural fields, and deserts. Grassland and arid areas of California, Arizona, and New Mexico are used heavily where prairie dogs, rabbits, or pocket gophers (*Thomomys* spp.) are abundant (Bechard and Schmutz 1995). Suitable foraging habitat is present and suitable nesting habitat may be present in the trees and shrubs in the Project Area. Therefore, this species has a moderate to high potential to occur within the Project Area.

American Peregrine Falcon (*Falco peregrinus anatum*), Federally Threatened, State Endangered. The American peregrine falcon is a Federal Delisted, State Endangered, and California Fully Protected Species. Historical pesticide contamination, specifically DDT, is the primary source of decline for this species. It winters throughout the Central Valley and occurs as a vagrant in a wide variety of habitats. Suitable foraging habitat is present and suitable nesting habitat may be present in the trees and shrubs in the Project Area. Therefore, this species has a moderate potential to occur within the Project Area.

Short-eared Owl (*Asio flammeus*), CDFG Species of Special Concern. The short-eared owl typically is found in tall grasslands and emergent wetlands. The seasonal wetlands and nearby annual grasslands and small shrubs provide potentially suitable breeding and foraging habitat for this species. Suitable foraging habitat is present and suitable nesting habitat may be present in the shrubs in the Project Area. Therefore, this species has a moderate potential to occur within the Project Area.

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

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

Saltmarsh Common Yellowthroat (*Geothlypis trichas sinuosa*), USFWS Bird of Conservation Concern, CDFG Species of Special Concern. This subspecies of the common yellowthroat is found in freshwater marshes, coastal swales, riparian thickets, brackish marshes, and saltwater marshes. Their breeding range extends from Tomales Bay in the north, Carquinez Strait to the east, and Santa Cruz County to the south. This species requires thick, continuous cover such as tall grasses, tule patches, or riparian vegetation down to the water surface for foraging and prefers willows for nesting. Suitable foraging habitat is present within the Project Area, although due to the lack of willows and similar riparian vegetation in the Project Area, no suitable breeding habitat is present. Thus, this species has a high potential to occur within the Project Area.

Yellow Warbler (*Dendroica petechia*), CDFG Species of Special Concern. Yellow warblers are a summer resident of Northern California and breed in deciduous riparian or shrub habitats associated with conifer forests. This species has a moderate potential to forage in suitable grassland habitat. However, it is unlikely this species will nest in the minimal shrub habitat within the Project Area as on-site shrubs (in the northern coyote scrub) are not associated with forested areas. Therefore, this species has a moderate potential to occur within the Project Area.

Bryant's Savannah Sparrow (*Passerculus sandwichensis alaudinus*), CDFG Species of Special Concern. This Savannah sparrow subspecies is endemic to California with a range that extends along the fog belt from Monterey County north to Del Norte County. It is most often associated with saltmarsh habitats, but will also use grasslands. Suitable foraging habitat is present and suitable nesting habitat may be present in the grassland habitat within the Project Area. Therefore, this species has a high potential to occur within the Project Area.

Mitigation Measure BIO-2A: Construction, including the removal of vegetation and the arrival of motor vehicles and equipment, shall occur only outside of nesting season (from September to January). This would reduce impacts to nesting birds, including raptors, to *less than significant*.

Amphibians and Reptiles

The California red-legged frog (CRLF) and San Francisco garter snake (SFGS) are known to use the Project Area and are known to occur in the vicinity. The Project Area contains suitable habitat for these special status species. If survey and exclusion measures are not taken prior to construction, these species would be adversely affected. With proposed mitigations 3A to 3E, impacts would be reduced to less than significant.

California Red-legged Frog (*Rana draytonii*), Federal Threatened, State Species of Special Concern. California red-legged frogs (CRLF) are associated with presence of seasonal water and the absence of predators such as sunfish or perch, crayfish, and bullfrogs. CRLF is also observed in areas of thick brushy riparian vegetation and willow trees. During the rainy season, particularly winter and early spring, CRLF can move up to 2 miles between aquatic habitats, often over areas that are considered to be unsuitable for frogs such as roads, open fields, and farmland, but more commonly along riparian corridors. During the dry season, CRLF typically estivate (period of inactivity) in small mammal burrows, moist leaf litter, incised stream channels, and large cracks in the bottom of dried ponds. Breeding occurs in the rainy season from November to April in still waters. A 2004 occurrence of CRLF is documented on the Wavecrest CLT property, less than ½-mile east of the Project Area. Three additional occurrences are documented within 5 miles are in Albert Canyon Creek, Lost Trancos Creek, and near Pilarcitos Creek. Therefore, CRLF has a high potential to occur within the Project Area, and is likely present, though suitable breeding areas are not present within the Project Area.

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San Francisco garter snake (*Thamnophis sirtalis tetrataenia*), Federal Endangered, State Endangered, CDFG Fully Protected. The historic range of the SFGS was the San Francisco Peninsula from approximately the San Francisco County line south along the Santa Cruz Mountains to Año Nuevo Point in San Mateo County, and Waddell Creek in Santa Cruz County. While associated with wetlands, SFGS have been observed in a wide variety of aquatic and terrestrial habitats, both natural and man-made, throughout their historic range. Juveniles and adults have been seen or collected from natural lagoons, ponds, streams, pools next to streams, marshlands, and springs. The SFGS has also adapted to human-created small water bodies, and is also found in stock ponds, canals, golf course ponds, irrigation ponds, sand and gravel pits containing water, and large reservoirs. Adjacent upland areas with abundant small mammal burrows are important estivation (a type of “hibernation”) sites for snakes during the winter. The presence of frogs as a prey base item is also critical for the survival of SFGS. California red-legged frogs and/or bullfrogs, perhaps in combination with dense populations of Pacific treefrogs, are typically present in association with this snake species. While territory size is not known definitively, studies suggest SFGS travel from 500 feet to 1,000 feet from their estivation sites for feeding. The nearest SFGS occurrence is greater than the documented and known distance for SFGS to disperse from aquatic habitat, however, suitable scrub habitat and a suitable prey base are present within the Project Area; therefore, SFGS has a moderate potential to occur within the Project Area.

Mitigation Measure BIO-3A: Immediately before the onset of construction or vegetation removal, a qualified biologist shall survey the work site. If California red-legged frog, tadpoles, or eggs are found, the approved biologist shall contact the USFWS to determine if moving any of these life-stages is appropriate. If the USFWS approves moving animals, only the approved biologist will participate in activities associated with the capture, handling, and monitoring California red-legged frog, and be given reasonable time to do so.

Mitigation Measure BIO-3B: A qualified biologist shall survey the work site immediately before the onset of ground clearing or construction activities. Any SFGS shall be allowed to leave the work area on their own, and shall be monitored as practical by the biologist to ensure they do not reenter the work area.

Mitigation Measure BIO-3C: To ensure that the CRLF and SFGS do not get trapped, the contractor will use only tightly woven fiber netting or similar material for erosion control or other purposes. Plastic mono-filament netting (erosion control matting), rolled erosion control products or similar material shall not be used in the Project Area because CRLF, SFGS, and other species may become entangled or trapped in it.

Mitigation Measure BIO-3D: Wildlife exclusion fencing will be erected and maintained around the perimeter of the Limit of Work, including the Project staging areas and access route, to prevent SFGS and CRLF from entering the site. Any wetland areas within the Limit of Work would also be protected by wildlife exclusion fencing. Installation of the fence will be performed under the supervision of a USFWS-approved biologist. Once the fencing is installed, workers will clear all vegetation within this area with belt driven weed whackers or other hand tools to a height of 4 to 6 inches. Following the removal of vegetation, preconstruction surveys will be performed prior to the start of any ground breaking activities by a USFWS-approved biologist. Fencing will be equipped with one-way escape funnels. Fencing will extend a minimum of 36 inches above ground level and will be buried 4 to 6 inches into the ground. Exclusion fencing will be checked a minimum of one time per week by biological monitors for the duration of the Project to identify problems or weaknesses in fence integrity and function. All compromised portions will be repaired and/or replaced immediately.

Mitigation Measure BIO-3E: Because CRLF and SFGS may take refuge in cavity-like and den-like structures such as pipes and may enter stored pipes and become trapped, all construction pipes, culverts, or similar struc-

tures that are stored at a construction site for one or more overnight periods will be either securely capped prior to storage or thoroughly inspected by the on-site monitor and/or the construction foreman/manager for these animals before the pipe is subsequently buried, capped, or otherwise used or moved in any way. If a CRLF is discovered inside a pipe by the on-site monitor or anyone else, a qualified biologist shall move the animal to a safe nearby location and monitor it until it is determined that it is not imperiled by predators or other dangers. CRLF will not be removed from the vicinity or remain in captivity overnight unless in the care of a certified wildlife veterinarian. If a SFGS is found, it should be allowed to passively leave the work area on its own, as determined by the on-site monitor. If a CRLF or SFGS is trapped, a CRLF or SFGS permitted biologist shall move the individual(s) with permission from USFWS and CDFG. If SFGS are discovered, the snake may be relocated by a permitted biologist and with USFWS and CDFG approval.

Mitigation Measure BIO-3F: To prevent inadvertent trapping of SFGS and CRLF during construction, the on-site monitor and/or construction foreman/manager shall ensure that all excavated, steep-walled holes or trenches more than 1 foot deep are completely covered at the close of each working day by plywood or similar materials, or provided with one or more escape ramps constructed of earth fill or wooden planks and inspected by the on-site biologist. Before such holes or trenches are filled, they will be thoroughly inspected for trapped animals by the onsite biologist and/or construction foreman/manager. If at any time a trapped CRLF or SFGS is discovered by the on-site biologist or anyone else, the animal should be allowed to passively leave the work area on its own, as determined by the onsite biologist. If a CRLF or SFGS is trapped, a CRLF or SFGS permitted biologist shall move the individual(s) with permission from USFWS and CDFG. If SFGS are discovered, the snake may be relocated by a permitted biologist and with USFWS and CDFG approval.

Mitigation Measure BIO-3G: Upon completion of construction and restoration, all fencing material will be removed from the site and disposed of properly. If applicable, the applicant will monitor the property according to a USFWS-approved monitoring and management plan.

Mitigations Measures 3A to 3G would reduce impacts to CRLF and SFGS to less than significant.

Insects

Monarch butterflies' roost sites are afforded special status from CDFG. This species is not known to use the Project Area, but are known to have winter roosts in the vicinity. Winter roost sites extend along the coast from northern Mendocino to Baja California, Mexico. Roosts are located in wind protected tree groves, with nectar and water sources nearby. Suitable winter roost sites exist for this species in the Monterey cypress trees within the Project Area. No documented roosts are known within the Project Area. Therefore, this species has a moderate potential to occur within the Project Area. If tree removal is scheduled between March and September, these butterflies could be disturbed and adversely affected if roosting on the Project Area. A protocol-level survey for monarch winter roost sites and postponment of roosting tree disturbance would prevent an adverse impact.

Mitigation Measure BIO-4: If tree removal is occurs between September and March require protocol-level survey for roosting monarch butterfly prior to tree removal. Any positive detection of a roost may require consultation with CDFG on how and when to proceed with construction activities. With this mitigation measure, impacts to roosting Monarch butterflies are less than significant.

Mammals

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San Francisco Dusky-Footed Woodrat (*Neotoma fuscipes annectens*), CDFG Species of Special Concern. The woodrat is not known to use the Project Area, however, the shrub areas in the Project Area have the potential to support this species. This species inhabits hardwood forests of moderate canopy with a moderate to dense understory. The sub-species occurs in Coast Ranges between San Francisco Bay and the Salinas River. This woodrat prefers brushy riparian habitats, coast live oak woodland, and dense scrub communities. Prominent stick houses provided evidence of its presence. Nests are constructed out of leaves, shredded grass, and other material. Habitat for this species exists in the Monterey cypress grove and northern coyote brush scrub habitats of the Project Area. Therefore, this species has a moderate potential to occur within the Project Area.

Mitigation Measure BIO-5: A pre-construction survey for San Francisco dusky-footed woodrat stick houses will be conducted, prior to vegetation removal. If stick houses are observed, they should be avoided if possible. If avoidance is not feasible, the houses should be dismantled by hand under the supervision of a biologist. If young are encountered during the dismantling process, the material should be placed back on the house and the house will remain unmolested for two to three weeks in order to give the young enough time to mature and leave the house. After two to three weeks, the nest dismantling process may begin again. Nest material will be moved to suitable adjacent areas (riparian, woodland, scrub) that will not be impacted. With this mitigation measure, impacts to nesting San Francisco dusky-footed woodrat are less than significant.

Long-eared myotis, fringed myotis, long-legged myotis, pallid bat, and Western red bat are not known to use the Project Area, however, the cypress tree groves in the Project Area have the potential to provide suitable roosting habitat for these species.

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

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

Long-legged Myotis (*Myotis volans*), WBWG High Priority. The long-legged myotis is generally associated with woodlands and forested habitats. Large hollow trees, rock crevices and buildings are important day roosts. Other roosts include caves, mines and buildings. Mature trees and snags within the Monterey cypress groves may provide suitable roost habitat for this species in the Project Area. Therefore, this species has a moderate potential to occur within the Project Area.

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

within the Monterey cypress groves may provide suitable roost habitat for this species in the Project Area. Therefore, this species has a moderate potential to occur within the Project Area.

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

Mitigation Measure BIO-6: If Project activities which include disturbing trees (including dead trees) occur between April 1 to August 31, a pre-construction survey for bats should be conducted by a qualified biologist no less than 14 days prior to these activities. Methods for detection should include ultrasonic acoustic surveys and/or other site appropriate survey methods. If special status bat species are found to be roosting during surveys, species- and roost-specific mitigation measures will be developed. Such measures will be developed in consultation with CDFG. With this mitigation measure, impacts to roosting bats are less than significant.

Special Status Plants

Fourteen special status plant species were determined to have moderate to high probability to occur in the Project Area due to presence of suitable habitat. Most of these special species have an association with Coastal Scrub habitat, which is found on 0.36 acres of the 30.63-acre Project Area. To determine if any of these 14 species actually do occur within the Project Area, rare plant surveys were conducted on May 20, 2013, and July 25, 2013, during the blooming periods. The surveys confirmed the presence of only one species, Choris' popcorn flower (*Plagiobothrys chorisianus* var. *chorisianus*), as discussed below.

Choris' Popcorn Flower (*Plagiobothrys chorisianus* var. *chorisianus*), CNPS Rank 1B. Choris' popcorn flower is an annual herbaceous species in the family Boraginaceae. Typical habitat for this species includes chaparral, coastal prairie, and coastal scrub. Choris' popcorn flower has been recorded in Alameda, San Francisco, San Mateo, and Santa Cruz counties at elevations ranging from 15 to 160 meters and blooms from March through June. Choris' popcorn flower has documented occurrences within the Wavecrest property during 1995 and 2004 plant surveys and field visits conducted by T. Corelli and D. Lake, respectively (CNDDDB, 2012). This species is confirmed present during rare plant surveys conducted on May 20, 2013, and July 25, 2013 (Figure 3). Approximately 50 to 60 individual blooming plants located within seven isolated groupings were observed during the May 20, 2013, site visit. Some of these groupings were situated predominately within small (3- to 10-foot diameter) depressions and narrow linear swales that likely maintain higher soil moisture than adjacent higher ground during drier months.

Pappose Tarplant (*Centromadia parryi* ssp. *parryi*) CNPS Rank 1B. Pappose tarplant is an annual herbaceous species in the Asteraceae family. This species typically occurs in chaparral, coastal prairie, meadows and seeps, and valley and foothill grassland communities at elevations ranging from 2 to 420 meters. Pappose tarplant blooms between May and November and has been recorded in a number of California counties, including San Mateo, San Francisco, and Napa. Suitable grassland habitat intermixed with coyote brush scrub is present within the Project Area. This species has a moderate probability of occurrence in the Project Area.

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San Francisco Bay Spineflower (*Chorizanthe cuspidata* var. *cuspidata*), CNPS Rank 1B. San Francisco Bay spineflower is an annual herbaceous species in the family Polygonaceae. It occurs in coastal bluff scrub, coastal dunes, coastal prairie, coastal scrub, often on sandy soils. It is typically recorded from 3 to 215 meters in elevation in Alameda, Marin, San Francisco, San Mateo, and possibly Sonoma counties, and blooms between April and August. Suitable scrub habitat for this species is located along the eastern boundary of the Project Area, and it has a moderate probability of occurrence.

Mission bells (*Fritillaria lanceolata* var. *tristulis*), CNPS Rank 1B. Mission bells is a perennial, bulbiferous herbaceous species in the Liliaceae family. This species is typically found in cismontane woodland, coastal prairie, coastal scrub, and often on serpentine within valley and foothill grassland communities at elevations ranging from three to 410 meters. Mission bells blooms between February and April and has been recorded in a number of California counties, including San Mateo, San Francisco, and Santa Clara. This species could occur within coastal scrub habitat. This species has a moderate probability of occurrence in the Project Area.

San Francisco Gumplant (*Grindelia hirsutula* var. *maritima*), CNPS Rank 1B. San Francisco gumplant is a perennial herb in the family Asteraceae. It occurs on bluffs or in sandy or serpentine soils in coastal scrub, coastal bluff scrub, and valley and foothill grassland communities. It is typically recorded from 15 to 400 meters in elevation in Marin, San Francisco, San Luis Obispo, and San Mateo counties, with possible additional occurrences in Monterey and Santa Cruz counties. It blooms between June and September. This species could occur within coastal scrub or grassland communities. This species has a moderate probability of occurrence in the Project Area.

Shortleaf Dwarf Cudweed (*Hesperex sparsiflora* var. *brevifolia*), CNPS Rank 2. Shortleaf dwarf cudweed is a small annual herb in the family Asteraceae. It occurs in sandy or rocky bluffs and flats in coastal bluff scrub and coastal dunes. It is typically recorded from 0 to 200 meters in elevation in all coastal counties from Del Norte to Santa Cruz County, but is presumed extirpated from San Francisco County. It blooms between March and June. This species could occur within the coastal scrub community. This species has a moderate probability of occurrence in the Project Area.

Kellogg's Horkelia (*Horkelia cuneata* var. *sericea*), CNPS Rank 1B. Kellogg's horkelia is a perennial herb in the family Rosaceae. It occurs on gravelly or sandy soils in closed-cone coniferous forest, maritime chaparral, and openings in coastal scrub habitat. It is typically recorded from 10 to 200 meters in elevation in Alameda, Monterey, Santa Barbara, Santa Cruz, San Mateo, and San Luis Obispo counties, and is presumed extirpated from Marin and San Francisco counties. It blooms between April and September. This species could occur within the coastal scrub community. This species has a moderate probability of occurrence in the Project Area.

Point Reyes Horkelia (*Horkelia marinensis*), CNPS Rank 1B. Point Reyes horkelia is a perennial herb in the family Rosaceae. It occurs in sandy flats, coastal prairie, and coastal scrub. It is typically recorded from 5 to 30 meters in elevation in Mendocino, Marin, Santa Cruz, San Mateo, and Sonoma counties. It blooms between May and September. This species could occur within the coastal scrub community. This species has a moderate probability of occurrence in the Project Area.

Perennial Goldfields (*Lasthenia californica* ssp. *macrantha*), CNPS Rank 1B. Perennial goldfields is a perennial herb in the Asteraceae family. This species typically occurs in coastal bluff scrub, coastal dunes, and coastal scrub communities at elevations ranging between five and 520 meters. Perennial goldfields has been recorded in Mendocino, Marin,

San Luis Obispo, San Mateo, and Sonoma counties. This species could occur within the coastal scrub community. This species has a moderate probability of occurrence in the Project Area.

Coast Lily (*Lilium maritimum*), CNPS Rank 1B. Coast lily is a perennial bulbiferous herb in the lily family (Liliaceae) that typically occurs in a broad range of plant communities, including closed-cone coniferous forest, coastal prairie, and coastal scrub. This species occurs at elevations ranging from 5 to 475 meters and blooms between May and August. Coast lily has been recorded in Mendocino, Marin, San Francisco, San Mateo and Sonoma counties. This species could occur within the coastal scrub community. This species has a moderate probability of occurrence in the Project Area.

Davidson's Bushmallow (*Malacothamnus davidsonii*), CNPS Rank 1B. Davidson's bushmallow is a perennial deciduous shrub from the Malvaceae family. This species typically occurs in chaparral, cismontane woodland, coastal scrub, and riparian woodland communities at elevations ranging from 185 to 855 meters. Davidson's bushmallow blooms between June and January and has been recorded in Los Angeles, Monterey, Santa Clara, San Luis Obispo, and San Mateo counties. This species could occur within the coastal scrub community. This species has a moderate probability of occurrence in the Project Area.

Mitigation Measure BIO-7: If it is determined that construction-related activities will impact Choris' popcorn flower, a mitigation plan for protecting this species should be developed. Mitigation measures may include additional avoidance measures, salvaging and transplanting of plants within disturbance areas, and collection and storage of seeds for future re-establishment efforts.

b,c) The Report identifies two types of "Environmentally Sensitive Habitat Areas," Sea Cliffs and Seasonal Wetlands, as defined by the California Coastal Act, 2013, Public Resources Code Section 30107.5, and identified by the California Department of Fish and Wildlife, or US Fish and Wildlife Service. Additionally, the Local Coastal Program and the Half Moon Bay Municipal Code identifies Coastal Scrub as a "sensitive habitat." These three habitats types, their locations, and amounts are described below.

Sea cliffs occur along the length of the most of the Project Area, where the marine terrace meets the beach. The sea cliffs occur as a narrow strip on the western boundary where the Monterey cypress trees border the bluff edge and elevation drops to the beach. The Sea Cliffs comprise 0.4 acres of the Project Area. Per the Local Coastal Program, runoff from irrigation or other sources, removal of cliff top vegetation, and weight are threats to this habitat type.¹⁵ Half Moon Bay Municipal Code, requires that any development on the bluff top, defined as 50 feet from the edge of the bluff, will only be permitted if development will neither create, nor contribute significantly to, erosion problems or geologic instability of the site or surrounding area. The Project proposes construction of a primary trail setback a minimum of 60 feet from the bluff edge with defined spur trails to coastal overlooks that will reduce overall impacts to the bluff edge. The Project will not involve any irrigation or drainage measures or systems that would accelerate erosion. With these Project parameters, impact sensitive to sea cliff habitat is less than significant.

Seasonal wetlands are perennially water-logged soils indicated by soil with water-created features, and plant types which are adapted to inundation. In the Project Area, a total of 0.42 acres of wetlands occur, a portion of which is

¹⁵ City of Half Moon Bay. 1993. Local Coastal Program. Page 45 to 46. Accessed January 2, 2012 from http://www.half-moon-bay.ca.us/index.php?option=com_content&view=article&catid=38%3Aplanning-homepage&id=88%3Aland-use-coastal-program-documents&Itemid=80

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subclassified as coastal seasonal wetlands. The wetlands occur in four distinct areas, the largest of which is in the center of the Project Area (see Figure 4), approximately 15 feet east of the proposed trail alignment. The second largest wetland occurs in the northeastern corner of the Project Area, roughly 11 feet east of the proposed trail alignment. The third and fourth wetland patches are much smaller wetland, 250 feet south of the central wetland area, and are located 3 feet from the proposed trail alignment. Sections 18.38.075 and 18.38.080 of the Half Moon Bay Municipal Code require buffer zones of 30-feet and 100-feet between development and riparian and wetland resources, respectively. Although the proposed trail is closer than this to these resources in the specific locations noted above, the trail would be constructed as an elevated boardwalk when in proximity to wetlands and as a result would improve drainage flow on site and reduce impacts to wetland resources from existing informal trails. Furthermore, the proposed trail would be providing a trail for public use, which is a permitted use within buffer zones under the Half Moon Bay Municipal Code.

By deterring visitors from crossing these wetlands, the operation of the Project will have having no adverse effect on these sensitive habitats. During construction, wetlands will be protected with temporary protective fencing. Therefore, impacts to wetlands would be less than significant.

Per the Local Coastal Program, the Project Area includes the environmentally sensitive habitat area identified as Coastal Scrub. The Half Moon Bay Municipal Code describes a “coastal scrub community, associated with coastal bluffs and gullies.”¹⁶ The BRA identifies 0.44 acres of Northern Coyote Brush Scrub in the Project Area, which is a variant of coastal scrub dominated by the plant Coyote bush (*Baccharis pilularis*). This habitat is located in the southern portion of the Project Area, and is not located within the proposed trail alignment or construction access corridor. The closest distance between the proposed trail alignment and the coyote bush habitat is 17 feet. Many of the special status plant species listed earlier in this Initial Study are to some degree associated with coastal scrub. The Local Coastal Program requires a biological assessment to be carried out, any development to be sited and designed to prevent impacts which would significantly degrade areas these environmentally sensitive habitat areas, and development to be compatible with the maintenance of the biological productivity of such areas.¹⁷ As the Project proposes construction of the trail a minimum of 17 feet from of the Northern Coyote brush scrub/Coastal scrub, it will not involve disturbance of this habitat type and impacts to Coastal scrub habitat would be **less than significant**.

d) The Project does is not located on wildlife dispersal routes such as riparian corridors and would not be expected to contribute to habitat fragmentation which would interfere with wildlife migration. **Less Than Significant Impact.**

e) The Project complies with the City Half Moon Bay LCP’s polices for biological resources, including conducting biological reports for sensitive habitats and species, and designing a Project that avoids sensitive natural habitats. Additionally, the City of Half Moon Bay Heritage Tree Ordinance, HMB Municipal Code 7.040.20, requires a tree removal permit for any tree with a trunk diameter of 12 inches or more, or a circumference of 38 inches measured at 48 inches above ground level. The Project would involve limbing of Monterey cypress trees but it is not anticipated that removal of any trees will be necessary. However, if removal were to become necessary the Project applicant would obtain a permit from the City. In addition, mitigation including surveys and appropriate scheduling of work would be conducted prior to any tree removal or limbing as discussed above. **No Impact.**

¹⁶ Half Moon Bay Municipal Code, 18.38.020 Coastal Resource Areas.

¹⁷ City of Half Moon Bay. 1993. Local Coastal Program. Page 67 to 68. Accessed December 12, 2012 from http://www.half-moon-bay.ca.us/index.php?option=com_content&view=article&catid=38%3Aplanning-homepage&id=88%3Aland-use-coastal-program-documents&Itemid=80.

f) No Habitat Conservation Plan or Natural Community Conservation Plan has been adopted by the City of Half Moon Bay. Therefore, there is no impact. **No Impact**

V. CULTURAL RESOURCES

Would the Project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Disturb any human remains, including those interred outside of formal cemeteries?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

The following discussion is based on a cultural resources survey conducted for the Project Area by Tom Origer & Associates in August 2012. This survey included field inspection of the proposed Project location, contact with Native American representatives, and examination of the library and files of Tom Origer & Associates. An archival record search at the Northwest Information Center, Sonoma State University (NWIC File No.12-0178), was also completed for archaeological site base maps and records, survey reports, and other materials on file. This report is included in Appendix B.

DISCUSSION:

a) No buildings, structures, or other man-made features that could be considered historic resources were found within the Project Area. A cultural resources survey of the Project Area (from the bluff edge to 100 feet inland from the bluff edge) was conducted by personnel meeting the Secretary of the Interior’s standards for archaeology, history, and architectural history. Sources of information included a field survey in 2012, as well as listings of properties on the National Register of Historic Places, California Historical Landmarks, California Register of Historical Resources, and California Points of Historical Interest as listed in the Office of Historic Preservation’s Historic Property Directory. **No Impact.**

b) No known archaeological resources exist in the Project Area. The Native American Heritage Commission stated in an August 21, 2012 letter it had no information about the presence of Native American cultural resources in the immediate Project Area. Additionally, contact with the appropriate Native American individuals or groups have yielded no comments as of June 2013. A log of contact efforts and copies of correspondence contained in the report is included in cultural resources survey in Appendix B. While there are no known archaeological resources within the Project Area, a discovery is possible in the course of Project implementation. In the event that archaeological resources are discovered, Mitigation Measure CUL-1 as described below would be triggered, and would reduce the impact. **Less Than Significant With Mitigation.**

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Mitigation Measure CUL-1: If an archaeological site(s) is encountered during grading or other soil disturbing activities, project managers and project contractors shall comply with the provisions set forth in Sections 15064.5 (c) or (e) of the CEQA Guidelines, depending on the type of resource encountered. The site(s) will be recorded by a qualified archaeologist, including the extent of the site boundaries. The trail alignment(s) and/or associated features shall be relocated away from the archaeological site(s), unless the site(s) are evaluated and determined not to be eligible for listing on the California Register of Historical Resources. The archaeologist shall determine the required distance from the resource. If the eligible site(s) cannot be avoided, the proposed trail shall be designed with protective elements that would provide for trail use with minimal effect on the archeological site(s). These protective elements may include fencing, or placement of the trail on a bridge, boardwalk or earthen berm. Prior to construction, data recovery and testing shall be conducted as needed. A final report, including the results of the surveys and evaluations, shall be provided to the State Historic Preservation Officer for review.

Furthermore, in the event that an archaeological resource is discovered during project construction activities (e.g. excavation, grading), the following provisions of Section 15064.5 (c) of the CEQA Guidelines are to be followed.

- (1) A lead agency shall first determine whether the site is a historical resource, as defined in subdivision (a).
- (2) If a lead agency determines that the archaeological site is a historical resource, it shall refer to the provisions of Section 21084.1 of the Public Resources Code, and this section, Section 15126.4 of the Guidelines, and the limits contained in Section 21083.2 of the Public Resources Code do not apply.
- (3) If an archaeological site does not meet the criteria defined in subdivision (a), but does meet the definition of a unique archeological resource in Section 21083.2 of the Public Resources Code, the site shall be treated in accordance with the provisions of section 21083.2. The time and cost limitations described in Public Resources Code Section 21083.2 (c-f) do not apply to surveys and site evaluation activities intended to determine whether the Project location contains unique archaeological resources.
- (4) If an archaeological resource is neither a unique archaeological nor a historical resource, the effects of the Project on those resources shall not be considered a significant effect on the environment. It shall be sufficient that both the resource and the effect on it are noted in the Initial Study or EIR, if one is prepared to address impacts on other resources, but they need not be considered further in the CEQA process.

c) No paleontological resources of known significance have been identified in Half Moon Bay, and they are extremely limited throughout the San Mateo County Coastal Zone.¹⁸ A search through the University of California Museum of Paleontology revealed two invertebrate fossils from the Pliocene epoch, Tertiary period found in Half Moon Bay, and 46 other Recent epoch, Quaternary finds. However, in the event that paleontological resources are encountered, Mitigation Measure CUL-2 as described below would be triggered, reducing impacts. **Less Than Significant With Mitigation.**

¹⁸ City of Half Moon Bay. 1993. Local Coastal Program. Page 87. Accessed December 12, 2012 from http://www.half-moon-bay.ca.us/index.php?option=com_content&view=article&catid=38%3Aplanning-homepage&id=88%3Aland-use-coastal-program-documents&Itemid=80.

Mitigation Measure CUL-2: If paleontological resources are encountered during grading or other soil disturbing activities, construction shall be halted within 50 feet of the site and a qualified paleontologist will be contacted to investigate the find within 24 hours. If the find is deemed to be significant, a complete paleontological survey and removal of paleontological finds shall be warranted prior to resuming construction activities in the area.

d) Based on the response from the Native American Heritage Commission inquiry, it is not anticipated that Native American or historic burials are present in the Project Area. However, in the event that human remains are encountered, Mitigation Measure CUL-3 as described below, would be triggered, reducing impacts. **Less Than Significant With Mitigation.**

Mitigation Measure CUL-3: If human remains are encountered during grading or other soil disturbing activities, work will halt within 50 feet of the remains and the County Coroner will be notified immediately. An archaeologist will also be contacted to evaluate the find. In accordance with subdivision (c) of Section 7050.5 of the CHSC, if the Coroner recognizes the human remains to be of Native American origin or has reason to believe they are, the Coroner must notify the Native American Heritage Commission within 24 hours of this identification. Subsequently, pursuant to Section 5097.98 of the Public Resources Code, the Native American Heritage Commission will identify a Native American Most Likely Descendent to inspect the site and provide recommendations for the proper treatment of the remains and associated grave goods.

VI. GEOLOGY AND SOILS

Would the Project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury or death involving: i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? ii) Strong seismic ground shaking? iii) Seismic-related ground failure, including liquefaction? iv) Landslides, mudslides or other similar hazards?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Result in substantial soil erosion or the loss of topsoil?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

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Would the Project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the Project, and potentially result in on-or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of wastewater?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Information included in Section IV is from the technical study, *Engineering Geologic Review: Wavecrest Coastal Trail*, completed in 2011 by Timothy C. Best, state of California Certified Engineering Geologist. The study is included as Appendix C to this document. This study addresses the Project Area as well as the undeveloped properties between the Study Area and Redondo Beach Road, referring to the Project Area as the Northern Study Area and the other area as the Southern Study Area. The Southern Area is not relevant to the Project at this time.

DISCUSSION:

a) a.i) The Project Area is located within a seismically active region of California between the Pacific and North American tectonic plates. The regional faults of significance include the San Andreas and San Gregorio faults. According to the geologic study, the San Andreas fault is located about 6.5 miles northeast of the Project Area, and the San Gregorio Fault is located approximately 1 mile to the west, offshore. As such, the North Project Area of the Wavecrest Property does not contain any Alquist-Priolo “special studies” earthquake fault zones that would rupture in the event of an earthquake. **Less Than Significant Impact.**

a.ii) The majority of earthquake activity in this region is along the San Andreas Fault. The San Andreas Fault was responsible for the 1906 San Francisco earthquake (magnitude Mw 7.9) and the 1989 Loma Prieta earthquake (magnitude Mw 7.0). The closest fault system to the Project Area is the San Gregorio Fault System, located approximately 1 mile west of the City. The probability of strong seismic ground shaking exists throughout the region. Although the Project Area and its vicinity would be subject to seismic shaking from these faults, potential substantial adverse effects would be unlikely. Trail users would be outside in an open area, as the Project does not include any habitable structures, and there are no existing structures on or near the Project Area that would pose a threat during a seismic event such as ground shaking or ground failure. **Less Than Significant Impact.**

a.iii) The coastal bluff edge of the Project Area consists primarily of weakly lithified beach and alluvial sand, gravel, and silt. According to the geological report, the coastal bluff edge could potentially experience large slope failures

extending up to 20 feet or more into the bluff face, as a result of a large earthquake along the nearby San Gregorio Fault.

The Project would establish a formal trail alignment, and some trail segments would be in the vicinity of the coastal bluff edge. A 60-foot setback, or buffer space, between the coastal bluff edge and proposed trail segment would safely allow visitors to view the ocean scenery. The setback width of the formal trail must balance the tendency of visitors to walk as close to the bluff edge possible, and discourage creation of an informal trail, with the stability of the coastal bluff in a seismic event. Spur trails to coastal overlooks would not adhere to the setback, however, these trails would be designed to reduce informal trails along the bluff edge and would include split-rail fencing and signage warning of potential hazards. **Less Than Significant Impact.**

a.iv) The Project Area consists of relatively flat land with a gentle slope of 4 percent. According to the geologic study, large-scale landslides have not occurred in the Project Area and, based on field observation conducted during the geological study, the risk of large-scale landslides impacting the trail is low. **Less Than Significant Impact.**

b) Implementation of the proposed Project would result in an unpaved trail on a very gently sloping area. The trail would cover a relatively small proportion of site, leaving large areas vegetated and permeable, resulting in low runoff volume and velocity. Additionally, the Project proposes consolidating informal trails and revegetating areas informal trails. Thus, implementation of the Project is not expected to result in substantial erosion but rather is expected to reduce erosion issues. **Less Than Significant Impact.**

c), d) In relation to landslide, please see a.vi. The effects of expansive soils can damage foundations of above-ground structures, paved roads and streets, and concrete slabs. However, since the Project proposes trails and other trail features, and not construction of habitable facilities, there would be no substantial risks to life or property. **Less Than Significant Impact.**

e) No restrooms are proposed as part of the Project, and therefore there would be no need for septic tanks, connections to existing wastewater systems, or alternative systems. Thus, implementation of the Project would result in no impacts related to wastewater disposal. **No Impact.**

VII. GREENHOUSE GAS EMISSIONS

Would the Project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Conflict with an applicable plan, policy, or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

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DISCUSSION:

a) GHG emissions are associated with the combustion of fuels, including diesel or gasoline for vehicles and equipment. The proposed Project would result in a 1,698-linear-foot segment of the California Coastal Trail and 342 linear feet of spur trails walking, horseback riding, and bicycling. The Project is not anticipated to generate substantial new traffic, since the Project is limited to a regularly used site, as evidenced by the existing hard-packed trails. The proposed trail Project reduces a gap in the California Coastal Trail. The Project does not involve new housing, employment centers, or roads for vehicles or parking. The Project would generate short-term dust, vehicle, and equipment emissions during the construction phase. However, the scale of the Project is small, at 2,040 linear feet. Further, the no motor idling requirement in **Mitigation Measure NOISE-1** reduces usage of fuel. **Less Than Significant Impact.**

b) The Bay Area 2010 Clean Air Plan is the current control strategy to reduce ozone, particulate matter (PM), air toxics, and GHGs for the Bay Area, including Half Moon Bay and all of San Mateo County. The Project, a coastal trail, would neither conflict nor obstruct implementation of the Plan. Instead, the Project would support the Plan's Transportation Control Measure (TCM) D-2 by improving pedestrian access and supporting facilities improvements. Additionally, draft policies of the San Mateo County Energy Efficiency Climate Action Plan includes, "Goal 6: Provide opportunities for non-motorized travel at the neighborhood scale in new and existing development." **Less Than Significant Impact.**

VIII. HAZARDS AND HAZARDOUS MATERIALS

Would the Project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Create a significant hazard to the public or the environment through the routine transport, use or disposal of hazardous materials?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances or waste within ¼-mile of an existing or proposed school?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Be located on a site which is included on a list of hazardous material sites compiled pursuant to Government Code Section 65962.5 and, as a result, create a significant hazard to the public or the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

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Would the Project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
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, would the Project result in a safety hazard for people residing or working in the Project Area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) For a project within the vicinity of a private airstrip, would the Project result in a safety hazard for people residing or working in the Project Area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

DISCUSSION:

a), b) Small amounts of potentially hazardous materials associated with heavy mechanical equipment, for example diesel, gasoline, or other automotive fluids, or associated trail building, such as herbicides, may be used during construction of the trail, or during routine maintenance. However, standard precautions and best management practices to prevent spills would be used to minimize exposure to people and the environment. Further, due to the small scale of the Project, in the event of a spill the amount of such products would be in small quantities. The Project Site is also adjacent to an historic landfill. However, the landfill is not considered a Federal Superfund or State Response Site and therefore is not a potential hazard. Thus the impacts to the public and environment from hazardous materials would be limited. **Less Than Significant Impact.**

c) The Project, a trail, would not emit or handle hazardous substances, and there are no schools located within ¼-mile of the Project Area. Therefore, no hazardous emissions would impact schools as a result of the Project. **No Impact.**

d) The Project is not located on a site that has been listed per Government Code Section 65962.5 as a hazardous materials site. There are several Leaking Underground Storage Tank (LUST) clean-up sites in proximity of the project area that have been completed.¹⁹ As a result, the proposed Project would not expose people to existing sources of potential health hazards and the associated impacts. **Less Than Significant Impact.**

¹⁹ State of California, Department of Toxic Substances Control, EnviroStor, website, <http://www.envirostor.dtsc.ca.gov/public/>, accessed on March 11, 2014.

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e) The nearest public airport is the Half Moon Bay County Airport, located approximately 5 miles north of the Project site.²⁰ **No Impact.**

f) No private airstrips are within the vicinity of the Project. **No Impact.**

g) Implementation of the Project, which involves building a formal trail, would not impair or physically interfere with implementing an adopted emergency response plan or emergency evacuation plan. The Project proposes to build a formal trail within Half Moon Bay, and would not alter existing emergency access routes. **Less Than Significant Impact.**

h) The Project would build a formal coastal trail in an area presently heavily used for hiking. The Project Area has been deemed as having “moderate” risk from wildland fire.²¹ No structures would be exposed to wildland fire hazards, as no structures exist or are proposed. The exposure of people to risks related to wildland fire would be limited due to the nature of the Project as an outdoor trail. **Less Than Significant Impact.**

IX. HYDROLOGY AND WATER QUALITY

Would the Project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Violate any water quality standards or waste discharge requirements?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a significant lowering of the local groundwater table level?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Substantially 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 which would result in substantial erosion or siltation on- or off-site?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

²⁰ City of Half Moon Bay, 2010. Highway 1 Trail Improvements Initial Study. Accessed December 26, 2012 from http://hmbcity.com/index.php?option=com_docman&task=doc_download&gid=282&Itemid=68.

²¹ California Department of Forestry and Fire Protection, 2007. Fire and Resource Assessment Program: San Mateo County Fire Hazard Severity Zoning (Draft) Accessed December 26, 2012 from http://frap.cdf.ca.gov/webdata/maps/san_mateo/fhsz_map.41.jpg.

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Would the Project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
f) Otherwise substantially degrade water quality?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
i) 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
j) Inundation by seiche, tsunami, or mudflow?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

DISCUSSION:

a), f) The Project proposes an unpaved, formal recreational trail in Half Moon Bay on a site with existing hard-packed trails regularly used by visitors, and does not include structures or facilities which would produce waste or wastewater that would violate water quality discharge requirements or policies. **No Impact.**

b) The Project proposes an unpaved trail in an undeveloped area, resulting in only minimal changes to groundwater recharge. The Project does not propose extensive impermeable surfaces such as a paved trail surface, or large parking lot. In addition, the Project would include restoration of 19,834 square feet of informal trails that are currently compacted. The Project does not propose development of well water, nor would the Project have any significant impact on groundwater supplies. **Less Than Significant Impact.**

c), d), e) The Project proposes an unpaved trail on a relatively flat marine terrace already characterized by numerous hard-packed trails. The proposed Project would not alter the course of streams. Once in operation, the trail would not present a substantial change to the existing, pre-project drainage pattern nor result in any substantial increase in surface water runoff that would lead to increased erosion. The built Project would not require storm water drainage facilities since implementation of the Project would provide vast areas of undeveloped, vegetated natural areas to infiltrate stormwater. The existing, pre-project drainage patterns, erosion rates, stormwater production, and flooding risk would be relatively unchanged by operation of the Project.

During construction of the Project, particularly during grading of the trail and installation of trail accessories, soil disturbance could result in increased erosion and sedimentation. Prior to ground disturbance, the City Engineer and/or Applicant will ensure the contractor will comply with the Construction Best Management Practices (BMPs)

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recommended by San Mateo County.²² These BMPs coincide with the requirements of the countywide National Pollutant Discharge Elimination System (NPDES) permit, preventing the construction phase from violating water quality standard. These construction mitigations would reduce erosion to less than significant levels. **Less Than Significant with Mitigation.**

Mitigation HYDRO-1: The following construction Best Management Practices (BMPs) recommended by San Mateo County (and other BMPs required by the Half Moon Bay City Engineer) shall be employed to reduce erosion to less than significant levels:

- Limiting construction activities to the dry season (May 1 to September 30).
- Using (but not overusing) reclaimed water for dust control.
- Stabilizing construction sites, including entrances and exits.
- Following construction, stabilizing disturbed sites with native plant materials, hydroseeding, or similar measures.
- Storing stockpiled materials under tarps when they are not actively being used.
- Balancing cut and fill materials when possible.
- Disposing all wastes and debris properly.
- Recycling materials and wastes that can be recycled (such as aggregate base materials, wood, etc.).
- Inspecting vehicles and equipment frequently for leaks and repairing promptly. Use drip pans to catch leaks until repairs are made.
- Cleaning up spills or leaks immediately and disposing of cleanup materials properly.

g), h) The Project does not propose construction of any buildings or structures, but does include installation of signs, and split rail fencing as trail accessories. These accessories are of such a small number and scale that they would not impede water flowing through the area. The hazard signs are exempt per Section 15.02.010 (C) of the Half Moon Bay Municipal Code; and no sign permit is required for the interpretive signs per Section 15.03.050 (A) of the Half Moon Bay Municipal Code. Thus the Project would not present any impediments or redirect the flow of flood waters. **No Impact.**

i) The Project is not sited in a dam inundation zone, nor does it propose a levee or dam. The northern most area of Half Moon Bay is subject to inundation in the case of Pilarcitos Creek dam failure, but the dam inundation zone is not in the vicinity of the Project, which is located on the coastal edge of the center of the Half Moon Bay.²³ Exposure of people or structures to risks associated with levee or dam failure are not associated with this project. **No Impact.**

j) Seiches are large waves that occur on inland lakes. The Project Area is not in the vicinity of an inland lake, thus the Project would not have any impact related to seiches. **No Impact.**

²² San Mateo County, 2011. Construction Best Management Practices (BMPs). Accessed December 28, 2012 from http://flowstobay.org/documents/business/construction/Countywide_Program_BMP_Plan_Sheet_Oct2011.pdf

²³ ABAG, 1995. Dam Failure Inundation Hazard Map for Half Moon Bay. Accessed December 27, 2012 from <http://www.abag.ca.gov/cgi-bin/pickdamx.pl>

In relation to the coast, the proposed Project trail includes trail segments as close as 60 feet from the ocean as well as spur trails and overlooks within close proximity of the bluff edge. A tsunami inundation map for San Mateo County coast, including the City of Half Moon Bay, was prepared by the California Office of Emergency Services. According to the map, the Project is located within the tsunami inundation area, which is roughly 250 feet inland from the coast.²⁴ The City of Half Moon Bay, in cooperation with the County of San Mateo Emergency Services, has adopted a "Tsunami Ready" program which includes tsunami inundation zone signs in vulnerable areas, and warning sirens. Additionally, announcements are disseminated over the Emergency Alert System (EAS) and NOAA weather all-hazard radio system, automated telephone notification, text message on cellular phones and email addresses. In the event of a distance source tsunami, a 3-minute tsunami warning siren on the beach will sound alerting trail users. Residents will be instructed to go inland or to an official Evacuation Shelter, and the nearest Evacuation Shelter is Half Moon Bay High School located 2 miles east of the Project Area. Community preparedness is the most effective measure to reduce potential loss of life, and with the existing City warning systems in place, risk will be reduced to less than significant. **Less Than Significant Impact.**

Mudflows occur in areas with steep topography. The Project Area marine terrace is a gentle four percent slope. Therefore, the Project would not have any impact related to mudflows. **Less than Significant Impact.**

X. LAND USE AND PLANNING

Would the Project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Physically divide an established community?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

DISCUSSION:

a) There is no established human community on the Wavecrest Property. The Project would not involve the construction of structures or barriers. The proposed trail would run north to south and occupy only the western portion of the 50-acre property. The trail would connect to an existing park and Coastal Trail segment to the north. There are individual parcels located immediately south of the Project Area, but many of the parcels have been purchased for

²⁴ California Emergency Management Agency, 2009. Tsunami Inundation Map for Emergency Planning Half Moon Bay Quadrangle. Accessed December 27, 2012 from http://www.conservation.ca.gov/cgs/geologic_hazards/Tsunami/Inundation_Maps/SanMateo/Documents/Tsunami_Inundation_HalfMoonBay_Quad_SanMateo.pdf.

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the purpose of open space preservation and the development of remaining parcels is highly limited by constraints including but not limited to water rights, land use regulations, and vehicular access. **No Impact.**

b) This project to build a Coastal Trail segment is consistent with the policies of the Half Moon Bay Local Coastal Program (LCP), the Wavecrest Restoration Plan, and Section 18.38.070.E (Coastal Access Ways- Bluff Edge Trails) of the City of Half Moon Bay Municipal Zoning Code as described below.

- Policy 2-2 from the Land Use chapter of the LCP provides for the completion of a shoreline trail as a component of public access improvements, as proposed by this Project.²⁵
- The proposed trail alignment is consistent with the Access Improvements Map (1996 Local Coastal Program section 18.38.070 of municipal code) and public access, including horses, within the Project Area would be limited to the previously described formalized trail and spur trails that constitute this project. Horses would be allowed on the compacted shoulders located on either side of the gravel trail, and signs would provide information indicating allowable uses.
- The proposed trail alignment is also consistent with conceptual alignments identified by the Wavecrest Restoration Plan, and would be responsive to the Wavecrest Restoration Plan's guidelines for protecting bluff edges and riparian corridors and minimizing runoff.²⁶
- In accordance with Section 18.38.070.E (Coastal Access Ways- Bluff Edge Trails) of the City of Half Moon Bay Municipal Zoning Code, the Wavecrest Coastal Trail project would improve public access while reducing erosion of the bluff edge by (1) creating a sufficient set back from the bluff edge and (2) revegetating the existing informal trail that is located closed to the bluff edge. In addition, the Wavecrest Coastal Trail would be consistent with the intent of Section 18.38.070 in that it would provide connectivity to the existing beach access point located at Poplar Beach/Blufftop Park. The provision of beach access from the Project Area is not feasible given topography and sensitivity of the bluff edge. **Less than Significant.**

c) No adopted habitat conservation or natural community conservation plans are applicable to Half Moon Bay.²⁷ Chapter 3, Environmentally Sensitive Habitat Areas, of the Local Coastal Program (LCP) addresses issues related to sensitive and rare habitat and species in Half Moon Bay. The chapter establishes policies related to permitted uses, development standards, and discusses the parameters of general permit conditions. This Project will be reviewed within the LCP framework and does not conflict with those plans. **Less than Significant.**

²⁵ City of Half Moon Bay, 1993. Half Moon Bay Local Coastal Program. Page 29. Accessed December 12, 2012 from http://www.half-moon-bay.ca.us/index.php?option=com_content&view=article&catid=38%3Aplanning-homepage&id=88%3Aland-use-coastal-program-documents&Itemid=80.

²⁶ The Wavecrest Restoration Plan was reviewed by the The Planning Center | DC&E in January, 2014 as a PDF document. Although image quality of the document is substandard, the general intent of the plan and locations of key features remains legible.

²⁷ California Fish and Game, 2012, Summary of Natural Community Conservation Plans (NCCPs), <http://www.dfg.ca.gov/habcon/nccp/status/>, accessed September 4, 2012.

XI. MINERAL RESOURCES

Would the Project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

DISCUSSION:

a), b) The Project does not propose development that would lead to loss of availability of known mineral resources of value to the State, region, or local area, according to the San Mateo County General Plan Mineral Resources Map.²⁸ Implementation of the Project to build formal trails would not affect mineral resources. **No Impact.**

XII. NOISE

Would the Project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Expose persons to or generate noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Expose persons to or generate excessive groundborne vibration or ground borne noise levels?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Result in a substantial permanent increase in ambient noise levels in the Project vicinity above levels existing without the Project?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Result in a substantial temporary or periodic increase in ambient noise levels in the Project vicinity above levels existing without the Project?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

²⁸ San Mateo County, 19896. San Mateo County General Plan, Mineral Resources Map, p. 3.5. Accessed December 26, 2012 from: http://www.co.sanmateo.ca.us/planning/genplan/pdf/gp/GP%20Ch%2003_Minerals.pdf.

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Would the Project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
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, would the Project expose people residing or working in the Project Area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) For a project within the vicinity of a private airstrip, would the Project expose people residing or working in the Project Area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

DISCUSSION:

a, b, d) Operation of the completed Project, a trail segment, would not generate loud noises, excessive groundborne vibration, or expose people to noise levels in excess of standards in general plan, local ordinance, or agency standards. No long-term significant increase in ambient noise levels is expected as a result of Project operation is anticipated to cause exposure of persons to or generation of excessive ground borne vibration or ground borne noise levels. Construction noise represents a short-term impact on ambient noise levels.

Short-term construction activities for the proposed trail would result in a temporary increase in noise levels associated with trail building equipment, truck hauling, excavation, and associated activities. Noise generated by construction equipment, including trucks, graders, back-hoes, concrete mixers, and similar equipment can reach high levels. Based on information from the Environmental Protection Agency, noise levels at 50 feet from most types of this equipment is in excess of 80 dBA, and as high as 97dBA, approaching the noise level of a rock concert. Adherence to City standards for potential noise impacts during project construction, as well as the implementation of the following mitigation measures to require compliance with local ordinances addressing construction hours and practices, would reduce potential noise impact during project construction and operation to a less-than-significant level. The applicant will minimize construction-related noise impacts by complying with construction activity time lime limits as set forth in the Municipal Code, Chapter 14, Section 14.40 Hours of Construction:²⁹

Mitigation Measure NOISE-1: In addition to compliance with existing local, State and federal regulations, the following measures should be required for new construction associated with the Project:

- **Time.** Construction activity shall be limited to the hours of 7 AM to 6 PM, Monday through Saturday. No construction is allowed on Sundays and federal holidays.
- **Mufflers.** All construction vehicles and equipment shall be fitted with working mufflers.
- **Location.** All stationary noise generating equipment, such as compressors, should be located as far as possible from existing houses.
- **No Idling.** Machinery, including motors, shall be turned off when not in use.

²⁹ Source: City Municipal Code, Chapter 14.

- **Disturbance Coordinator.** A “disturbance coordinator” shall be designated with the responsibility of responding to any local complaints regarding construction noise. The coordinator (an employee of the general contractor) will determine the cause of the complaint and will require that reasonable measures warranted to correct the problem be implemented. A telephone number of the noise disturbance coordinator shall be conspicuously posted at the construction site and on the notification sent to neighbors adjacent to the site. **Less Than Significant with Mitigation.**

c) As a result of the Project, no long-term significant increase in ambient noise levels is expected. The Project does not include a proposal for any urbanization or land intensification on the Project site. Therefore, the Project would not establish a substantial permanent increase in ambient noise at the site. **Less Than Significant Impact.**

d) The proposed Project would not create a substantial temporary or periodic increase in noise levels, although implementation of the proposed Project would create temporary construction noise. Construction of the trails would require operation of a small to mid-sized machinery. This noise would be temporary and would not be substantial. Contractor vehicles in the staging areas would also create temporary noise, however, this noise would be intermittent during the day, and absent at night. As stated in response to criteria a), inclusion of Mitigation Measure NOI-1 would reduce any potentially significant noise increases during construction to a less-than-significant level. **Less Than Significant With Mitigation.**

e, f) The Project site is not located within 2 miles of a public airport, nor is it within the vicinity of a private airstrip. Therefore, the Project would not expose people visiting the Project Area to excessive noise levels. **No Impact.**

XIII. POPULATION AND HOUSING

Would the Project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

DISCUSSION:

a) The Project proposes trails for recreational purposes. The proposed Project does not propose housing or employment, and would not induce substantial population growth in the area. Therefore, implementation of the Project would result in no impact related to population growth. **No Impact.**

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b) There are no housing units in the Project Area, thus implementation of the Project would not displace any existing housing units. **No Impact.**

c) Implementation of the proposed Project would not displace any people. **No Impact.**

XIV. PUBLIC SERVICES

Would the Project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:				
i. Fire protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
ii. Police protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iii. Schools?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
iv. Parks?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
v. Other public facilities	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

DISCUSSION:

i) Fire protection in Half Moon Bay is provided by the Coastside Fire Protection District, which serves 30,000 residents in a 50-square-mile area from three fire stations.³⁰ District Fire Station 40 is located in downtown Half Moon Bay and is staffed with one fire captain and two fire apparatus engineers (one of whom is a paramedic). In addition to traditional fire service, the District provides cliff rescue, water rescue, confined space rescue, and advanced life support. The District also provides vehicle and residential lockout services. The District responds to 2,200 calls annually. Implementation of the proposed Project, which formalizes approximately 2,040 feet of trail within city limits of the City of Half Moon Bay, would not result in an increase of the permanent population, nor result in a substantial increase in trail users. Therefore, implementation of the Project would not trigger the need for a new or altered fire facility to maintain existing levels of fire service. **Less Than Significant Impact.**

ii) Police protection in Half Moon Bay has been provided by the San Mateo County Sherriff's Office since June 1, 2011. The San Mateo County Sherriff's Office operates an existing substation within the city limits of Half Moon

³⁰ Coastside Fire District, 2008. About Us. Accessed December 26, 2012 from <http://coastsidefire.org/about>.

Bay, which is staffed by two full time dedicated Community Policing Deputies.³¹ The proposed trail Project would formalize existing regularly used trails on the Wavcrest CLT Property, and Project implementation would not result in a substantial increase in the number of trail users, nor result in an increased permanent population. No new or altered police facility would be needed in order to maintain existing levels of police service. **Less Than Significant Impact.**

iii, v) Half Moon Bay’s schools, libraries, and other public facilities would not experience a substantial increase in the number of visitors, nor an increase in the permanent population from the proposed formalization of trails on the Wavcrest Property. As noted in the Project Description, the Seymour Bridge is not located within the Project site and improvements to the bridge are not included as a component of this Project. The Seymour Bridge is in danger of collapsing due to erosion and unstable footings and has been identified by the City of Half Moon Bay as a capital improvement project.³² If the bridge is closed due to failure, the trail will be closed at the bridge, and connection from one side of Ravine 1 to the other side will not exist. Because the Project trail would not contribute to the failure of the Seymour Bridge, and the trail connection over Ravine 1 would be closed, the Project would not result in safety concerns for trail users. Although demand generated by the project would result in increased use of Seymour Bridge, because Seymour Bridge is not located within the Project site and is not a component of the proposed Project, future improvements would be completed as a separate project at a time yet to be determined, and will be evaluated under a separate environmental review. Schools, libraries, and other facilities would not be affected by the Project, however, the need for improvements of the Seymour Bridge to allow for a continued, safe route over Ravine 1 would be addressed by a future project. **Less than Significant Impact.**

iv) Half Moon Bay’s parks would not experience a substantial increase in the number of visitors from the proposed formalization of trails on the Wavcrest Property. Project-related additional demand for service would not trigger the need for new or altered facilities in order to maintain existing levels of service. **Less Than Significant Impact.**

XV. RECREATION

Would the Project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

³¹ San Mateo County Sherriff’s Office, 2012. North Coast Substation. Accessed December 26, 2012 from <http://www.smsheriff.com/divisions/operations-division/area-office-emergency-services/homeland-security/north-coast-substation>.

³² City of Half Moon Bay’s Adopted Capital Improvements Program FY’s 2010-2011 and 2013-2014.

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DISCUSSION:

a) The Project involves construction of a multi-use trail that would increase the quality of recreational options in the area, and thus could be considered no impact, or a potentially beneficial impact related to recreation. The existing footpaths provide a connection between the Smith Ball Fields and the beach area, the formal trail may facilitate a small increase in the ball field usage, but would not lead to substantial or accelerated facility deterioration. **Less Than Significant Impact.**

b) Implementation of the proposed Project would not increase the permanent population, however, as discussed in response to XIV.v, above, improvements to Seymour Bridge would be required to ensure safe passage over Ravine 1. Although additional demand generated by the project would result in increased use of Seymour Bridge, because Seymour Bridge is not located within the Project site and is not a component of the proposed Project, future improvements would be completed under a separate project. **Less than Significant Impact.**

XVI. TRANSPORTATION/TRAFFIC

Would the Project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
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 free-ways, pedestrian and bicycle paths, and mass transit?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Result in inadequate emergency access?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

DISCUSSION:

a), b) The Project would replace informal social trails with a 1,698-linear-foot segment of the California Coastal Trail and 342 linear feet of spur trails to coastal overlooks and through a Monterey cypress grove. Overall vehicle trips within the city would not increase substantially in the long term due to Project implementation. Project operation would have minimal impacts on congestion management programs for San Mateo County roads.

In the short-term, during Project construction, construction equipment would be brought to the site, and numerous truck trips to bring gravel and other material to the Project site would occur. It is anticipated that there would be an average of ten inbound vehicle trips and ten outbound vehicle trips each day. During five of the construction days, it is anticipated that 16 additional inbound and 16 additional outbound trips would be required to deliver materials. The short-term construction traffic related to delivery of equipment and import of material as well as the daily transportation of construction workers to the site is not expected cause a significant increase in traffic volume. Further, vehicle trips related to delivery of construction equipment would not increase traffic congestion to above less than significant levels because these short-term activities would be mitigated through the implementation of Mitigation Measures TRAF-1A and TRAF-1B. **Less Than Significant With Mitigation.**

Mitigation Measure TRAF-1A: Construction contractor shall be responsible for providing a Traffic Control Plan (TCP) approved by the City Traffic Engineer, prior to the start of construction. The TCP shall include traffic control measures in order to ensure traffic safety during all construction phases. The traffic control devices may involve signage, use of delineators, flashing arrows, and/or temporary lane lines at the discretion of the City Traffic Engineer. The TCP shall be approved by the City Traffic Engineer. The TCP shall include provisions for advanced notification (signage) of the proposed detour routes and coordination with emergency service providers.

Mitigation Measure TRAF-1B: The Project shall be constructed in a manner to avoid a substantial increase in construction-period traffic congestion.

- The applicant will identify locations for contractor parking on site for the duration of the construction period so that parking does not affect the operation local roads.
- Vehicle trips to and from the site for purposes of transporting cut and fill would be prohibited during peak traffic AM and PM peak hours.
- In the event of lane closures due to deliveries, adequate number of flaggers and the appropriate signage would be required to ensure the safe passage of vehicles, bicyclists, and pedestrians.

c) Half Moon Bay is located approximately 5 miles from Half Moon Bay County Airport.³³ The Project does not propose any land uses which could disrupt air traffic patterns. **No Impact.**

d, e, f) The Project would not include any hazardous design features, such as sharp curves or intersections with inadequate signalization, nor would it increase incompatible uses on local roads resulting in hazards. The Project would decrease conflicts of incompatible uses on local roads, offering an as an alternative coastal trail segment to non-motorized traffic on local roads. There are no parking requirements for a pedestrian/bicycle trail system contained in

³³ City of Half Moon Bay, 2010. Highway 1 Trail Improvements Initial Study. Accessed December 26, 2012 from http://hmbcity.com/index.php?option=com_docman&task=doc_download&gid=282&Itemid=68.

Exhibit 2: CEQA Documents: Initial Study and Mitigated Negative Declaration

CITY OF HALF MOON BAY
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the City's Municipal Code, and the completed Project would not directly affect the level of service (LOS) of local roads negatively. No emergency access routes would be affected, as the Project site is not in the immediate vicinity of emergency access routes, nor does it create obstructions to such routes. This Project would increase local coastal access, coinciding with the goals of the Half Moon Bay Local Coastal Program. **Less Than Significant Impact.**

XVII. UTILITIES AND SERVICE SYSTEMS

Would the Project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Have sufficient water supplies available to serve the Project from existing entitlements and resources, or are new or expanded entitlements needed?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Result in a determination by the wastewater treatment provider which serves or may serve the Project that it has (in) adequate capacity to serve the Project's projected demand in addition to the provider's existing commitments?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Be served by a landfill with sufficient permitted capacity to accommodate the Project's solid waste disposal needs?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
g) (Not) comply with federal, state, and local statutes and regulations related to solid waste?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

DISCUSSION:

a),b),d),e) The proposed Project does not require water supply, thus would not produce or create wastewater, and therefore not exceed wastewater treatment requirements or require new or expanded wastewater treatment facilities. **No Impact.**

c) No new construction or physical changes to the property are proposed in the Project that would significantly impact storm water drainage, and thus, no new or expanded storm water facilities would be needed. The proposed

trails would be unpaved, and existing informal trails would be restored, and any changes to existing drainage patterns would be slight. **Less Than Significant Impact.**

f), g) Implementation of the Project would result in minimal, if any, solid waste which would require service by a landfill. Any excavation needed for trail construction would be used on site. As a result, the Project would not cause landfills or transfer stations to exceed permitted capacity, and would not result in noncompliance with related to statutes and regulations related to solid waste and recycling. **Less Than Significant Impact.**

XVIII. MANDATORY FINDINGS OF SIGNIFICANCE

Would the Project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) 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)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

DISCUSSION:

a) As described in this Initial Study, no new construction or physical changes proposed by the Project would degrade the quality of the environment. The design and methods of construction of the proposed trail alignments ensure that trails avoid sensitive plant and animal habitats. The trail design ensures conservation of habitats and avoids impacts to sensitive wildlife and plants to the extent possible. However, some construction activities could potentially result in significant impacts to federally protected habitats or species. With the incorporation of mitigation measures BIO-1A to BIO-7, which direct pre-construction surveys, biological monitors, and construction protocols, impacts would be reduced to less than significant. **Less Than Significant with Mitigation.**

Exhibit 2: CEQA Documents: Initial Study and Mitigated Negative Declaration

CITY OF HALF MOON BAY

WAVECREST COASTAL TRAIL

INITIAL STUDY MITIGATED NEGATIVE DECLARATION

b) Future cumulative impacts would result in increased connectivity to the California Coastal Trail, and increased recreational opportunities in Half Moon Bay through completion of the California Coastal Trail. Since the California Coastal Trail neither begins nor ends in Half Moon Bay, and these trail segments are presently heavily used, formalization of the trail within Half Moon Bay would cause only minor impacts when taken into consideration cumulatively. Preliminary planning efforts by CLT have identified a potential trail alignment from the Wavecrest CLT Property to Redondo Beach to the south with a formal trail, yet no plans have been adopted at this time, and development of such a connection is not anticipated feasible in the near future.

During construction, slight increases in noise and impacts to air quality may occur, but would be minor and reduced further through construction-related mitigation measures Air-1 and Noise-1. Due to their minor, temporary in nature, cumulative impacts would not be considered significant. **Less Than Significant Impact.**

c) The proposed Project would not create environmental effects that would cause physical changes to property that would result in adverse effects on humans, either directly or indirectly. The increased recreational opportunities proposed by the Project would be considered a beneficial impact. Therefore, implementation of the Project would have a less-than-significant impact on human beings. **Less Than Significant Impact.**

6. MITIGATION MONITORING AND REPORTING PROGRAM

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City of Half Moon Bay - Wavecrest Crest Trail Project Mitigation Monitoring and Reporting Program

Environmental Checklist	Impact Summary	Mitigation Measure	Monitoring and Reporting Program		Completion Status (if Complete enter date)
			Monitoring and Reporting Actions	Implementation Schedule	
AIR QUALITY AND GREENHOUSE GASES					
III. b.	Construction emissions violate air quality standard or contribute substantially to an existing or projected air quality violation.	<p>MM AIR-1 - The Project contractor shall prepare a dust control plan prior to commencement of construction activities. Specification of the approved dust control measures shall be included in all construction documents. The dust control plan shall include all applicable measures listed below:</p> <ul style="list-style-type: none"> - Water all active construction areas at least twice daily. - Grading and construction equipment shall be shut down when not in use. - Construction activities shall not occur during windy periods. - Exposed soil shall be periodically sprinkled to retard dust; no City water shall be used for this. - Water all active construction areas at least twice daily. - Cover all trucks hauling soil, sand, and other loose materials or require all trucks to maintain at least 2 feet of space from the top of the holding area. - Apply water three times daily on all unpaved access roads, parking areas, and staging areas at construction sites. - Sweep daily (preferably with water sweepers) all paved access roads, parking areas, staging areas at construction sites, and adjacent public streets if soil material is visible. - Hydroseed or apply soil stabilizers (non-toxic) to inactive construction areas. - Enclose, cover, water twice daily, or apply soil stabilizers (non-toxic) to exposed stockpiles (dirt, sand, etc.). - Limit traffic speeds on unpaved roads to 15 miles per hour (mph). - Replant vegetation in disturbed areas as quickly as possible. - To minimize combusive emissions from construction equipment, internal combusive engines should be idled at a minimum and properly maintained and operated. 	<p>1) Include requirement on any project plans and/or specifications.</p> <p>2) City of Half Moon Bay Building Department to conduct inspection during construction to ensure compliance.</p>	<p>Prior to commencement of construction activities / During construction</p>	<p>City of Half Moon Bay Planning Department</p> <p>City of Half Moon Bay Building Department</p>
BIOLOGICAL RESOURCES					
IV. a.	Impacts to sensitive species and habitats.	<p>MM BIO-1A - Prior to the start of groundbreaking activities, all construction personnel will receive training on listed species and their habitats by a qualified biologist. The importance of these species and their habitat will be described to all employees as well as the minimization and avoidance measures that are to be implemented as part of the Project. An educational brochure containing color photographs of all listed species in the work area(s) will be distributed to all employees working within the Project Area(s). The original list of employees who attend the training sessions will be maintained by the applicant and be made available for review by the USFWS and the CDFW upon request.</p> <p>MM BIO-1B - The contractor or applicant shall designate a person to monitor on-site compliance with all minimization measures. The on-site monitor(s) will remain on-site for the duration of the proposed Project, including vegetation removal, grading and cleanup activities.</p>	<p>1) Training to be determined by a qualified biologist.</p> <p>2) Review contract specifications and retain for administrative record.</p>	<p>Prior to commencement of construction activities</p>	<p>City of Half Moon Bay Planning Department</p>
IV. a.	Impacts to sensitive species and habitats.	<p>MM BIO-1C - Designated construction staging areas will be utilized as the staging areas for the trail construction activities. All vehicles associated with project activities will be clustered within these areas at the end of each work day or when not in use to minimize habitat disturbance and water quality degradation. Fueling and maintenance of equipment will be conducted off-site if practicable, and at least 50 feet from any wetland.</p> <p>MM BIO-1D - No trash shall be deposited on the site during construction activities. All trash shall be placed in trash receptacles with secure lids stored in vehicles and removed nightly from the Project Area.</p>	<p>1) Review contract specifications and retain for administrative record.</p> <p>2) City of Half Moon Bay Building Department to conduct inspection during construction to ensure compliance.</p>	<p>During construction</p>	<p>City of Half Moon Bay Planning Department</p> <p>City of Half Moon Bay Building Department</p>
IV. a.	Impacts to sensitive species and habitats.	<p>MM BIO-1E - The contractor or applicant shall designate a person to monitor on-site compliance with all minimization measures. The on-site monitor(s) will remain on-site for the duration of the proposed Project, including vegetation removal, grading and cleanup activities.</p>	<p>Review contract specifications and retain for administrative record.</p>	<p>During construction</p>	<p>City of Half Moon Bay Planning Department</p>
IV. a.	Impacts to sensitive species and habitats.	<p>MM BIO-1F - No trash shall be deposited on the site during construction activities. All trash shall be placed in trash receptacles with secure lids stored in vehicles and removed nightly from the Project Area.</p>	<p>1) Review contract specifications and retain for administrative record.</p> <p>2) City of Half Moon Bay Building Department to conduct inspection during construction to ensure compliance.</p>	<p>During construction</p>	<p>City of Half Moon Bay Planning Department</p> <p>City of Half Moon Bay Building Department</p>

Exhibit 2: CEQA Documents: Initial Study and Mitigated Negative Declaration

Entitlement Checklist	Impact Summary	Mitigation Measure	Monitoring and Reporting Program			Completion Status (if Complete enter date)
			Monitoring and Reporting Actions	Implementation Schedule	Responsible Agency/Party	
IV.a.	Impacts to nesting birds.	MM BIO-2A - Construction, including the removal of vegetation and the arrival of motor vehicles and equipment, shall occur only outside of nesting season (from September to January). This would reduce impacts to nesting birds, including raptors, to less than significant.	Include requirement on any project plans and/or specifications.	During construction	City of Half Moon Bay Planning Department	
IV.a.	Impacts to California red-legged frog.	MM BIO-3A - Immediately before the onset of construction or vegetation removal, a qualified biologist shall survey the work site. If California red-legged frog, tadpoles, or eggs are found, the approved biologist shall contact the USFWS to determine if moving any of these life-stages is appropriate. If the USFWS approves moving animals, only the approved biologist will participate in activities associated with the capture, handling, and monitoring California red-legged frog, and be given reasonable time to do so.	<p>1) Survey methods will be submitted to and approved by CDFW prior to commencement of surveys.</p> <p>2) The qualified biologist will be approved by CDFW within 30-days of initiating surveys.</p> <p>3) Qualified biologist will complete pre-construction surveys within 48-hrs of planned start of work activities. A survey report containing survey methods and results will be submitted to CDFW (as above) and the City Planning Department prior to the start of work.</p> <p>4) If CRLF are observed during the survey CDFW and the City Planning Department will be notified immediately and the approved biologist, with USFWS approval, will move the animals.</p>	Pre-construction	City of Half Moon Bay Planning Department	
IV.a.	Impacts to San Francisco garter snake.	MM BIO-3B - A qualified biologist shall survey the work site immediately before the onset of ground clearing or construction activities. Any SFGS shall be allowed to leave the work area on their own, and shall be monitored as practical by the biologist to ensure they do not reenter the work area.	<p>1) Survey methods will be submitted to and approved by CDFW prior to commencement of surveys.</p> <p>2) The qualified biologist will be approved by CDFW within 30-days of initiating surveys.</p> <p>3) Qualified biologist will complete pre-construction surveys within 48-hrs of planned start of work activities. A survey report containing survey methods and results will be submitted to CDFW (as above) and the City Planning Department prior to the start of work.</p> <p>4) If SFGS are observed during the survey, CDFW and the City Planning Department will be notified immediately and any SFGS will be allowed to leave the work area.</p> <p>5) The qualified biologist will monitor the work area to ensure SFGS do not reenter the work area.</p>	Pre-construction; During construction	City of Half Moon Bay Planning Department	

Exhibit 2: CEQA Documents: Initial Study and Mitigated Negative Declaration

Entitlement Checklist	Impact Summary	Mitigation Measure	Monitoring and Reporting Program			Completion Status (if Complete enter date)
			Monitoring and Reporting Actions	Implementation Schedule	Responsible Agency/Party	
IV.a.	Impacts to California red-legged frog and San Francisco garter snake.	MM BIO-3C - To ensure that the CRLF and SFGS do not get trapped, the contractor will use only tightly woven fiber netting or similar material for erosion control or other purposes. Plastic mono-filament netting (erosion control matting), rolled erosion control products or similar material shall not be used in the Project Area because CRLF, SFGS, and other species may become entangled or trapped in it.	1) Include requirement on any project plans and/or specifications. 2) Contractor, crew, or consultant to conduct inspection during construction to ensure compliance. If measures are identified as inadequate the City Planning Department will be notified immediately and restorative measures shall be enacted. Following inspection a report will be submitted to the City Planning Department.	Pre-construction; During construction	City of Half Moon Bay Planning Department	
IV.a.	Impacts to California red-legged frog and San Francisco garter snake.	MM BIO-3D - Wildlife exclusion fencing will be erected and maintained around the perimeter of the Limit of Work, including the Project staging areas and access route, to prevent SFGS and CRLF from entering the site. Any wetland areas within the Limit of Work would also be protected by wildlife exclusion fencing. Installation of the fence will be performed under the supervision of a USFWS-approved biologist. Once the fencing is installed, workers will clear all vegetation within this area with belt driven weed whackers or other hand tools to a height of 4 to 6 inches. Following the removal of vegetation, preconstruction surveys will be performed prior to the start of any ground breaking activities by a USFWS-approved biologist. Fencing will be equipped with one-way escape funnels. Fencing will extend a minimum of 36 inches above ground level and will be buried 4 to 6 inches into the ground. Exclusion fencing will be checked a minimum of one time per week by biological monitors for the duration of the Project to identify problems or weaknesses in fence integrity and function. All compromised portions will be repaired and/or replaced immediately.	1) Include requirement on any project plans and/or specifications. 2) The qualified biologist will be approved by CDFW within 30-days of initiating surveys. 3) Qualified biologist will complete pre-construction surveys within 48-hrs of planned start of work activities. A survey report containing survey methods and results will be submitted to CDFW (as above) and the City Planning Department prior to the start of work. 4) Qualified biologist will complete pre-construction survey within 48-hrs of planned start of work activities to identify problems or weaknesses in fence integrity and function. 5) The biological monitor shall check the exclusion fencing at a minimum of one time per week to identify problems or weaknesses in fence integrity and function.	Pre-construction; During construction	City of Half Moon Bay Planning Department; San Francisco Bay Regional Water Quality Control Board	

Exhibit 2: CEQA Documents: Initial Study and Mitigated Negative Declaration

Environmental Checklist	Impact Summary	Mitigation Measure	Monitoring and Reporting Program			Completion Status (if Complete enter date)
			Monitoring and Reporting Actions	Implementation Schedule	Responsible Agency/Party	
IV.a.	Impacts to California red-legged frog and San Francisco garter snake.	MM BIO-3E - Because CRLF and SFGS may take refuge in cavity-like and den-like structures such as pipes and may enter stored pipes and become trapped, all construction pipes, culverts, or similar structures that are stored at a construction site for one or more overnight periods will be either securely capped prior to storage or thoroughly inspected by the on-site monitor and/or the construction foreman/manager for these animals before the pipe is subsequently buried, capped, or otherwise used or moved in any way. If a CRLF is discovered inside a pipe by the on-site monitor or anyone else, a qualified biologist shall move the animal to a safe nearby location and monitor it until it is determined that it is not imperiled by predators or other dangers. CRLF will not be removed from the vicinity or remain in captivity overnight unless in the care of a certified wildlife veterinarian. If a SFGS is found, it should be allowed to passively leave the work area on its own, as determined by the on-site monitor. If a CRLF or SFGS is trapped, a CRLF or SFGS permitted biologist shall move the individual(s) with permission from USFWS and CDFW. If SFGS are discovered, the snake may be relocated by a permitted biologist and with USFWS and CDFW approval.	<p>1) Include requirement on any project plans and/or specifications.</p> <p>2) After one or more overnight periods, the biological monitor and/or construction foreman/manager shall thoroughly inspect any construction pipes, culverts, or similar structures.</p> <p>3) If CRLF is discovered inside a pipe, a qualified biologist shall move the animal.</p> <p>4) If a SFGS is found, it should be allowed to passively leave the work area by a qualified biologist.</p> <p>5) If CRLF or SFGS are trapped, a qualified biologist shall move the individual(s) with permission from USFWS and CDFW.</p>	During construction	City of Half Moon Bay Planning Department	
IV.a.	Impacts to California red-legged frog and San Francisco garter snake.	MM BIO-3F - To prevent inadvertent trapping of SFGS and CRLF during construction, the on-site monitor and/or construction foreman/manager shall ensure that all excavated, steep-walled holes or trenches more than 1 foot deep are completely covered at the close of each working day by plywood or similar materials, or provided with one or more escape ramps constructed of earth fill or wooden planks and inspected by the on-site biologist. Before such holes or trenches are filled, they will be thoroughly inspected for trapped animals by the onsite biologist and/or construction foreman/manager. If at any time a trapped CRLF or SFGS is discovered by the on-site biologist or anyone else, the animal should be allowed to passively leave the work area on its own, as determined by the onsite biologist. If a CRLF or SFGS is trapped, a CRLF or SFGS permitted biologist shall move the individual(s) with permission from USFWS and CDFW. If SFGS are discovered, the snake may be relocated by a permitted biologist and with USFWS and CDFW approval.	<p>1) Include requirement on any project plans and/or specifications.</p> <p>2) If CRLF is discovered inside a pipe, a qualified biologist shall move the animal.</p> <p>3) If a SFGS is found, it should be allowed to passively leave the work area by a qualified biologist.</p> <p>4) If CRLF or SFGS are trapped, a qualified biologist shall move the individual(s) with permission from USFWS and CDFW.</p>	During construction; as appropriate and necessary.	City of Half Moon Bay Planning Department	
IV.a.	Impacts to California red-legged frog and San Francisco garter snake.	MM BIO-3G - Upon completion of construction and restoration, all fencing material will be removed from the site and disposed of properly. If applicable, the applicant will monitor the property according to a USFWS-approved monitoring and management plan.	Include requirement on any project plans and/or specifications.	Post-construction	City of Half Moon Bay Planning Department; California Department of Fish and Wildlife	
IV.a.	Impacts to monarch butterfly.	MM BIO-4 - If tree removal is occurs between September and March require protocol-level survey for roosting monarch butterfly prior to tree removal. Any positive detection of a roost may require consultation with CDFW on how and when to proceed with construction activities.	Include requirement on any project plans and/or specifications.	During construction	City of Half Moon Bay Planning Department	

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Environmental Checklist	Impact Summary	Mitigation Measure	Monitoring and Reporting Program			Completion Status (if Complete enter date)
			Monitoring and Reporting Actions	Implementation Schedule	Responsible Agency/Party	
IV.a.	Impacts to San Francisco dusky-footed woodrat.	MM BIO-5 - A pre-construction survey for San Francisco dusky-footed woodrat sick houses will be conducted, prior to vegetation removal. If sick houses are observed, they should be avoided if possible. If avoidance is not feasible, the houses should be dismantled by hand under the supervision of a biologist. If young are encountered during the dismantling process, the material should be placed back on the house and the house will remain unmolesated for two to three weeks in order to give the young enough time to mature and leave the house. After two to three weeks, the nest dismantling process may begin again. Nest material will be moved to suitable adjacent areas (riparian, woodland, scrub) that will not be impacted.	<p>1) Survey methods will be submitted to and approved by CDFW prior to commencement of surveys.</p> <p>2) The qualified biologist will be approved by CDFW within 30-days of initiating surveys.</p> <p>3) Qualified biologist will complete pre-construction surveys within 48-hrs of planned start of work activities. A survey report containing survey methods and results will be submitted to CDFW (as above) and the City Planning Department prior to the start of work.</p> <p>4) If dusky-footed woodrat are observed during the survey CDFW and the City Planning Department will be notified immediately and the approved biologist, with USFWS approval, will move the nests if avoidance is not feasible.</p>	Pre-construction	City of Half Moon Bay Planning Department	
IV.a.	Impacts to bats.	MM BIO-6 - If Project activities which include disturbing trees (including dead trees) occur between April 1 to August 31, a pre-construction survey for bats should be conducted by a qualified biologist no less than 14 days prior to these activities. Methods for detection should include ultrasonic acoustic surveys and/or other site appropriate survey methods. If special status bat species are found to be roosting during surveys, species- and roost-specific mitigation measures will be developed. Such measures will be developed in consultation with CDFW.	<p>1) Survey methods will be submitted to and approved by CDFW prior to commencement of surveys.</p> <p>2) The qualified biologist will be approved by CDFW within 30-days of initiating surveys.</p> <p>3) Qualified biologist will complete pre-construction surveys within 14 days prior to the planned start of work activities. A survey report containing survey methods and results will be submitted to CDFW (as above) and the City Planning Department prior to the start of work.</p> <p>4) If bat species are found, species- and roost-specific measures will be developed in consultation with CDFW.</p>	Pre-construction	City of Half Moon Bay Planning Department	

Exhibit 2: CEQA Documents: Initial Study and Mitigated Negative Declaration

Environmental Checklist	Impact Summary	Mitigation Measure	Monitoring and Reporting Program			Completion Status (if Complete enter date)
			Monitoring and Reporting Actions	Implementation Schedule	Responsible Agency/Party	
IV.a.	Impacts to Choris' popcorn flower.	MM BIO-7 - If it is determined that construction-related activities will impact Choris' popcorn flower, a mitigation plan for protecting this species should be developed. Mitigation measures may include additional avoidance measures, salvaging and transplanting of plants within disturbance areas, and collection and storage of seeds for future re-establishment efforts.	1) Include requirement on any project plans and/or specifications. 2) A qualified biologist will monitor construction-related activities to determine whether Choris popcorn flower is impacted. 3) If Choris' popcorn flower is determined to be impacted by construction-related activities, a mitigation plan will be developed in consultation with CDFW.	Pre-construction	City of Half Moon Bay Planning Department	
CULTURAL RESOURCES						
V.b.	Impacts on archaeological resources	MM CUL-1 - If an archaeological site(s) is encountered during grading or other soil disturbing activities, project managers and project contractors shall comply with the provisions set forth in Sections 15064.5 (c) or (e) of the CEQA Guidelines, depending on the type of resource encountered. The site(s) will be recorded by a qualified archaeologist, including the extent of the site boundaries. The trail alignment(s) and/or associated features shall be relocated away from the archaeological site(s), unless the site(s) are evaluated and determined not to be eligible for listing on the California Register of Historical Resources. The archaeologist shall determine the required distance from the resource. If the eligible site(s) cannot be avoided, the proposed trail shall be designed with protective elements that would provide for trail use with minimal effect on the archaeological site(s). These protective elements may include fencing, or placement of the trail on a bridge, boardwalk, or earthen berm. Prior to construction, data recovery and testing shall be conducted as needed. A final report, including the results of the surveys and evaluations, shall be provided to the State Historic Preservation Officer for review. Furthermore, in the event that an archaeological resource is discovered during project construction activities (e.g. excavation, grading), the following provisions of Section 15064.5 (c) of the CEQA Guidelines are to be followed: (1) A lead agency shall first determine whether the site is a historical resource, as defined in subdivision (a). (2) If a lead agency determines that the archaeological site is a historical resource, it shall refer to the provisions of Section 21084.1 of the Public Resources Code, and this section, Section 15126.4 of the Guidelines, and the limits contained in Section 21083.2 of the Public Resources Code do not apply. (3) If an archaeological site does not meet the criteria defined in subdivision (a), but does meet the definition of a unique archaeological resource in Section 21083.2 of the Public Resources Code, the site shall be treated in accordance with the provisions of section 21083.2. The time and cost limitations described in Public Resources Code Section 21083.2 (c-f) do not apply to surveys and site evaluation activities intended to determine whether the Project location contains unique archaeological resources. (4) If an archaeological resource is neither a unique archaeological nor a historical resource, the effects of the Project on those resources shall not be considered a significant effect on the environment. It shall be sufficient that both the resource and the effect on it are noted in the Initial Study or EIR, if one is prepared to address impacts on other resources, but they need not be considered further in the CEQA process.	Include requirement on any project plans and/or specifications.	During construction	City of Half Moon Bay Planning Department	
V.d.	Impacts on paleontological resources	MM CUL-2 - If paleontological resources are encountered during grading or other soil disturbing activities, construction shall be halted within 50 feet of the site and a qualified paleontologist will be contacted to investigate the find within 24 hours. If the find is deemed to be significant, a complete paleontological survey and removal of paleontological finds shall be warranted prior to resuming construction activities in the area.	Include requirement on any project plans and/or specifications.	During construction	City of Half Moon Bay Planning Department	

Exhibit 2: CEQA Documents: Initial Study and Mitigated Negative Declaration

Environment Checklist	Impact Summary	Mitigation Measure	Monitoring and Reporting Program			Completion Status (if Complete enter date)
			Monitoring and Reporting Actions	Implementation Schedule	Responsible Agency/Party	
V.d.	Impacts on human remains	MM CUL-3 - If human remains are encountered during grading or other soil disturbing activities, work will halt within 50 feet of the remains and the County Coroner will be notified immediately. An archaeologist will also be contacted to evaluate the find. In accordance with subdivision (c) of Section 7050.5 of the CHSC, if the Coroner recognizes the human remains to be of Native American origin or has reason to believe they are, the Coroner must notify the Native American Heritage Commission within 24 hours of this identification. Subsequently, pursuant to Section 5097.98 of the Public Resources Code, the Native American Heritage Commission will identify a Native American Most Likely Descendant to inspect the site and provide recommendations for the proper treatment of the remains and associated grave goods.	Include requirement on any project plans and/or specifications.	During construction	City of Half Moon Bay Planning Department; San Mateo County Coroner's Office	
HYDROLOGY AND WATER QUALITY						
IX.c.	Violate water quality standards or waste discharge requirements or degrade water quality.	MM HYDRO-1 - The following construction Best Management Practices (BMPs) recommended by San Mateo County (and other BMPs required by the Half Moon Bay City Engineer) shall be employed to reduce erosion to less than significant levels: - Limiting construction activities to the dry season (May 1 to September 30). - Using (but not overusing) reclaimed water for dust control. - Stabilizing construction sites, including entrances and exits. - Following construction, stabilizing disturbed sites with native plant materials, hydroseeding, or similar measures. - Storing stockpiled materials under tarps when they are not actively being used. - Balancing cut and fill materials when possible. - Disposing all wastes and debris properly. - Recycling materials and wastes that can be recycled (such as aggregate base materials, wood, etc.). - Inspecting vehicles and equipment frequently for leaks and repairing promptly. Use drip pans to catch leaks until repairs are made. - Cleaning up spills or leaks immediately and disposing of cleanup materials properly.	1) Include requirement on any project plans and/or specifications. 2) Half Moon Bay Public Works Department to conduct inspection during construction to ensure compliance.	Pre-construction; During construction	City of Half Moon Bay Planning Department City of Half Moon Bay Public Works Department	
NOISE						
XII.a., XII.b. and XII.d.	Impacts from construction related noise increases.	MM NOISE-1 - In addition to compliance with existing local, State and federal regulations, the following measures should be required for new construction associated with the Project: - Time. Construction activity shall be limited to the hours of 7 AM to 6 PM, Monday through Saturday. No construction is allowed on Sundays and federal holidays. - Mufflers. All construction vehicles and equipment shall be fitted with working mufflers. - Location. All stationary noise generating equipment, such as compressors, should be located as far as possible from existing houses. - No Idling. Machinery, including motors, shall be turned off when not in use. - Disturbance Coordinator. A "disturbance coordinator" shall be designated with the responsibility of responding to any local complaints regarding construction noise. The coordinator (an employee of the general contractor) will determine the cause of the complaint and will require that reasonable measures warranted to correct the problem be implemented. A telephone number of the noise disturbance coordinator shall be conspicuously posted at the construction site and on the notification sent to neighbors adjacent to the site.	1) Include requirement on any project plans and/or specifications. 2) Half Moon Bay Building Department to conduct inspection during construction to ensure compliance.	During construction	City of Half Moon Bay Planning Department City of Half Moon Bay Building Department	
TRANSPORTATION/TRAFFIC						

Exhibit 2: CEQA Documents: Initial Study and Mitigated Negative Declaration

Environmental Checklist	Impact Summary	Mitigation Measure	Monitoring and Reporting Program			Completion Status (if Complete enter date)
			Monitoring and Reporting Actions	Implementation Schedule	Responsible Agency/Party	
XVI.b.	Impacts from construction-related vehicle trips.	MM TRAF-1A - Construction contractor shall be responsible for providing a Traffic Control Plan (TCP) approved by the City Traffic Engineer, prior to the start of construction. The TCP shall include traffic control measures in order to ensure traffic safety during all construction phases. The traffic control devices may involve signage, use of delineators, flashing arrows, and/or temporary lane lines at the discretion of the City Traffic Engineer. The TCP shall be approved by the City Traffic Engineer. The TCP shall include provisions for advanced notification (signage) of the proposed detour routes and coordination with emergency service providers.	<p>1) Include requirement on any project plans and/or specifications.</p> <p>2) The TCP shall be approved prior to commencement of construction activities.</p> <p>3) Traffic control devices shall be installed prior to commencement of construction activities.</p> <p>4) Contractor or crew to conduct inspection during construction to ensure compliance.</p>	<p>Prior to commencement of construction activities / During construction</p>	<p>City of Half Moon Bay Planning Department</p> <p>City of Half Moon Bay Public Works Department</p>	
XVI.b.	Impacts from construction-related vehicle trips.	MM TRAF-1B - The Project shall be constructed in a manner to avoid a substantial increase in construction-period traffic congestion. - The applicant will identify locations for contractor parking on site for the duration of the construction period so that parking does not affect the operation local roads. - Vehicle trips to and from the site for purposes of transporting cut and fill would be prohibited during peak traffic AM and PM peak hours. - In the event of lane closures due to deliveries, adequate number of flaggers and the appropriate signage would be required to ensure the safe passage of vehicles, bicyclists, and pedestrians.	<p>1) Include requirement on any project plans and/or specifications.</p> <p>2) Half Moon Bay Public Works Department to conduct inspection during construction to ensure compliance.</p>	<p>Prior to commencement of construction activities / During construction</p>	<p>City of Half Moon Bay Planning Department</p> <p>City of Half Moon Bay Public Works Department</p>	

A P P E N D I X A

BIOLOGICAL RESOURCES
ASSESSMENT

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Exhibit 2: CEQA Documents: Initial Study and Mitigated Negative Declaration

Biological Resources Assessment

Coastside Land Trust
Wavecrest Coastal Trail Project
San Mateo County, California

Prepared For:

Isby Fleischmann
The Planning Center | DC&E
1625 Shattuck Avenue, suite 300
Berkeley, CA 94709

Prepared By:

Leslie Lazarotti
lazarotti@wra-ca.com

Date:

November 2012
Revised February 2014



Exhibit 2: CEQA Documents: Initial Study and Mitigated Negative Declaration

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LIST OF ACRONYMS AND ABBREVIATIONS

CCC	California Coastal Commission
CCR	California Code of Regulations
CCT	California Coastal Trail
CDFG	California Department of Fish and Game
CDFG ESD	California Department of Fish and Game Environmental Services Department
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CFR	Code of Federal Regulations
CLT	Coastal Land Trust
CNDDDB	California Natural Diversity Database
CNPS	California Native Plant Society
Corps	U.S. Army Corps of Engineers
CRLF	California red-legged frog
ESHA	Environmentally Sensitive Habitat Area
FAC	Facultative species (equal in wetland or non-wetlands)
FACW	Facultative wetland species (usually found in wetlands)
FESA	Federal Endangered Species Act
LCP	Local Coastal Program
NMFS	National Marine Fisheries Service
NRCS	Natural Resources Conservation Service
OBL	Obligate wetland species (almost always found in wetlands)
OHW	Ordinary High Water
POST	Peninsula Open Space Trust
RPW	Relatively permanent water
RWQCB	Regional Water Quality Control Board
SGS	San Francisco garter snake
TNW	Traditionally navigable waters
USDA	U.S. Department of Agriculture
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey

Exhibit 2: CEQA Documents: Initial Study and Mitigated Negative Declaration

1.0 INTRODUCTION

On August 29 and September 26, 2012, WRA, Inc. conducted a biological resource assessment of the 30.63-acre Wavecrest Coastal Trail site and temporary construction access area (“Study Area”) located in Half Moon Bay, San Mateo County (Figure 1). WRA conducted protocol-level rare plant surveys within the Study Area on May 20, 2013, and July 25, 2013, the results of which are described in Section 4.2. WRA conducted additional community mapping and wetland delineation on January 23, 2014 due to increase in the Study Area for temporary construction access purposes.

The purpose of the site visits and report is to identify, describe, and map any sensitive habitats, including wild strawberry habitat, riparian and wetland areas, or other Environmental Sensitive Habitat Area (“ESHA”); and “rare, threatened, or endangered” species, which may occur in the Study Area. WRA performed the biological resources assessment and special status species surveys in accordance with the City of Half Moon Bay (“City”) Local Coastal Program (“LCP”), including Section 18.38.035 of the Zoning Code LCP Implementation Plan, and Chapter 3 of the Land Use Plan. This assessment is based on site conditions observed on the dates of the site visits, related information available at the time of the study, and from reviewing past reports completed on the Wavecrest property. This report also contains an evaluation of potential impacts to special status species or ESHAs that may occur as a result of the proposed project and potential mitigation measures to compensate for those impacts.

1.1 Description of the Study Area

The Wavecrest Coastal Trail Project is a component of the California Coastal Trail (CCT). The proposed trail alignment is situated on approximately 30.63 acres of undeveloped land owned by Coastside Land Trust (CLT) in Half Moon Bay (Figure 1). The focus of this report is the 3 acres of habitat (Study Area) for the proposed trail alignment and land adjacent to the trail. The site is situated on a terrace above scenic coastal bluffs, and includes non-native grassland, northern coastal scrub, seasonal wetlands, and Monterey cypress forest habitat, with elevations up to 70 feet. Sea cliffs, beaches, and the Pacific Ocean form the western boundary of the Study Area, while northern coastal scrub and seasonal wetlands form the eastern boundary. The northern and southern upland portions of the Study Area are comprised of two large groves of Monterey cypress originally planted as windbreaks.

The property is locally known as one of the most important habitat sites for wintering raptors in San Mateo County, supporting high population density and diversity of raptors (Sequoia Chapter Audubon Society 2008). The Study Area is also a popular hiking trail with easily accessible coastal bluffs and several informal overlooks. While an informal dirt ‘social’ trail makes its way along the coastal bluffs, the proposed project aims to re-route public access away from the eroding bluffs and improve the existing conditions to safely accommodate a formal trail, particularly during wet conditions. Due in part to the property’s recreational importance and valuable habitat for local coastal plant and animal species, the State Coastal Conservancy has partnered with CLT and Peninsula Open Space Trust (“POST”) to protect portions of the Wavecrest property and extend the CCT.



Figure 1. Study Area Location Map

Wavecrest Trail
San Mateo County, California



Map Date: September 2012
Map By: Derek Chan
Base Source: ESRI/National Geographic

The City-operated Poplar Beach/Bluff Top Coastal Park is located immediately north of the Study Area. This park includes a quarter-mile section of the CCT that connects to the north to a paved four-mile section of the CCT running through and adjacent to Half Moon Bay State Beach. Directly to the south of the Wavecrest property are many small undeveloped properties comprised of northern coastal scrub, coastal prairie, and vernal marsh communities. Several informal dirt trails and drainage features meander throughout these properties. Redondo Beach is located further to south, where the CCT resumes its course past the Ritz-Carlton Hotel and along a golf course.

The proposed project includes the construction of approximately 1,800 linear feet of trail with locations provided for scenic overlooks. The trail will be designed to minimize the alteration of natural landforms and protect sensitive habitats, while being sufficient to correct the current hazard posed by erosion on the coastal bluffs and provide access to all users. The Project will greatly improve public access. The Study Area generally excludes areas that are greater than 300 linear feet from the edge of the coastal bluffs.

1.2 Temporary Construction Requirements

Construction of the proposed project would require the establishment of temporary construction access and staging and the use of wildlife exclusion fencing, as described below and shown on Sheet L-1 of the 65% Construction Documents.

1.2.1 Construction Access and Staging

Construction crews would access the site from State Route 1 using Wavecrest Road and a temporary access route that would connect the western terminus of Wavecrest Road to a designated construction staging area. At the end of construction, the staging area and access route would be ripped and reseeded with a Native Coastal seed mix. This seed mix will include native plant species such as blue-eyed grass (*Sisyrinchium bellum*), California sagebrush (*Artemisia californica*) and golden yarrow (*Eriophyllum confertiflorum*). Construction access and staging areas will be monitored to ensure a minimum of 50% absolute plant cover is achieved within one year of completion of restoration activities. Additionally, these areas will be monitored to ensure no excessive erosion occurs within one year of completion of restoration activities. Temporary construction features are described in more detail below.

The staging area would be located adjacent to the trail and be 100-feet by 50-feet and provide adequate space for two 20-foot long storage containers; several parking spaces for construction crew. At the north end of the trail alignment space will be provided for vehicles to turn order prior to exiting the Project Area.

The access route is anticipated to be a 12-foot wide compacted dirt road and would be located within the City's road easement immediately west of Smith Fields, on City property of Smith Fields (Parcel Number 065-011-050), the adjacent property owned by the Peninsula Open Space Trust (Parcel Number 065-011-140), as well as Coastside Land Trust's property (Parcel Number 065-011-010). The proposed alignment for the temporary road avoids wetlands and sensitive habitat.

The proposed alignment for the temporary construction access road was designed to avoid wetlands and sensitive habitat. However, in the event that a temporary crossing of a wetland is required to allow for access, the temporary crossing will be constructed so that the vegetation and soil surface within the wetland remain undisturbed. This will be accomplished through the placement of geotextile fabric over the intact soil surface and use of temporary wetland protection mats constructed using non-erodible materials, such as wood (e.g., wood mats, wood panels, wood pallets), steel trusses, expanded metal grating, or similar materials. Mats will be designed to protect the ground without ground preparation. Temporary crossings, if necessary, will be established at locations where water flow and circulation patterns will not be impaired. Temporary crossings will be removed in their entirety following completion of project activities, and the crossing location(s) will be restored to their original elevations and re-vegetated by seeding with native species found within similar vegetation communities located on the project site.

In order for vehicles to make the right turn from Wavecrest Road onto the temporary access route, an existing sign with wood posts, metal pole, and dirt berm would need to be removed and replaced after construction. Parking at Smith Fields would not be impacted by the construction entrance; however, the existing dirt trail along the City of Half Moon Bay parcel would be temporarily closed and temporary signage will be placed to warn trail users.

The construction period is anticipated to extend eight weeks. It is anticipated that the temporary access road would see on average of ten inbound vehicle trips and ten outbound vehicle trips each day. During five of the construction days, it is anticipated that 16 additional inbound and 16 additional outbound trips would be required to deliver aggregate.

1.2.2 Wildlife Exclusion Fencing

Wildlife exclusion fencing will be erected and maintained around the perimeter of the Limit of Work, including the Project staging areas and access route, to prevent SFGS and CRLF from entering the site. Any wetland areas within the Limit of Work would also be protected by silt fencing. The vehicle access point at the parking lot of smith fields would have a temporary silt fence gate which is opened to allow construction vehicle access while a biological monitor is present. At night, the seal on the temporary gate would be augmented by sandbags.

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

2.0 REGULATORY BACKGROUND

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

2.1 Special Status Species

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

City of Half Moon Bay Local Coastal Program and Land Use Plan

The Half Moon Bay Land Use Policies and Map constitute the Land Use Plan of the LCP. The Zoning Code (Title 18 of the Municipal Code, including Chapter 18.20, which regulates Coastal Development Permits) together with the Zoning District Map constitutes the Implementation Plan of the LCP. The primary goal of the LCP is to ensure that the local government’s land use plans, zoning ordinances, zoning maps, and implemented actions meet the requirements of the provisions and polices of the Coastal Act at the local level. Coastal Resource Conservation Standards are described in Chapter 18.38 of the LCP and define sensitive habitat and coastal resource areas for conservation to include: sand dunes; marine habitats; sea cliffs; riparian areas; wetlands, coastal tidelands and marshes, lakes, ponds, and adjacent shore habitats; coastal or off-shore migratory bird nesting sites; areas used for scientific study, refuges, and reserves; habitats containing unique or rare and endangered species; rocky intertidal zones; coastal scrub communities; wild strawberry habitat; and archaeological resources. Marine and water resources (including riparian habitats) are further defined in Chapter 3 of the Land Use Plan.

Critical Habitat

Critical habitat is a term defined and used in the FESA as a specific geographic area that contains features essential for the conservation of a threatened or endangered species and that may require special management and protection. The FESA requires federal agencies to consult with the USFWS to conserve listed species on their lands and to ensure that any activities or

projects they fund, authorize, or carry out will not jeopardize the survival of a threatened or endangered species. In consultation for those species with critical habitat, federal agencies must also ensure that their activities or projects do not adversely modify critical habitat to the point that it will no longer aid in the species' recovery. In many cases, this level of protection is similar to that already provided to species by the FESA "jeopardy standard." However, areas that are currently unoccupied by the species but which are needed for the species' recovery, are protected by the prohibition against adverse modification of critical habitat.

2.2 Sensitive Biological Communities

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

Waters of the United States

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

Rapanos Guidance

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

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

The second standard, for tributaries that are not RPWs, requires a case-by-case “significant nexus” evaluation to determine the extent of Section 404 jurisdiction.

Waters of the State

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

Streams, Lakes, and Riparian Habitat

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

Other Sensitive Biological Communities

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

Appendix G). Specific habitats may also be identified as sensitive in City or County General Plans or ordinances.

The California Coastal Commission ESHA Definition

The California Coastal Commission defines an ESHA as follows:

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

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

3.0 METHODS

On August 29, and September 26, 2012 and January 23, 2014, the Study Area was traversed on foot to determine (1) plant communities present within the Study Area, (2) if existing conditions provide suitable habitat for any special status plant or wildlife species, and (3) if sensitive habitats including ESHA are present. Protocol-level rare plant surveys were conducted by WRA on May 20, 2013, and July 25, 2013, during the blooming period for special status plant species with potential to occur within the Study Area. All plant and wildlife species encountered were recorded, and are summarized in Appendix A. Plant nomenclature follows Baldwin et al. (2012), except where noted. Because of recent changes in classification for many of the taxa treated by Baldwin et al., synonyms have been retained in brackets. For cases in which taxonomic discrepancies occur between Baldwin et al. and the CNPS Inventory of Rare Plants, precedence was given to the species classification used in the CNPS Inventory.

3.1 Biological Communities

Prior to the site visit, the Soil Survey of San Mateo County, California (NRCS 2012) was examined to determine if any unique soil types that could support sensitive plant communities and/or aquatic features were present in the Study Area. Biological communities present in the Study Area were classified based on existing plant community descriptions described in the *Preliminary Descriptions of the Terrestrial Natural Communities of California* (Holland 1986). However, in some cases it is necessary to identify variants of community types or to describe non-vegetated areas that are not described in the literature. Biological communities were classified as sensitive or non-sensitive as defined by CEQA and other applicable laws and regulations.

3.1.1 *Non-sensitive Biological Communities*

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

3.1.2 *Sensitive Biological Communities*

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

Wetlands and Waters

The Study Area was surveyed to determine if any wetlands and waters potentially subject to jurisdiction by the Corps, RWQCB, or CDFG were present. The assessment was based primarily on the presence of wetland plant indicators, but may also include any observed indicators of wetland hydrology or wetland soils as defined by the Corps Manual (Environmental Laboratory 1987) and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region* (Corps 2008). Any potential wetland areas were identified as areas dominated by plant species with a wetland indicator status of obligate wetland (“OBL”), facultative wetland (“FACW”), or facultative (“FAC”) as given on the U.S. Department of Agriculture: National Wetland Plant List (USDA 2012). Evidence of wetland hydrology can include evidence such as visible inundation or saturation, surface sediment deposits, algal mats and drift lines, and oxidized root channels. Some indicators of wetland soils include dark colored soils, soils with a sulfidic odor, and soils that contain redoximorphic features as defined in *Field Indicators of Hydric Soils in the United States* (NRCS 2010).

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

Other Sensitive Biological Communities

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

3.2 Special Status Species

3.2.1 *Literature Review*

Potential occurrence of special status species in the Study Area was evaluated by first determining which special status species occur in the vicinity of the Study Area through a literature and database search. Database searches for known occurrences of special status species focused on the Half Moon Bay 7.5 minute U.S. Geological Survey (“USGS”) quadrangle

and the six surrounding USGS quadrangles (Montara Mountain OE W, Montara Mountain, San Mateo, Woodside, La Honda, and San Gregorio). The following sources were reviewed to determine which special status plant and wildlife species have been documented to occur in the vicinity of the Study Area:

- California Natural Diversity Database records (CDFG 2012)
- USFWS quadrangle species lists (USFWS 2012)
- CNPS Electronic Inventory records (CNPS 2012)
- CDFG publication “California’s Wildlife, Volumes I-III” (Zeiner et al. 1990)
- CDFG publication “Amphibians and Reptile Species of Special Concern in California” (Jennings 1994)
- A Field Guide to Western Reptiles and Amphibians (Stebbins, R.C. 2003)

3.2.2 Site Assessment

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

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

The site assessments were intended to identify the presence or absence of suitable habitat for each special status species known to occur in the vicinity in order to determine its potential to occur in the Study Area. The 2012 site visits do not constitute protocol-level surveys and were not intended to determine the actual presence or absence of a species; however, if a special

status species was observed during the site visit, its presence was recorded and discussed. The 2013 site visits, however, do constitute protocol-level rare plant surveys and were intended to determine the actual presence or absence of a species. Appendix B presents the evaluation of potential for occurrence of each special status plant and wildlife species known to occur in the vicinity of the Study Area with their habitat requirements, potential for occurrence, and rationale for the classification based on criteria listed above. Recommendations for further surveys are made in Section 5.0 below for species with a moderate or high potential to occur in the Study Area.

4.0 RESULTS

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

4.1 Biological Communities

Non-sensitive biological communities in the Study Area include northern coyote brush scrub, Monterey cypress groves, perennial herbaceous and areas dominated by invasive plant species. Two ESHA are found in the Study Area: seasonal wetland, and sea cliffs (Figure 2). Descriptions for each biological community are contained in the following sections. Acreage summations for biological communities are detailed in Table 1.

4.1.1 *Non-sensitive Biological Communities*

Northern Coyote Brush Scrub

Holland describes northern coyote brush scrub as low, dense shrubs with scattered grassy openings, usually on windy, exposed sites with shallow, rocky soils. Overall, most growth and flowering occur in this community in late spring and early summer. Northern coyote brush has three cover types based on dominant species. The northern coyote brush scrub habitat along the cliffs of the Study Area is dominated by coyote bush (*Baccharis pilularis*), and bristly ox-tongue (*Helminthotheca echioides* [*Picris echioides*]).

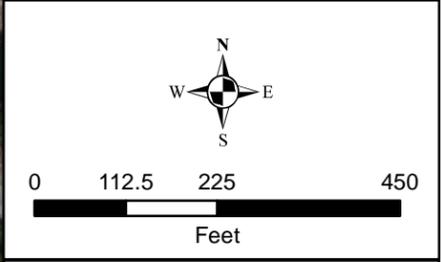
Exhibit 2: CEQA Documents: Initial Study and Mitigated Negative Declaration

Wavecrest Trail
 San Mateo County,
 California

Figure 2.
 Vegetation Communities
 and Rare Plant
 Occurrences



	Study Area (30.63 acres)
	Coastal Seasonal Wetlands (0.14 acre)
	Developed/Disturbed (2.62 acres)
	Monterey Cypress Grove (2.63 acres)
	Non-native Grassland (23.02 acres)
	Northern Coyote Brush Scrub (0.44 acre)
	Sea Cliffs (0.40 acre)
	Seasonal Wetlands (1.35 acres)
	Waters (.04 acre)
Results of Spring 2013 Surveys	
	<i>Plagiolothrys chorisianus</i> var. <i>chorisianus</i> (.039 acre)



0 112.5 225 450
 Feet

Map Date: January 2014
 Map By: Chris Zumwalt
 Base Source: ESRI Streaming Aerial

Table 1. Biological Community Acreages		
Biological Community	Listed as Sensitive^{1,2}	Acreage
Northern coyote brush scrub	No	0.44
Monterey cypress grove	No	2.63
Developed/Disturbed	No	2.62
Non-native grassland	No	23.02
Seasonal wetland (ESHA)	Yes	1.35
Coastal Seasonal Wetland (ESHA)	Yes	0.14
Sea cliffs (ESHA)	Yes	0.40
Waters	Yes	0.04
Total		30.63

¹Determination based on the *List of California Terrestrial Natural Communities* (CDFG 2010)

²Determination based on the *Half Moon Bay Local Coastal Program* (HMB 2009) and *Coastal Resource Zoning Code* (HMB 2006)

Monterey Cypress Grove

Although not described in the literature, a Monterey cypress (*Cupressus macrocarpa*) grove is dominated by Monterey cypress and often has very little understory. Two distinct cypress groves cover the northern and southern Study Area boundaries. These cypress groves were likely planted as windrows. The tree canopy is predominantly composed of Monterey cypress with some eucalyptus (*Eucalyptus globulus*) scattered throughout. The understory of the grove is bare and has a thick layer of leaf litter.

Developed/Disturbed Areas

Existing, informal footpaths are located along the bluff tops of steep vertical cliffs within the Study Area. These dirt footpaths are stripped of vegetation due to use, rutted in some locations, and included both the main informal footpath and additional 'social trails' extending towards the nearby sea cliff edge. Soil in the immediate vicinity is compacted and vegetation is trampled and moderately disturbed.

Non-Native Grassland

Holland describes non-native grassland as a dense to sparse cover of non-native annual grasses with flowering culms 0.2-1 meter high and often associated with numerous species of showy-flowered annual forbs. This community often occurs on fine-textured, usually clay soils, that are moist, or saturated during the winter rainy season and very dry during the summer and fall. Within the Study Area, this community dominates the western portion of the site. The non-native annual grassland is dominated by non-native grasses and forbs such as rattail fescue (*Festuca myuros* [*Vulpia myuros*]), birdsfoot trefoil (*Lotus corniculatus*), and Italian ryegrass (*Lolium multiflorum* [*Festuca perennis*]). In addition, a number of ruderal species are present, including bristly ox-tongue.

4.1.2 Environmentally Sensitive Habitat Areas (ESHA)

Seasonal Wetland (ESHA)

Seasonal wetland is not described by Sawyer and Keeler-Wolf as a distinct series because it is not characterized by a single dominant plant species, or a typical group of plant species. Seasonal wetlands in the Study Area included depressional wetlands and channelized wetlands with greater than 5% absolute cover of hydrophytic vegetation. Within the Study Area, seasonal wetlands occur in association with northern coastal scrub and perennial herbaceous communities (Sawyer 1995). The geomorphic position of these wetland areas and presence of algal mats, biotic crusts, cracked soils, and hydrophytic plants suggests that during periods of rain or continued saturation, water collects in these areas. These areas are dominated by invasive species, little quaking grass (*Briza minor*), common spikerush (*Eleocharis macrostachya*), field mint (*Mentha arvensis*), slender centaury (*Centaurium tenuiflorum* [*Centaurium muehlenbergii*]) and rabbitfoot grass (*Polypogon monspeliensis*).

An additional area of coastal seasonal wetland is located in the northeaster portion of the Study Area. The geomorphic position of this wetland area, the presence of prominent mottles in the soil profile (SP1), and localized dominance of a biotic crust suggests that during periods of rain, water collects in this area. Although the area is dominated by non-native upland plant species, it may be considered a wetland as defined by the LCP. Wetland and waters features are mapped in Figure 3.

Waters

Waters within the Study Area included linear, channelized areas dug in uplands that appear to be used to convey localized and overland flow from adjacent roads and lands, or during heavy rain events. These features are distinguished from seasonal wetlands since they contain less than 5% absolute cover of hydrophytic vegetation. Waters located in the Study Area were approximately 2 to 3 feet in width. Standing or flowing water was not observed in this feature at the time of field visits (Figure 3).

Wavecrest Trail
 San Mateo County,
 California

Figure 3.
 Potential Jurisdictional
 Wetlands



 Study Area (30.63 acres)

 Sample Points

Potential Army Corps Jurisdiction

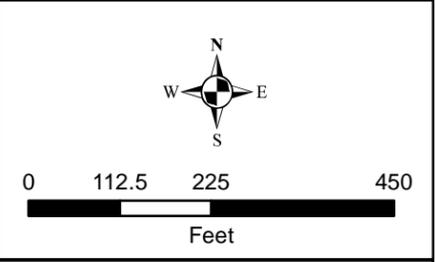
 Seasonal Wetlands (1.35 acres)

 Off-site Hydrophytic Vegetation (acreage not calculated)

 Waters (.04 acre)

Potential CCC/LCP Jurisdictional Areas

 Coastal Seasonal Wetlands (.14 acre)



0 112.5 225 450
 Feet

Map Date: January 2014
 Map By: Chris Zumwalt
 Base Source: ESRI Streaming Aerial

Sea Cliffs (ESHA)

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

4.2 Special Status Species

4.2.1 Plants

Based upon a review of the resources and databases given in Section 3.2.1, 45 special-status plant species have been documented in the vicinity of the Study Area. Appendix B summarizes the potential for occurrence for each special-status plant species occurring in the Half Moon Bay USGS 7.5 minute quadrangle and six surrounding quadrangles. One special-status plant species, Choris' popcorn flower (*Plagiobothrys chorisianus* var. *chorisianus*), was documented in the Study Area in 1995 and 2004 (CNDDDB 2012) and was observed by WRA during protocol-level rare plant surveys conducted in May and July, 2013. Choris' popcorn flower is an annual herb that is endemic (limited) to California alone. Thirteen other special-status plant species have a moderate potential to occur in the Study Area. However, no other special-status plant species were observed during WRA's 2012 and 2013 site visits. The remaining species documented to occur in the vicinity of the Study Area are unlikely or have no potential to occur due to lack of suitable habitat within the Study Area.

The site assessments occurred during the blooming period of the 14 special status plant species with potential to occur in the Study Area; only one of the potentially blooming species was observed. The plants observed during the site visits are listed in Appendix A.

Confirmed Present; High Potential

Choris' popcorn flower (*Plagiobothrys chorisianus* var. *chorisianus*), CNPS Rank 1B. Choris' popcorn flower is an annual herbaceous species in the family Boraginaceae. Typical habitat for this species includes chaparral, coastal prairie, and coastal scrub. Choris' popcorn flower has been recorded in Alameda, San Francisco, San Mateo, and Santa Cruz counties at elevations ranging from 15 to 160 meters and blooms from March through June. Choris' popcorn flower has documented occurrences within the Wavecrest property during 1995 and 2004 plant surveys and field visits conducted by T. Corelli and D. Lake, respectively (CNDDDB 2012). This species is confirmed present during rare plant surveys conducted on May 20, 2013, and July 25, 2013 (Figure 2), Approximately 50 to 60 individual blooming plants located within seven isolated groupings were observed during the May 20, 2013, site visit. Some of these groupings were situated predominately within small (three- to ten-foot diameter) depressions and narrow linear swales that likely maintain higher soil moisture than adjacent higher ground during drier months.

Moderate Potential

Pappose tarplant (*Centromadia parryi* ssp. *parryi*) CNPS Rank 1B. Pappose tarplant is an annual herbaceous species in the Asteraceae family. This species typically occurs in chaparral,

coastal prairie, meadows and seeps, and valley and foothill grassland communities at elevations ranging from two to 420 meters. Pappose tarplant blooms between May and November and has been recorded in a number of California counties, including San Mateo, San Francisco, and Napa. Suitable grassland habitat intermixed with coyote brush scrub is present within the Study Area.

San Francisco Bay spineflower (*Chorizanthe cuspidate* var. *cuspidata*), CNPS Rank 1B. San Francisco Bay spineflower is an annual herbaceous species in the family Polygonaceae. It occurs in coastal bluff scrub, coastal dunes, coastal prairie, coastal scrub, often on sandy soils. It is recorded from 3 to 215 meters in elevation in Alameda, Marin, San Francisco, San Mateo, and possibly Sonoma counties, and blooms between April and August. Suitable scrub habitat for this species is located along the eastern boundary of the Study Area.

Mission bells (*Fritillaria lanceolata* var. *tristulis*), CNPS Rank 1B. Mission bells is a perennial, bulbiferous herbaceous species in the Liliaceae family. This species is typically found in cismontane woodland, coastal prairie, coastal scrub, and often on serpentine within valley and foothill grassland communities at elevations ranging from three to 410 meters. Mission bells blooms between February and April and has been recorded in a number of California counties, including San Mateo, San Francisco, and Santa Clara. Within the Study Area, this species could occur within coastal scrub habitat.

San Francisco gumplant (*Grindelia hirsutula* var. *maritima*), CNPS Rank 1B. San Francisco gumplant is a perennial herb in the family Asteraceae. It occurs on bluffs or in sandy or serpentine soils in coastal scrub, coastal bluff scrub, and valley and foothill grassland communities. It is recorded from 15 to 400 meters in elevation in Marin, San Francisco, San Luis Obispo, and San Mateo counties, with possible additional occurrences in Monterey and Santa Cruz counties. It blooms between June and September. Within the Study Area, this species could occur within coastal scrub or grassland communities.

Shortleaf dwarf cudweed (*Hesperevax sparsiflora* var. *brevifolia*), CNPS Rank 2. Shortleaf dwarf cudweed is a small annual herb in the family Asteraceae. It occurs in sandy or rocky bluffs and flats in coastal bluff scrub and coastal dunes. It is recorded from 0 to 200 meters in elevation in all coastal counties from Del Norte to Santa Cruz County, but is presumed extirpated from San Francisco County. It blooms between March and June. Within the Study Area, this species could occur within the coastal scrub community.

Kellogg's horkelia (*Horkelia cuneata* var. *sericea*), CNPS Rank 1B. Kellogg's horkelia is a perennial herb in the family Rosaceae. It occurs on gravelly or sandy soils in closed-cone coniferous forest, maritime chaparral, and openings in coastal scrub habitat. It is recorded from 10 to 200 meters in elevation in Alameda, Monterey, Santa Barbara, Santa Cruz, San Mateo, and San Luis Obispo counties, and is presumed extirpated from Marin and San Francisco counties. It blooms between April and September. Within the Study Area, this species could occur within the coastal scrub community.

Point Reyes horkelia (*Horkelia marinensis*), CNPS Rank 1B. Point Reyes horkelia is a perennial herb in the family Rosaceae. It occurs in sandy flats, coastal prairie, and coastal scrub. It is recorded from 5 to 30 meters in elevation in Mendocino, Marin, Santa Cruz, San Mateo, and Sonoma counties. It blooms between May and September. Within the Study Area, this species could occur within the coastal scrub community.

Perennial goldfields (*Lasthenia californica* ssp. *macrantha*), CNPS Rank 1B. Perennial goldfields is a perennial herb in the Asteraceae family. This species typically occurs in coastal bluff scrub, coastal dunes, and coastal scrub communities at elevations ranging between five and 520 meters. Perennial goldfields has been recorded in Mendocino, Marin, San Luis Obispo, San Mateo, and Sonoma counties. Within the Study Area, this species could occur within the coastal scrub community.

Coast lily (*Lilium maritimum*), CNPS Rank 1B. Coast lily is a perennial bulbiferous herb in the lily family (Liliaceae) that typically occurs in a broad range of plant communities, including closed-cone coniferous forest, coastal prairie, and coastal scrub. This species occurs at elevations ranging from five to 475 meters and blooms between May and August. Coast lily has been recorded in Mendocino, Marin, San Francisco, San Mateo and Sonoma counties. Within the Study Area, this species could occur within the coastal scrub community.

Davidson's bushmallow (*Malacothamnus davidsonii*), CNPS Rank 1B. Davidson's bushmallow is a perennial deciduous shrub from the Malvaceae family. This species typically occurs in chaparral, cismontane woodland, coastal scrub, and riparian woodland communities at elevations ranging from 185 to 855 meters. Davidson's bushmallow blooms between June and January and has been recorded in Los Angeles, Monterey, Santa Clara, San Luis Obispo, and San Mateo counties. Within the Study Area, this species could occur within the coastal scrub community.

Marsh silverpuffs (*Microseris paludosa*), CNPS Rank 1B. Marsh microseris is a perennial herb in the family Asteraceae. It occurs in closed-cone coniferous forest, cismontane woodland, coastal scrub, and valley and foothill grassland, often where grasses are low-growing. It is recorded from 5 to 300 meters in elevation in Mendocino, Monterey, Marin, San Benito, Santa Cruz, San Luis Obispo, and Sonoma counties, and is presumed extirpated from San Francisco and San Mateo counties. It blooms between April and June. Within the Study Area, this species could occur within coastal scrub or grassland communities.

Great polemonium (*Polemonium carneum*), CNPS Rank 2. Oregon polemonium is a perennial herb in the family Polemoniaceae. It occurs in coastal prairie, coastal scrub, and lower montane coniferous forest. It is recorded from 0 to 1830 meters in elevation in Del Norte, Siskiyou, Humboldt, Sonoma, Marin, Alameda, San Francisco, and San Mateo counties. It blooms between April and September. Within the Study Area, this species could occur within the coastal scrub community.

San Francisco campion (*Silene verecunda* ssp. *verecunda*), CNPS Rank 1B. CNPS List 1B. San Francisco campion is a perennial herb in the family Caryophyllaceae. It occurs in sandy soils in coastal bluff scrub, chaparral, coastal prairie, coastal scrub, and valley and foothill grassland. It is recorded from 30 to 645 meters in elevation in San Francisco, San Mateo, Santa Cruz, and Sutter counties. It blooms between March and August. Within the Study Area, this species could occur within coastal scrub or grassland communities.

4.2.2 Wildlife

Based upon a review of the resources and databases given in Section 3.2.1, 88 special-status wildlife species have been documented in the vicinity of the Study Area. Appendix B summarizes the potential for each of these species to occur in the Study Area. Species may

have been omitted due to lack of available habitat or the distance of the Study Area from suitable habitat such as old growth forest or the ocean. The special-status wildlife species discussed below have a moderate or high potential to occur in the Study Area. The remaining species documented to occur in the vicinity of the Study Area are unlikely or have no potential to occur due to lack of suitable habitat within the Study Area.

Mammals

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

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

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

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

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

San Francisco Dusky-footed Woodrat (*Neotoma fuscipes annectens*), CDFG Species of Special Concern. This species inhabits hardwood forests of moderate canopy with a moderate

to dense understory. The subspecies occurs in Coast Ranges between San Francisco Bay and the Salinas River (Matocq, 2003). It prefers brushy riparian habitats, coast live oak woodland, and dense scrub communities. Prominent stick houses provided evidence of its presence. Nests are constructed out of leaves, shredded grass, and other material. Habitat for this species exists in the Monterey cypress grove and northern coyote brush scrub habitats of the Study Area. Therefore, this species has a moderate potential to occur within the Study Area.

Birds

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

Ferruginous Hawk (*Buteo regalis*), CDFG Species of Special Concern, USFWS Bird of Conservation Concern. Ferruginous hawk breeds in the semiarid grasslands of the Great Plains. This species is a winter visitor to California and occupies open terrain including, grasslands, agricultural fields, and deserts. Grassland and arid areas of California, Arizona, and New Mexico are used heavily where prairie dogs, rabbits, or pocket gophers (*Thomomys* spp.) are abundant (Bechard and Schmutz 1995). Suitable foraging habitat is present and suitable nesting habitat may be present in the trees and shrubs in the Study Area. Therefore, this species has a moderate to high potential to occur within the Study Area.

American Peregrine Falcon (*Falco peregrinus anatum*), Federal threatened, State endangered. The American peregrine falcon is a Federal Delisted, State Endangered, and California Fully Protected Species. Historical DDT (dichlorodiphenyltrichloroethane) contamination is the primary source of decline for this species. It winters throughout the Central Valley and occurs as a vagrant in a wide variety of habitats. Suitable foraging habitat is present and suitable nesting habitat may be present in the trees and shrubs in the Study Area. Therefore, this species has a moderate potential to occur within the Study Area.

Short-eared Owl (*Asio flammeus*), CDFG Species of Special Concern. The short-eared owl typically is found in tall grasslands and emergent wetlands. The seasonal wetlands and nearby annual grasslands and small shrubs provide potentially suitable breeding and foraging habitat for this species. Suitable foraging habitat is present and suitable nesting habitat may be present in the shrubs in the Study Area.

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

habitat is present and suitable nesting habitat may be present in the trees within the Study Area. Therefore, this species has a moderate potential to occur within the Study Area.

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

Saltmarsh Common Yellowthroat (*Geothlypis trichas sinuosa*), USFWS Bird of Conservation Concern, CDFG Species of Special Concern. This subspecies of the Common Yellowthroat is found in freshwater marshes, coastal swales, riparian thickets, brackish marshes, and saltwater marshes. Their breeding range extends from Tomales Bay in the north, Carquinez Strait to the east, and Santa Cruz County to the south. This species requires thick, continuous cover such as tall grasses, tule patches, or riparian vegetation down to the water surface for foraging and prefers willows for nesting. Suitable foraging habitat is present within the Study Area. However, due to the lack of willows and similar riparian vegetation in the Study Area, no suitable breeding habitat is present. Therefore, this species has a high potential to occur within the Study Area.

Yellow Warbler (*Dendroica petechia*), CDFG Species of Special Concern. Yellow Warbler are a summer resident of Northern California and breed in deciduous riparian or shrub habitats associated with conifer forests. This species has a moderate potential to forage in suitable grassland habitat. However, it is unlikely this species will nest in the minimal shrub habitat within the Study Area, as on-site shrubs (in the northern coyote scrub) are not associated with forested areas. Therefore, this species has a moderate potential to occur within the Study Area.

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

Herpetofauna

San Francisco Garter Snake (*Thamnophis sirtalis tetrataenia*), Federal Endangered, State Endangered, CDFG Fully Protected. Historically, San Francisco garter snake ("SFGS") occurred in scattered wetland areas on the San Francisco Peninsula from approximately the San Francisco County line south along the eastern and western bases of the Santa Cruz Mountains, at least to the Upper Crystal Springs Reservoir, and along the coast south to Año Nuevo Point, San Mateo County, and Waddell Creek, Santa Cruz County. The preferred habitat of the SFGS is a densely vegetated pond near an open hillside where they can sun themselves, feed, and find

cover in rodent burrows; however, considerably less ideal habitats can be successfully occupied. Temporary ponds and other seasonal freshwater bodies are also used. Emergent and bankside vegetation such as cattails (*Typha* spp.), bulrushes (*Scirpus* spp.) and spike rushes (*Juncus* spp. and *Eleocharis* spp.) apparently are preferred and used for cover. The area between stream and pond habitats and grasslands or bank sides is used for basking; while nearby dense vegetation or water often provide escape cover. Snakes also use floating algal or rush mats, if available.

There are two significant components to SFGS habitat: 1) ponds that support California red-legged frog (*Rana draytonii*, "CRLF"), American bullfrog (*Rana catesbeiana*), or the Sierran treefrog (*Pseudacris sierran*) and 2) surrounding upland that supports the Botta's pocket gopher (*Thomomys bottae*) and the California meadow vole (*Microtus californicus*) (USFWS 2006). Ranid frogs are an obligate component of the SFGS's diet (USFWS 2006).

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

The nearest SFGS occurrence is greater than the documented and known distance for SFGS to disperse from aquatic habitat. Suitable scrub habitat and a suitable prey base are present within the Study Area; therefore, SFGS has a moderate potential to occur within the Study Area

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

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

A 2004 occurrence of CRLF is documented on the Wavecrest property, approximately 1,700 feet east of the Study Area (CNDDDB 2012, WRA 2004). Three additional occurrences are documented within five miles north of the Study Area; these occurrences were single to many frogs in Albert Canyon Creek, in Lost Trancos Creek, and near Pilarcitos Creek. In addition,

CRLF individuals were observed in an off-site stormwater management pond, located immediately northwest of the Study Area, during a protocol-level survey for CRLF conducted by WRA on May 13, 2013. CRLF therefore has a high potential to occur within the Project Area, and is likely present, though suitable breeding habitat (i.e. ponds or streams with deep, still or slow moving water) is not present within the Study Area.

Invertebrates

Monarch Butterfly (*Danaus plexippus*). CDFG Roost Protected. Winter roost sites extend along the coast from northern Mendocino to Baja California, Mexico. Roosts are located in wind protected tree groves, with nectar and water sources nearby. Suitable winter roost sites exist for this species in the Monterey cypress trees within the Study Area. No documented roosts are known within the Study Area. Therefore, this species has a moderate potential to occur within the Study Area.

5.0 SUMMARY AND RECOMMENDATIONS

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

5.1 Biological Communities

The CCC and LCP generally prohibit land use or development, which would have significant adverse impact on ESHAs. The LCP defines specific criteria for allowable development areas in ESHAs, requires ESHA impacts to be minimized to the maximum extent feasible through siting and design, requires that mitigation measures implemented where impacts to ESHAs may occur. However, permitted uses allowed within ESHAs include the following: education and research, trails and scenic overlooks on public lands, and fish and wildlife management. As aforementioned, ESHAs within the Study Area include seasonal wetlands and sea cliffs.

Wetlands

A 100-foot minimum buffer surrounding wetlands, lakes, and ponds is typically required by the municipal code. However, specific permitted uses, including trails and scenic overlooks, are allowed within these buffer areas. As such, while trail development activities may occur within the 100-foot buffer surrounding a wetland, the following standards are recommended to minimize adverse effects (Section 18.38.080, Half Moon Bay Municipal Code):

- The removal of vegetation is minimized;
- Development conforms to natural topography and that erosion potential is minimized;
- Provisions have been made to keep runoff and sedimentation from exceeding predevelopment levels;
- Native and noninvasive exotic vegetation is used for replanting, where appropriate; and

- Any discharge of toxic substances, such as fertilizers and pesticides, is prevented.

Sea Cliffs

Setbacks for sea cliffs are determined by site-specific geologic stability (Section 18.38.065, Half Moon Bay Municipal Code). Development of the coastal trail will be located outside of any geologically unstable area and will not contribute to localized geologic instability.

General Avoidance Measures

Below, general avoidance measures to reduce potential impacts to sensitive habitats and specific performance criteria for ESHAs are described:

- Site grading and trail development activities should be restricted between approximately May 1 and December 31. Site grading during these dryer months will reduce the possibility of soil erosion and sediments flowing into natural habitats.
- Install temporary silt fencing along the entire perimeter of land disturbing activities to protect potential ESHAs.
- Soil disturbance in the 100-foot buffer zone around the wetland areas (see Section 5.1.2) should be minimized as much as possible. This will reduce the impact to existing soils and vegetation that will remain as natural habitat within the buffer zone and reduce the potential for soil erosion. Perimeter erosion and sediment control measures (i.e. silt fencing, straw waddles) should be installed within the buffer zone area as an extra precaution to reduce the possibility of sediments entering the adjacent potential ESHAs.
- Solid materials, including wood, masonry/rock, glass, paper, or other materials should not be stored or placed in the 100-foot wetland buffer zone to the extent practicable. Solid waste materials should be properly disposed of off-site. Fluid materials, including concrete, wash water, fuels, lubricants, or other fluid materials used during construction should not be disposed of on-site and should be stored or confined as necessary to prevent spillage into natural habitats. If a spill of such materials occurs, the area should be cleaned and contaminated materials disposed of properly. The affected area should be restored to its natural condition.

5.2 Special Status Plant Species

Of the 45 special status plant species known to occur in the vicinity of the Study Area, 14 were determined to have a high to moderate potential to occur in the Study Area. To determine if any of these species occur within the Study Area, protocol level rare plant surveys were conducted by WRA between April and July of 2013, during the blooming periods of the 14 plant species.

Of the 14 special-status plant species with potential to occur within the Study Area, only Choris' popcorn flower was confirmed present during 2013 rare plant. These occurrences were mapped by WRA, and are shown in Figure 2. No occurrences were observed within the proposed trail alignment or within an adjacent 50-foot avoidance buffer, therefore no impacts to this species are anticipated due to the project. Preconstruction surveys during this species' blooming period

(defined as: April through June) should be conducted within the same growing season of proposed work activities. Preconstruction surveys should be conducted within proposed disturbance areas, including new trail alignments, construction material stockpiles, and temporary access routes, in order to ensure complete avoidance of direct impacts to this species. Known occurrences of Choris' popcorn flower populations should be flagged to ensure construction-related impacts to these populations are avoided during implementation activities. If it is determined that construction-related activities will impact Choris' popcorn flower, a mitigation plan for protecting this species should be developed. Mitigation measures may include additional avoidance measures, salvaging and transplanting of plants within disturbance areas, and collection and storage of seeds for future re-establishment efforts.

5.3 Special Status Wildlife Species

Recommendations and avoidance measures pertaining to special-status wildlife species are included below.

5.3.1 Bats

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

Preconstruction surveys for bats should take place during the maternity roosting season (defined as: April 1 through August 31) if project activities have the potential to disturb trees, snags or bridge structures within the Study Area. Surveys should be conducted by a qualified biologist no less than 14 days prior to these activities, which have the potential to disturb bat roosting and foraging habitats within the Study Area. Ultrasonic acoustic surveys and/or other site appropriate survey method should be performed to determine the presence or absence of bats utilizing the Study Area as roosting or foraging habitat. If special status bat species are detected during surveys, appropriate, species and roost specific mitigation measures will be developed. Such measures may include postponing removal of trees, snags or structures until the end of the maternity roosting season or construction of species appropriate roosting habitat within, or adjacent to the Study Area.

Trees, snags and bridge structures may be removed outside of the maternity roosting season without performing preconstruction bat surveys. However, if trees, snags or bridge structures are to be demolished, surveys should be performed by a qualified bat biologist no less than 14 days prior to disturbance to determine if buildings currently or previously support roosting bats. If bats are determined to be present, species and roost appropriate mitigation measures will be developed based on the results of the survey in consultation with CDFG.

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

5.3.2 Woodrat

The shrub areas in the Study Area have the potential to support the San Francisco Dusky-footed Woodrat. If stick houses are observed, they should be avoided if possible. If avoidance is not feasible, the houses should be dismantled by hand under the supervision of a biologist. If young

are encountered during the dismantling process, the material should be placed back on the house and the house will remain unmolested for two to three weeks in order to give the young enough time to mature and leave the house. After two to three weeks, the nest dismantling process may begin again. Nest material will be moved to suitable adjacent areas (riparian, woodland, scrub) that will not be impacted.

5.3.3 *Birds*

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

5.3.4 *Herpetofauna*

CRLF and SFGS have potential to occur in the Study Area due to suitability of nearby habitats and nearby occurrences. No lifestages of CRLF have been identified and no suitable breeding habitat is found within the Study Area, however, on-site habitats may be utilized by dispersing CRLF individuals. Individual CRLF may utilize the grassland habitats located within the Study Area temporarily, and would not likely reside within the proposed disturbance areas for long periods of time. The following measures are recommended to reduce and/or prevent impacts to sensitive herpetofauna:

- A qualified biologist shall survey the work site immediately before the onset of ground clearing or construction activities. If CRLF are found, the approved biologist shall contact the USFWS to determine if moving CRLF individuals is appropriate. In making this determination, the USFWS will consider if an appropriate relocation site exists. If the USFWS approves moving animals, the approved biologist will be allowed sufficient time to move them from the work site before work activities begin. Only qualified biologists shall participate in activities associated with the capture, handling, and monitoring of CRLF. Any SFGS shall be allowed to leave the work area on their own, and shall be monitored as practical by the biologist to ensure they do not reenter the work area.
- Prior to the start of groundbreaking activities, all construction personnel will receive training on listed species and their habitats by a qualified biologist. The importance of these species and their habitat will be described to all employees as well as the minimization and avoidance measures that are to be implemented as part of the project. An educational brochure containing color photographs of all listed species in the work area(s) will be distributed to all employees working within the Study Area(s). The original list of employees who attend the training sessions will be maintained by the applicant and be made available for review by the USFWS and the CDFG upon request.

- The contractor or permittee shall designate a person to monitor on-site compliance with all minimization measures. The on-site monitor(s) will remain on-site for the duration of the proposed project, including vegetation removal, grading and cleanup activities.
- Designated construction staging areas will be utilized as the staging areas for the trail construction activities. All vehicles associated with project activities will be clustered within these areas at the end of each work day or when not in use to minimize habitat disturbance and water quality degradation.
- Any erosion control materials used shall be made of tightly woven fiber netting or similar material to ensure that the CRLF and SFGS do not get trapped. This limitation will be communicated to the contractor. Plastic mono-filament netting (erosion control matting), rolled erosion control products or similar material shall not be used at the Study Area because CRLF, SFGS, and other species may become entangled or trapped in it.
- No trash shall be deposited on the site during construction activities. All trash shall be placed in trash receptacles with secure lids stored in vehicles and removed nightly from the Study Area.
- Fueling and maintenance of equipment should be conducted off-site, if practicable, and at least 50 feet from any wetland or designated ESHA.
- Because CRLF and SFGS may take refuge in cavity-like and den-like structures such as pipes and may enter stored pipes and become trapped, all construction pipes, culverts, or similar structures that are stored at a construction site for one or more overnight periods will be either securely capped prior to storage or thoroughly inspected by the on-site monitor and/or the construction foreman/manager for these animals before the pipe is subsequently buried, capped, or otherwise used or moved in any way. If a CRLF is discovered inside a pipe by the on-site monitor or anyone else, a qualified biologist shall move the animal to a safe nearby location and monitor it until it is determined that it is not imperiled by predators or other dangers. CRLF will not be removed from the vicinity or remain in captivity overnight unless in the care of a certified wildlife veterinarian. If a SFGS is found, it should be allowed to passively leave the work area on its own, as determined by the on-site monitor, unless in circumstances where the animal is determined to be trapped as discussed below.
- To prevent inadvertent entrapment of sensitive herpetofauna during construction, the on-site monitor and/or construction foreman/manager shall ensure that all excavated, steep-walled holes or trenches more than one foot deep are completely covered at the close of each working day by plywood or similar materials, or provided with one or more escape ramps constructed of earth fill or wooden planks and inspected by the on-site biologist. Before such holes or trenches are filled, they will be thoroughly inspected for trapped animals by the on-site biologist and/or construction foreman/manager. If at any time a trapped CRLF or SFGS is discovered by the on-site biologist or anyone else, the animal should be allowed to passively leave the work area on its own, as determined by the onsite biologist. If a CRLF or SFGS is trapped, a CRLF or SFGS permitted biologist shall move the individual(s) with permission from USFWS and CDFG. If SFGS are discovered,

the snake may be relocated by a permitted biologist and with USFWS and CDFG approval.

- Wildlife exclusion fencing will be erected and maintained around the perimeter of the Project and Project staging areas to prevent SFGS and CRLF from entering the site. Installation of the fence will be performed under the supervision of a USFWS-approved biologist. Once the fencing is installed, workers will clear all vegetation within this area with weed whackers or other hand tools to a height of four to six inches. Following the removal of vegetation, preconstruction surveys will be performed prior to the start of any ground breaking activities by a USFWS-approved biologist. Fencing will be equipped with one-way escape funnels. Fencing will extend a minimum of 36-inches above ground level and will be buried four inches to six inches into the ground. Exclusion fencing will be checked a minimum of one time per week by biological monitors for the duration of the Project to identify problems or weaknesses in fence integrity and function. All compromised portions will be repaired and/or replaced immediately. Upon completion of the Project, all fencing material will be removed from the site and disposed of properly.
- To discourage recreational users from leaving designated trails, interpretive signs describing the sensitivity of the habitat and how to utilize the property in an ecologically sensitive manner will be placed at trailheads and wetlands adjacent to enhanced trails. If rehabilitated trails show continued signs of usage, the applicant will implement additional preventative measures, such as the installation of additional signage or fencing. Trailhead signs will also describe the importance of prohibitions on unrestrained domestic pets and the associated fines for violating these laws.
- Upon completion of the construction and rehabilitation phases of the proposed project, the applicant will revegetate disturbed areas with native species typical to the coastal environment. The applicant will monitor the property according to any regulatory agency-approved monitoring plan(s), if required, to ensure the successful rehabilitation of restored areas. The applicant will take measures to remove and control any non-graminoid plant species with a CallPC invasive ranking of "High" or "Moderate" that are found within the revegetated areas.

5.3.5 Monarch Butterfly

Monarch butterflies have known winter roosts in the area. No impacts would be expected as no tree removal is proposed. If tree removal were to occur, specifically from October through February, then a monarch winter roost survey is recommended. Disturbance or destruction of a roost would require further consultation with CDFG.

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Exhibit 2: CEQA Documents: Initial Study and Mitigated Negative Declaration

APPENDIX A

LIST OF OBSERVED PLANT AND ANIMAL SPECIES

Appendix A: List of Observed Plant and Animal Species during the August 31, and September 26, 2012 and previous site visits.	
Scientific Name	Common Name
Plants	
<i>Anagallis arvensis</i>	scarlet pimpernel
<i>Anaphalis margaritacea</i>	pearly everlasting
<i>Baccharis pilularis</i>	coyote brush
<i>Brassica rapa L.</i>	field mustard
<i>Briza maxima</i>	rattlesnake grass
<i>Briza minor</i>	little quaking grass
<i>Bromus hordeaceus</i>	soft chess
<i>Carduus pycnocephalus</i>	Italian thistle
<i>Carpobrotus edulis</i>	iceplant
<i>Comarum palustre [Potentilla palustris]</i>	marsh cinquefoil
<i>Convolvulus arvensis</i>	bindweed
<i>Cortaderia selloana</i>	pampas grass
<i>Cotula coronopifolia</i>	common brass buttons
<i>Cupressus macrocarpa</i>	Monterey cypress
<i>Cyperus eragrostis</i>	flatsedge
<i>Eleocharis macrostachya</i>	common spikerush
<i>Epilobium ciliatum</i>	fringed willowherb
<i>Erigeron glaucus</i>	seaside fleabane
<i>Festuca myuros [Vulpia myuros]</i>	rattail fescue
<i>Festuca perennis [Lolium multiflorum]</i>	Italian rye grass
<i>Helminthotheca [Picris] echioides</i>	bristly ox-tongue
<i>Holcus lanatus</i>	velvet grass
<i>Juncus bufonius</i>	toad rush
<i>Lotus corniculatus</i>	bird's-foot trefoil
<i>Lythrum hyssopifolia</i>	hyssop loosestrife
<i>Mentha pulegium</i>	pennyroyal
<i>Plantago major</i>	common plantain
<i>Poa annua</i>	annual bluegrass

Exhibit 2: CEQA Documents: Initial Study and Mitigated Negative Declaration

<i>Polygonum persicaria</i>	lady's thumb
<i>Polypogon monspeliensis</i>	rabbitfoot grass
<i>Rubus [discolor] armeniacus</i>	Himalayan blackberry
<i>Rumex crispus</i>	curly dock
<i>Scutellaria tuberosa</i>	skullcap
<i>Sonchus asper</i>	spiny sowthistle
<i>Trifolium hirtum</i>	rose clover
<i>Zeltnera muehlenbergii [Centaurium muehlenbergii]</i>	Monterey centaury
Wildlife Species	
Birds	
<i>Aphelocoma californica</i>	western scrub-jay
<i>Bombycilla cedrorum</i>	cedar waxwing
<i>Buteo lineatus</i>	red-shouldered hawk
<i>Buteo jamaicensis</i>	red-tailed hawk
<i>Calidris mauri</i>	western sandpiper
<i>Calypte anna</i>	anna's hummingbird
<i>Carpodacus mexicanus</i>	house finch
<i>Catharus guttatus</i>	hermit thrush
<i>Ceryle alcyon</i>	belted kingfisher
<i>Charadrius vociferus</i>	killdeer
<i>Colaptes auratus</i>	northern flicker
<i>Corvus corax</i>	common raven
<i>Geothlypis trichas</i>	common yellowthroat
<i>Haematopus bachmani</i>	black oystercatcher
<i>Junco hyemalis</i>	dark-eyed junco
<i>Larus occidentalis</i>	western gull
<i>Larus californicus</i>	California gull
<i>Melospiza melodia</i>	song sparrow
<i>Patagioenas fasciata</i>	band-tailed pigeon
<i>Pelecanus occidentalis</i>	brown pelican
<i>Petrochelidon pyrrhonata</i>	cliff swallow

Exhibit 2: CEQA Documents: Initial Study and Mitigated Negative Declaration

<i>Picoides pubescens</i>	downy woodpecker
<i>Poecile rufescens</i>	chestnut-backed chickadee
<i>Psaltriparus minimus</i>	bushtit
<i>Sayornis nigricans</i>	black phoebe
<i>Selasphorus sasin</i>	Allen's hummingbird
<i>Sturnus vulgaris</i>	European starling
<i>Thryomanes bewickii</i>	Bewick's wren
<i>Turdus migratorius</i>	American robin
<i>Zenaida macroura</i>	mourning dove
Herpetofauna	
Sierra Treefrog	<i>Pseudacris sierra</i>

APPENDIX B

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

Exhibit 2: CEQA Documents: Initial Study and Mitigated Negative Declaration

Appendix B. Potential for Special Status Plant and Wildlife Species to Occur in the Study Area. List compiled from the California Department of Fish and Game (CDFG) Natural Diversity Database (September 2012), U.S. Fish and Wildlife Service (USFWS) Species Lists, and California Native Plant Society (CNPS) Electronic Inventory search of the Half Moon Bay, Montara Mountain OE W, Montara Mountain, San Mateo, Woodside, La Honda, and San Gregorio USGS 7.5' quadrangles and a review of other CDFG lists and publications (Jennings and Hayes 1994, Zeiner et al. 1990).

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

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

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

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SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE	RECOMMENDATIONS
Northern Harrier <i>Circus cyaneus</i>	SSC	Coastal salt and freshwater marsh. Nest and forage in grasslands, from salt grass in desert sink to mountain cienagas. Nests on ground in shrubby vegetation, usually at marsh edge; nest built of a large mound of sticks in wet areas.	Unlikely. The Study Area contains suitable breeding and foraging habitat for this species.	No further actions are recommended for this species.
Ferruginous Hawk <i>Buteo regalis</i>	BCC	Winter resident of open grasslands, sagebrush flats, desert scrub, low foothills surrounding valleys, and fringes of pinyon-juniper habitats.	Moderate to High. The Study Area has suitable habitat for nesting and high potential for foraging activity. .	No further actions are recommended for this species.
Golden Eagle <i>Aquila chrysaetos</i>	CFP	Year-round resident in rolling foothills with open grasslands, scattered trees, and cliff-walled canyons.	Unlikely. The Study Area contains some nesting and foraging habitat for this species, however, no large remnant nest structures were observed in the eucalyptus trees within the Study Area.	No further actions are recommended for this species.
Bald Eagle <i>Haliaeetus leucocephalus</i>	FD, SE, CFP	Frequents ocean shores, lake margins, and rivers for both nesting and wintering. Requires abundant fish and adjacent snags or other perches. Nests in large, old-growth, or dominant live tree with open branchwork. Shows a preference for ponderosa pine. Roosts communally in winter.	Unlikely. Typical nesting and foraging habitat is not located in the Study Area.	No further actions are recommended for this species.
Swainson's Hawk <i>Buteo swainsoni</i>	ST, BCC	Summer resident in the region. Nests in stands with few trees in juniper-sage flats, riparian areas and in oak savannah. Requires adjacent suitable foraging areas such as grasslands, or alfalfa or grains fields supporting rodent populations.	Unlikely. This species is usually found further inland.	No further actions are recommended for this species.

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

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SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE	RECOMMENDATIONS
Elegant Tern <i>Sterna elegans</i>	BCC, DFG:WL	Post-breeding dispersent to coastal habitats in the region; not known to nest north of San Diego County. Forages for fish over open water.	Unlikely. This species does not breed in the Study Area. Occurs off shore of the Study Area.	No further actions are recommended for this species.
California Least Tern <i>Sterna antillarum browni</i>	FE, SE	Summer resient in the region. Nests colonially along the coast from San Francisco bay south to northern Baja California. Colonial breeder on bare or sparsely vegetated, flat substrates: sand beaches, alkali flats, land fills, or paved areas.	Unlikely. The Study Area does not contain typical breeding habitat for this species. This species may forage off shore of the Study Area.	No further actions are recommended for this species.
Black Oystercatcher <i>Haematopus bachmani</i>	BCC	Resident along rocky shorelines. Nests are small bowls or depressions close to the shore.	Unlikely. This species forages off shore of the Study Area.	No further actions are recommended for this species.
Long-billed Curlew <i>Numenius americanus</i>	BCC, DFG:WL	Breeds in upland shortgrass prairies and wet meadows in northeastern California. Winter visitor to the region, occurring in grasslands and shores.	Unlikely. This species may forage along the shore of the Study Area but does not breed here.	No further actions are recommended for this species.
Short-tailed Albatross <i>Diomedea albatrus</i>	FE	Nests on Japanese islands. Very rare winter visitor to offshore California waters.	Not Present. This species occurs within the region only rarely, and is found well offshore.	No further actions are recommended for this species.
Xantu's Murrelet <i>Synthliboramphus hypoleucus</i>	SSC	Generally rare post-breeding dispersent to the region. Pelagic, breeding on offshore islsands in rock crevices or under bushes. Does not breed north of the Channel Islands.	Unlikely. This species may forage off shore of the Study Area but does not breed here.	No further actions are recommended for this species.
Cassin's Auklet <i>Ptychoramphus aleuticus</i>	SSC, BCC	Pelagic species, nesting colonially in burrows on coastal and offshore islands.	Unlikely. This species may forage off shore of the Study Area but does not breed here.	No further actions are recommended for this species.

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SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE	RECOMMENDATIONS
Marbled Murrelet <i>Brachyramphus marmoratus</i>	FT, SE	Breed in old-growth redwood stands containing platform-like branches along the coast. Winters in coastal waters.	Unlikely. This species may forage off shore of the Study Area but does not breed here.	No further actions are recommended for this species.
Tufted Puffin <i>Fratercula cirrhata</i>	BCC	Pelagic; nests along the coast on islands, islets, or (rarely) mainland cliffs. Typically winters well offshore.	Unlikely. This species may forage off shore of the Study Area but does not breed here.	No further actions are recommended for this species.
Western Burrowing Owl <i>Athene cunicularia hypugea</i>	SSC, BCC	Open, dry annual or perennial grasslands, deserts and scrub lands characterized by low-growing vegetation. Subterranean nester, dependent upon burrowing mammals, most notably, the California ground squirrel.	Unlikely. No ground squirrel burrows and more likely further inland.	No further actions are recommended for this species.
Long-eared Owl <i>Asio otus</i>	SCC	Generally uncommon resident and winter visitor in the region. Found in a variety of woodland types. Requires adjacent open land productive of mice and the presence of old nests of crows, hawks, or magpies for breeding.	Unlikely. The Study Area does not provide any typical habitat for this species.	No further actions are recommended for this species.
Short-eared Owl <i>Asio flammeus</i>	SSC	Resident and mostly winter visitor to the region. Found in swamp lands, both fresh and salt; lowland meadows; irrigated alfalfa fields. Tule patches/tall grass needed for nesting/daytime seclusion. Nests on dry ground in depression concealed in vegetation.	Moderate. The Study Area provides typical habitat for this species.	Remove vegetation outside of breeding season and conduct pre-construction surveys. Species was not detected during previous surveys (WRA 2004).
Vaux's Swift <i>Chaetura vauxi</i>	SSC	Summer resident. Forages high in the air over most terrain and habitats but prefers rivers/lakes. Requires large hollow trees for nesting, usually within old-growth forest.	Unlikely. There are no recent breeding records within the vicinity of the Study Area, and the Study Area does not offer old-growth forest habitat.	Remove vegetation outside of breeding season and conduct pre-construction surveys.

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SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE	RECOMMENDATIONS
Black Swift <i>Cypseloides niger</i>	SSC	Patchily-distributed summer resident in California, occurring in coastal and forested habitats. Nest sites are usually associated with waterfalls.	Unlikely. Typical nesting habitat is not located in the Study Area.	No further actions are recommended for this species.
Rufous Hummingbird <i>Selasphorus rufus</i>	BCC	Migrant and uncommon summer resident in California. Found in a wide variety of habitats that provide nectar-producing flowers. Typically breeds north of the region.	Unlikely. No known breeding records in San Mateo County; probably occurs within the Study Area during migration.	No further actions are recommended for this species.
Lewis's Woodpecker <i>Melanerpes lewis</i>	BCC	Uncommon winter resident occurring on open oak savannahs, broken deciduous and coniferous habitats.	Unlikely. Typical nesting habitat is not present in the Study Area.	No further actions are recommended for this species.
Olive-sided Flycatcher <i>Contopus cooperi</i>	SSC, BCC	conifer forests where tall trees overlook canyons, meadows, lakes, coastal areas, or other open terrain	Moderate. The Study Area contains suitable breeding and foraging habitat for this species.	Remove vegetation outside of breeding season and conduct pre-construction surveys.
Little Willow Flycatcher <i>Empidonax traillii brewsteri</i>	SE	Most numerous where extensive thickets of low, dense willows edge on wet meadows, ponds, or backwaters. Winter migrant.	Unlikely. No known occurrences in San Mateo County, may occur as a migrant.	No further actions are recommended for this species.
Purple Martin <i>Progne subis</i>	SSC	Inhabits woodlands, low elevation coniferous forest. Nest in snags, old woodpecker cavities and human-made structures.	Unlikely. The Study Area contains suitable breeding and foraging habitat for this species.	Remove vegetation outside of breeding season and conduct pre-construction surveys.
Bank Swallow <i>Riparia riparia</i>	ST	Migrant in riparian and other lowland habitats in western California. Nests in riparian areas with vertical cliffs and bands with fine-textured or sandy soils in which to nest.	Unlikely. No known colonies near the Study Area.	No further actions are recommended for this species.

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SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE	RECOMMENDATIONS
Loggerhead Shrike <i>Lanius ludovicianus</i>	SSC, BCC	Prefers open habitats with scattered shrubs, trees, posts, or other perches. Eats mostly large insects.	Moderate. The Study Area contains suitable breeding and foraging habitat for this species.	Remove vegetation outside of breeding season and conduct pre-construction surveys.
San Francisco (Saltmarsh) Common Yellowthroat <i>Geothlypis trichas sinuosa</i>	SSC, BCC	Resident of San Francisco bay region fresh and salt water marshes. Requires thick, continuous cover down to water surface for foraging, tall grasses, tule patches, willows for nesting.	High. The Study Area contains suitable breeding and foraging habitat for this species.	Remove vegetation outside of breeding season and conduct pre-construction surveys.
Yellow-breasted Chat <i>Icteria virens</i>	SSC	Summer resident; inhabits riparian thickets of willow and other brushy tangles near watercourses. Nests in low, dense riparian thickets consisting of willow, blackberry, wild grape	Unlikely. There are no recent breeding records from San Mateo County, and the Study Area provides only sub-optimal habitat.	No further actions are recommended for this species.
Yellow Warbler <i>Dendroica petechia</i>	SSC	Summer resident in the region. Nests in riparian stands of aspens, sycamores and alders with a dense understory of willows. Also nests in montane shrubbery in open conifer forests.	Moderate. The Study Area contains suitable breeding and foraging habitat for this species.	Remove vegetation outside of breeding season and conduct pre-construction surveys.
Grasshopper Sparrow <i>Ammodramus savannarum</i>	SSC	Frequents dense tall, dry or well-drained grasslands, especially native grasslands with mixed grasses and forbs for foraging and nesting. Nests on ground at base of overhanging clumps of vegetation.	Unlikely. This species typically requires large expanses of grasslands than what is in the Study Area.	No further actions are recommended for this species.
Bryant's Savannah Sparrow <i>Passerculus sandwichensis alaudinus</i>	SSC	Year-round resident of tidal marshes and grasslands in coastal fog belt. Breeds from April through July.	High. The Study Area contains suitable breeding and foraging habitat for this species.	Remove vegetation outside of breeding season and conduct pre-construction surveys.

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SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE	RECOMMENDATIONS
Alameda Song Sparrow <i>Melospiza melodia pusillula</i>	BCC, SSC	Year-round resident in tidal-influenced marshes along the eastern and southern portions of San Francisco Bay.	Not Present. The Study Area is outside of this species' recognized range.	No further actions are recommended for this species.
Tricolored Blackbird <i>Agelaius tricolor</i>	SSC, BCC	Usually nests over or near freshwater in dense cattails, tules, or thickets of willow, blackberry, wild rose or other tall herbs. Nesting area must be large enough to support about 50 pairs.	Unlikely. The Study Area does not contain typical breeding habitat for this species.	No further actions are recommended for this species.
Reptiles and Amphibians				
Western Pond Turtle <i>Actinemys marmorata</i>	SSC	Occurs in perennial ponds, lakes, rivers and streams with suitable basking habitat (mud banks, mats of floating vegetation, partially submerged logs) and submerged shelter.	Unlikely. This species is not known near the Study Area and is more typical of perennial pond environments with basking sites.	No further actions are recommended for this species.
California Horned Lizard <i>Phrynosoma coronatum frontale</i>	SSC	Frequents a wide variety of habitats, most common in lowlands along sandy washes with scattered low bushes. Needs open areas for sunning, bushes for cover and abundant supply of ants and other insects.	Unlikely. Not known near the Study Area.	No further actions are recommended for this species.
San Francisco Garter Snake <i>Thamnophis sirtalis tetrataenia</i>	FE, SE, CFP, RP	Vicinity of freshwater marshes, ponds and slow moving streams in San Mateo County and extreme northern Santa Cruz County. Prefers dense vegetative cover and water depths of at least one foot. Upland areas near water are important habitat features.	Moderate. The creek and temporary pond adjacent to the Study Area may provide suitable foraging habitat for this species. The uplands in the Study Area may provide suitable estivation habitat.	Recommendations are summarized in the Biological Resources Assessment Report.
Western Spade-foot toad <i>Scaphiopus hammondi</i>	SSC	Occurs primarily in grasslands but occasionally populates valley-foothill hardwood woodlands. Feed on insects, worms, and other invertebrates.	Unlikely. Not known near the Study Area.	No further actions are recommended for this species.

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SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE	RECOMMENDATIONS
California Tiger Salamander <i>Ambystoma californiense</i>	FT, SSC	Need underground refuges, especially ground squirrel burrows and vernal pools or other seasonal water sources for breeding.	Unlikely. There are no nearby occurrences to the Study Area.	No further actions are recommended for this species.
California Red-legged Frog <i>Rana aurora draytonii</i>	FT, SSC	Associated with quiet perennial to intermittent ponds, stream pools and wetlands. Prefers shorelines with extensive vegetation. Documented to disperse through upland habitats after rains.	High. The pond 1700 feet to the northeast of the Study Area has a documented occurrence of this species. The Study Area may provide suitable non-breeding aquatic habitat for this species. The uplands in the Study Area may provide suitable estivation habitat.	Recommendations are summarized in the Biological Resources Assessment Report.
Fish				
River Lamprey <i>Lampetra ayresi</i>	SSC	Lower Sacramento River, San Joaquin River and Russian River. May occur in coastal streams north of San Francisco Bay. Adults need clean, gravelly riffles, Ammocoetes need sandy backwaters or stream edges, good water quality and temps < 25 degrees C.	No Potential. The Study Area does not contain suitable habitat for this species.	No further actions are recommended for this species.
Green Sturgeon <i>Acipenser medirostris</i>	FT	Spawn in the Sacramento River and the Klamath River. Spawn at temperatures between 8-14 degrees C. Preferred spawning substrate is large cobble, but can range from clean sand to bedrock.	No Potential. The Study Area does not contain suitable habitat for this species.	No further actions are recommended for this species.
Pacific Herring <i>Clupea pallasii</i>	None	Pacific herring is a coastal marine fish that uses large estuaries for spawning and early rearing habitat.	No Potential. The Study Area does not contain suitable habitat for this species.	No further actions are recommended for this species.

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SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE	RECOMMENDATIONS
Tidewater Goby <i>Eucyclogobius newberryi</i>	FE	Brackish water habitats along the California coast from Agua Hedionda Lagoon, San Diego County to the mouth of the Smith River. Found in shallow lagoons and lower stream reaches, they need fairly still but not stagnant water and high oxygen levels.	No Potential. The Study Area does not contain suitable habitat for this species.	No further actions are recommended for this species.
Steelhead - Central Valley ESU <i>Oncorhynchus mykiss irideus</i>	FT	Occurs from the Russian River south to Soquel Creek and Pajaro River. Also in San Francisco and San Pablo Bay Basins. Populations in the Sacramento and San Joaquin Rivers and their tributaries. Adults migrate upstream to spawn in cool, clear, well-oxygenated streams. Juveniles remain in fresh water for 1 or more years before migrating downstream to the ocean.	No Potential. The Study Area does not contain suitable habitat for this species.	No further actions are recommended for this species.
Steelhead, Central California Coast ESU <i>Oncorhynchus mykiss</i>	FT	Occurs from the Russian River south to Soquel Creek and Pajaro River. Also in San Francisco and San Pablo Bay Basins. Adults migrate upstream to spawn in cool, clear, well-oxygenated streams. Juveniles remain in fresh water for 1 or more years before migrating downstream to the ocean.	No Potential. The Study Area does not contain suitable habitat for this species.	No further actions are recommended for this species.
Winter-run Chinook Salmon, Sacramento River <i>Oncorhynchus tshawytscha</i>	FE	Occurs in the Sacramento River below Keswick Dam. Spawns in the Sacramento River but not in tributary streams. Requires clean, cold water over gravel beds with water temperatures between 6 and 14 degrees C for spawning. Adults migrate upstream to spawn in cool, clear, well-oxygenated streams. Juveniles typically migrate to the ocean soon after emergence from the gravel.	No Potential. The Study Area does not contain suitable habitat for this species.	No further actions are recommended for this species.

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SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE	RECOMMENDATIONS
Central Valley Spring-run Chinook Salmon <i>Oncorhynchus tshawytscha</i>	FT	Populations spawning in the Sacramento and San Joaquin Rivers and their tributaries. Adults migrate upstream to spawn in cool, clear, well-oxygenated streams. Juveniles remain in fresh water for 1 or more years before migrating downstream to the ocean.	No Potential. The Study Area does not contain suitable habitat for this species.	No further actions are recommended for this species.
Central Valley Fall- and Late Fall-run Chinook Salmon ESU <i>Oncorhynchus tshawytscha</i>	NMFS SC	Populations spawning in the Sacramento and San Joaquin Rivers and their tributaries. Adults migrate upstream to spawn in cool, clear, well-oxygenated streams. Juveniles remain in fresh water for 1 or more years before migrating downstream to the ocean.	No Potential. The Study Area does not contain suitable habitat for this species.	No further actions are recommended for this species.
Coho Salmon - Central CA Coast ESU <i>Oncorhynchus kisutch</i>	FE, SE	Federal listing includes populations between Punta Gorda and San Lorenzo River. State listing includes populations south of San Francisco Bay only. Occurs inland and in coastal marine waters. Requires beds of loose, silt-free, coarse gravel for spawning. Also needs cover, cool water and sufficient dissolved oxygen.	No Potential. The Study Area does not contain suitable habitat for this species.	No further actions are recommended for this species.
Invertebrates				
white abalone <i>Haliotis sorenseni</i>	FE	White abalone is the first marine invertebrate to be listed under the ESA and are reported to be most abundant between 25-30 m (80-100 ft depth).	No Potential. Outside of known range.	No further surveys or mitigation measures are necessary.
black abalone <i>Haliotis cracherodii</i>	FC, NMFS SC	Ranges from Cabo San Lucas to Mendocino County. Found in intertidal and shallow subtidal areas.	No Potential. Suitable habitat is not present within the Study Area.	No further surveys or mitigation measures are necessary.

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SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE	RECOMMENDATIONS
Bay checkerspot butterfly <i>Euphydryas editha bayensis</i>	FT	Restricted to native grasslands on outcrops of serpentine soil in the vicinity of San Francisco Bay. <i>Plantago erecta</i> is the primary host plant; <i>Orthocarpus densiflorus</i> and <i>O. purpurscens</i> are the secondary host plants.	Unlikely. No known occurrences near the Study Area.	No further surveys or mitigation measures are necessary.
monarch butterfly <i>Danaus plexippus</i>	winter roosts monitored by CDFG	Winter roost sites located in wind-protected tree groves (Eucalyptus, Monterey pine, cypress), with nectar and water sources nearby.	Moderate. The mature trees in the Study Area may provide a suitable winter roost site.	Conduct winter roost survey if potential roost trees are to be removed.
Myrtle's silverspot <i>Speyeria zerene myrtleae</i>	FE	Foggy, coastal dunes and hills of the Point Reyes Peninsula.	Not Present. Extirpated from San Mateo County.	No further surveys or mitigation measures are necessary.
callippe silverspot butterfly <i>Speyeria callippe callippe</i>	FE	Hostplant is <i>Viola pedunculata</i> , most adults found on east facing slopes, males congregate on hilltops in search of females.	Unlikely. No known occurrences near the Study Area.	No further actions are recommended for this species.
Lange's metalmark butterfly <i>Apodemia mormo langei</i>	FE, SSI, RP	Inhabits stabilized dunes along the San Joaquin River. Endemic to Antioch Dunes, Contra Costa County. Primary host plant is <i>Eriogonum nudum</i> var. <i>auriculatum</i> ; feeds on nectar of other wildflowers, as well as host plant.	Unlikely. No known occurrences in San Mateo County.	No further actions are recommended for this species.
San Bruno elfin butterfly <i>Callophrys mossii bayensis</i>	FE	Colonies are located on steep, north-facing slopes in the vicinity of San Bruno mountain, San Mateo County. Larval host plant is <i>Sedum spathulifolium</i> .	Unlikely. No known occurrences near the Study Area.	No further actions are recommended for this species.
mission blue butterfly <i>Plebejus icarioides missionensis</i>	FE	Grasslands of the San Francisco Peninsula. Host plants are three species of lupine, of which <i>Lupinus albifrons</i> is preferred.	Unlikely. No known occurrences near the Study Area.	No further surveys or mitigation measures are necessary.

Exhibit 2: CEQA Documents: Initial Study and Mitigated Negative Declaration

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE	RECOMMENDATIONS
conservancy fairy shrimp <i>Branchinecta conservatio</i>	FE	Endemic to the grasslands of the northern two-thirds of the central valley. Inhabit astatic pools located in swales formed by old, braided alluvium; filled by winter/spring rains, last until June.	No Potential. The Study Area does not contain suitable habitat for this species.	No further actions are recommended for this species.
vernal pool fairy shrimp <i>Branchinecta lynchi</i>	FT	Endemic to the grasslands of the central valley, central coast mountain, and south coast mountains. Inhabit small, clear-water sandstone-depression pools and grassed swale, earth slump, or basalt-flow depression pools.	No Potential. The Study Area does not contain suitable habitat for this species.	No further actions are recommended for this species.
longhorn fairy shrimp <i>Branchinecta longiantenna</i>	FE, SSI, RP	Endemic to the eastern margin of the central coast mountains in seasonally astatic grassland vernal pools. Inhabit small, clear-water depressions in sandstone and clear-to-turbid clay/grass-bottomed pools in shallow swales.	No Potential. The Study Area does not contain suitable habitat for this species.	No further actions are recommended for this species.
vernal pool tadpole shrimp <i>Lepidurus packardi</i>	FE	Pools commonly found in grass bottomed swales of unplowed grasslands. Some pools are mud-bottomed and highly turbid.	No Potential. The Study Area does not contain suitable habitat for this species.	No further actions are recommended for this species.
valley elderberry longhorn beetle <i>Desmocerus californicus dimorphus</i>	FT	Occurs only in association with blue elderberry (<i>Sambucus mexicana</i>). Prefers to lay eggs in elderberries 2-8 inches in diameter; some preference shown for "stressed" elderberries.	No Potential. The Study Area does not contain suitable habitat for this species.	No further actions are recommended for this species.
San Francisco tree lupine moth <i>Grapholita edwardsiana</i>	SMC LCP	Occurs only on sandy northern peninsula sites. Tree lupine (<i>Lupinus arboreus</i>) host the larvae of this species. This species is addressed in the San Mateo County LCP.	Unlikely. No tree lupine observed near the Study Area.	No further actions are recommended for this species.

Exhibit 2: CEQA Documents: Initial Study and Mitigated Negative Declaration

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE	RECOMMENDATIONS
California brackish water snail <i>Tryonia imitator</i>	SMC LCP	Occurs in brackish water, such as Pescadero Marsh.	No Potential. The Study Area does not contain suitable habitat for this species.	No further actions are recommended for this species.
globose dune beetle <i>Coelus globosus</i>	SMC LCP	Inhabits California's coastal dune system.	Unlikely. No dune habitat within the proposed Project.	No further actions are recommended for this species.
Plants				
<i>Acanthomintha duttonii</i> San Mateo thorn mint	Rank 1B	Chaparral, valley and foothill grassland, often on serpentine soils. 50-300m. Blooms April-June.	Unlikely. Small patches of non-native grassland are present on-site. Serpentine soil does not occur within the Study Area.	No further surveys or mitigation measures are recommended.
<i>Allium peninsulare</i> var. <i>franciscanum</i> Franciscan onion	Rank 1B	Cismontane woodland, valley and foothill grassland, found on clay, volcanic and often serpentinite soils. 100-300m elevation. Blooms May-June.	Unlikely. Small patches of non-native grassland are present on-site. Serpentine soil does not occur within the Study Area.	No further surveys or mitigation measures are recommended.
<i>Amsinckia lunaris</i> bent-flowered fiddleneck	Rank 1B	Coastal bluff scrub, cismontane woodland, valley and foothill grassland. 3-500m. Blooms March-June.	Unlikely. No suitable habitat for this species occurs within the Study Area. The nearest documented occurrence of this species is greater than five miles from the Study Area	No further surveys or mitigation measures are recommended.
<i>Arctostaphylos andersonii</i> Santa Cruz manzanita	Rank 1B	Broadleaved upland forest, chaparral, and North Coast coniferous forest. Found on open sites and redwood forest at elevations of 60-700m. Known only from Santa Cruz Mountains. Blooms Nov-April.	Unlikely. Suitable habitat for this species is not present within the Study Area. Species found only in the Santa Cruz mountains.	The vegetative form of this species was not observed during the 2012 August and September site visits. No further surveys or mitigation measures are recommended.

Exhibit 2: CEQA Documents: Initial Study and Mitigated Negative Declaration

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE	RECOMMENDATIONS
<i>Arctostaphylos montaraensis</i> Montara manzanita	Rank 1B	Chaparral, coastal scrub. 150-500m. Blooms January-March.	Unlikely. Suitable coastal scrub habitat is present within the Study Area.	The vegetative form of this species was not observed during the 2012 August and September site visits. No further surveys or mitigation measures are recommended.
<i>Arctostaphylos regismontana</i> Kings Mountain manzanita	Rank 1B	Broadleafed upland forest, chaparral, north coast coniferous forest, often on granite or sandstone soils. 305-730 meters. Blooms Jan-April.	Unlikely. Suitable habitat no present on-site.	The vegetative form of this species was not observed during the 2012 August and September site visits. No further surveys or mitigation measures are recommended.
<i>Astragalus pycnostachyus</i> var. <i>pycnostachyus</i> coastal marsh milk-vetch	Rank 1B	Coastal dunes (mesic) and marshes and swamps (coastal salt, streamsides). Found at elevations of 0-30m. Blooms April-Oct.	No Potential. No suitable habitat occurs within the Study Area.	No further surveys or mitigation measures are recommended.
<i>California macrophylla</i> round leaved filaree	Rank 1B	Cismontane woodland, valley and foothill grassland, often found on clay. Found at elevations of 2-420m. Blooms May-Nov.	Unlikely. A small amount of grassland habitat is present within the Study Area. The closest documented occurrence of this species is greater than five miles away, where it has not been observed since 1896 (CNDDDB 2012).	No further surveys or mitigation measures are recommended.

Exhibit 2: CEQA Documents: Initial Study and Mitigated Negative Declaration

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE	RECOMMENDATIONS
<i>Centromadia parryi</i> ssp. <i>parryi</i> pappose tarplant	Rank 1B	Coastal prairie, meadows and seeps, coastal salt marsh, valley and foothill grassland. Vernal mesic, often alkaline sites. 2-420m. Blooms May-November.	Moderate. Non-native grassland habitat occurs interspersed between wetlands and scrub areas within the Study Area. The nearest documented occurrence of this species is greater than five miles from the Study Area.	This species was not observed during the 2013 May and July site visits. No further surveys or mitigation measures are recommended.
<i>Chloropyron maritimum</i> spp. <i>palustre</i> Point reyes bird's-beak	Rank 1B	Marshes and swamps. 0-10 meters. Blooms June-Oct.	No Potential. No suitable habitat occurs interspersed within the Study Area.	No further surveys or mitigation measures are recommended.
<i>Chorizanthe cuspidata</i> var. <i>cuspidata</i> San Francisco spineflower	Rank 1B	Coastal bluff scrub, coastal dunes, coastal prairie, coastal scrub, often sandy sites. 3-215m. Blooms April-Aug.	Moderate. Suitable coastal scrub habitat is present within the Study Area. The nearest documented occurrence of this species is greater than five miles from the Study Area and is presumed extant at that location.	This species was not observed during the 2013 May and July site visits. No further surveys or mitigation measures are recommended.
<i>Cirsium andrewsii</i> Franciscan thistle	Rank 1B	Broad leafed upland forest, coastal bluff scrub, coastal prairie, coastal scrub/mesic, sometimes serpentine. 0-135m. Blooms March-July.	Unlikely. Suitable habitat is not present within the Study Area; no serpentine soils occur on-site.	No further surveys or mitigation measures are recommended.
<i>Cirsium fontinale</i> var. <i>fontinale</i> fountain thistle	FE, SE, Rank 1B	Chaparral, cismontane woodlands, valley and foothill grasslands, often in serpentine seeps. 90-175m elevation. Blooms June-Oct.	Unlikely. Small patches of non-native grassland are present on-site. However, serpentine soil does not occur within the Study Area.	No further surveys or mitigation measures are recommended.
<i>Collinsia multicolor</i> San Francisco collinsia	Rank 1B	Closed cone coniferous forest, coastal scrub, sometimes on serpentine soils. 30-250m elevation. Blooms March-May.	Unlikely. Suitable habitat is not present within the Study Area; no serpentine soils occur on-site.	No further surveys or mitigation measures are recommended.

Exhibit 2: CEQA Documents: Initial Study and Mitigated Negative Declaration

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE	RECOMMENDATIONS
<i>Dirca occidentalis</i> western leatherwood	Rank 1B	Broad leafed upland forest, closed-cone coniferous forest, chaparral, cismontane woodland, North Coast coniferous forest, riparian forest, riparian woodland/mesic. 50-395m. Blooms January - April.	Unlikely. Suitable riparian habitat is not present within the Study Area.	The vegetative form of this species was not observed during the 2012 August and September site visits. No further surveys or mitigation measures are recommended.
<i>Eriophyllum latilobum</i> San Mateo woolly sunflower	FE, SE, Rank 1B	Cismontane woodland, often on roadcuts, on and off of serpentine, 45-150 m elevation. Blooms May-June.	No Potential. No suitable habitat occurs within the Study Area.	No further surveys or mitigation measures are recommended.
<i>Fritillaria biflora</i> var. <i>ineziana</i> Hillsborough chocolate lily	Rank 1B	Cismontane woodland, valley and foothill grassland in serpentine soils. 150-150m. Blooms March-April.	Unlikely. Small patches of non-native grassland are present on-site. However, serpentine soil does not occur within the Study Area.	No further surveys or mitigation measures are recommended.
<i>Fritillaria lanceolata</i> var. <i>tristulis</i> Mission bells	Rank 1B	Coastal bluff scrub, coastal prairie, coastal scrub. 15-150m. Blooms February-May.	Moderate. Suitable coastal scrub habitat is present within the Study Area. The nearest documented occurrence of this species is greater than five miles from the Study Area (CNDDDB 2012).	This species was not observed during the 2013 May site visit. No further surveys or mitigation measures are recommended.
<i>Fritillaria liliacea</i> fragrant fritillary	Rank 1B	Coastal scrub, valley and foothill grassland, coastal prairie. Often on serpentine; various soils reported though usually clay, in grassland. 3-410m. Blooms February-April.	Unlikely. Small patches of non-native grassland are present on-site. However, serpentine soil does not occur within the Study Area.	No further surveys or mitigation measures are recommended.

Exhibit 2: CEQA Documents: Initial Study and Mitigated Negative Declaration

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE	RECOMMENDATIONS
<i>Grindelia hirsutula</i> var. <i>maritima</i> San Francisco gumplant	Rank 3.2	Coastal scrub, coastal bluff scrub, and valley and foothill grassland. Found on sandy or serpentine slopes and sea bluffs at elevations of 15-400m. Blooms June-September.	Moderate. Suitable coastal scrub habitat is present within the Study Area. The nearest documented occurrence of this species is greater than five miles from the Study Area (CNDDDB 2012).	This species was not observed during the 2013 July site visit. No further surveys or mitigation measures are recommended.
<i>Hesperevax sparsiflora</i> var. <i>brevifolia</i> shortleaf dwarf cudweed	Rank 2	Coastal bluff scrub in sandy soils and coastal dunes. 0-215m. Blooms March-June.	Moderate. Suitable habitat is present within the Study Area. The nearest documented occurrence of this species is greater than five miles from the Study Area (CNDDDB 2012).	This species was not observed during the 2013 May site visit. No further surveys or mitigation measures are recommended.
<i>Hesperolinon congestum</i> Marin western flax	FT, ST, Rank 1B	Chaparral and valley and foothill grassland on serpentine soils. 5- 370 m. Blooms April- July.	Unlikely. Small patches of non-native grassland are present on-site. However, serpentine soil does not occur within the Study Area.	No further surveys or mitigation measures are recommended.
<i>Horkelia cuneata</i> var. <i>sericea</i> Kellogg's horkelia	Rank 1B	Closed-cone coniferous forest, chaparral, coastal dunes, coastal scrub in sandy soils or gravelly openings. 10-200m elevation. Blooms Apr-September.	Moderate. Suitable coastal scrub habitat is present within the Study Area. Site soils are predominately clay loam. A documented occurrence of this species is located within three miles of the Study Area (CNDDDB 2012).	This species was not observed during the 2013 May and July site visits. No further surveys or mitigation measures are recommended.
<i>Horkelia marinensis</i> Point Reyes horkelia	Rank 1B	Coastal dunes, coastal prairie, coastal scrub in sandy soils. 10-150m. Blooms May-September.	Moderate. Suitable coastal scrub habitat is present within the Study Area. Site soils are predominately clay loam.	This species was not observed during the 2013 May and July site visits. No further surveys or mitigation measures are recommended.

Exhibit 2: CEQA Documents: Initial Study and Mitigated Negative Declaration

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE	RECOMMENDATIONS
<i>Lasthenia californica</i> <i>ssp.macrantha</i> perennial goldfields	Rank 1B	Coastal dunes, coastal scrub. 5-520m. Blooms Jan-November.	Moderate. Suitable habitat is present within the Study Area.	This species was not observed during the 2013 May and July site visits. No further surveys or mitigation measures are recommended.
<i>Leptosiphon croceus</i> coast yellow leptosiphon	Rank 1B	Coastal bluff scrub and coastal prairie. 10-150m elevation. Blooms April-May.	Unlikely. Suitable habitat is not present within the Study Area.	No further surveys or mitigation measures are recommended.
<i>Leptosiphon rosaceus</i> rose leptosiphon	Rank 1B	Coastal bluff scrub. 0-100m elevation. Blooms April-July.	Unlikely. Suitable habitat is not present within the Study Area.	No further surveys or mitigation measures are recommended.
<i>Lessingia arachnoidea</i> Crystal Springs lessingia	Rank 1B	Cismontane woodland, coastal scrub, serpentinite soils in valley and foothill grasslands, often roadsides. 60-200m elevation Blooms July-Oct.	Unlikely. Small patches of non-native grassland are present on-site. However, serpentine soil does not occur within the Study Area.	No further surveys or mitigation measures are recommended.
<i>Lessingia hololeuca</i> woolly-headed lessingia	Rank 3	Broadleafed upland forest, coastal scrub, lower montane coniferous forest, valley and foothill grassland on clay and serpentine. 15-305m. Blooms June-October.	Unlikely Suitable habitat is not present within the Study Area; species is more typical of undisturbed native grassland and serpentine soils..	No further surveys or mitigation measures are recommended.
<i>Lilium maritimum</i> coast lily	Rank 1B	Broadleafed upland forest, closed cone coniferous forest, coastal prairie, coastal scrub, marshes and swamps, North Coast coniferous forest, sometimes on roadsides. 90-550m. Blooms May-August.	Moderate. Suitable coastal scrub habitat is present within the Study Area. The nearest documented occurrence of this species is greater than five miles from the Study Area.	This species was not observed during the 2013 May and July site visits. No further surveys or mitigation measures are recommended.
<i>Lupinus arboreus var. eximius</i> San Mateo tree lupine	Rank 3	Coastal prairie, mesic meadows and seeps, freshwater marshes and swamps, and vernal pools. 1-140m elevation. Blooms April-July.	No Potential. No suitable habitat occurs within the Study Area.	No further surveys or mitigation measures are recommended.

Exhibit 2: CEQA Documents: Initial Study and Mitigated Negative Declaration

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE	RECOMMENDATIONS
<i>Malacothamnus aboriginum</i> Gray bushmallow	Rank 1B	Chaparral, cismontane woodland on rocky soil, often in burned areas. 150-1700m. Blooms April-October.	No Potential. No suitable habitat occurs within the Study Area.	No further surveys or mitigation measures are recommended.
<i>Malacothamnus arcuatus</i> arcuate bush mallow	Rank 1B	This evergreen shrub is found in chaparral at elevations of 15-355m. Blooms April-Sept.	No Potential. No suitable habitat occurs within the Study Area.	No further surveys or mitigation measures are recommended.
<i>Malacothamnus davidsonii</i> Davidson's bushmallow	Rank 1B	Chaparral, cismontane woodland, coastal scrub and riparian woodland. 185-855m. Blooms June-January.	Moderate. Suitable coastal scrub habitat is present within the Study Area. The nearest documented occurrence of this species is greater than five miles from the Study Area.	This species was not observed during the 2013 July site visit. No further surveys or mitigation measures are recommended.
<i>Malacothamnus hallii</i> Hall's bush mallow	Rank 1B	Chaparral and coastal scrub; on serpentine. 10-550m. Blooms May-September.	Unlikely. Suitable serpentine habitat is not present within the Study Area.	This species was not observed during the 2013 May and July site visits. No further surveys or mitigation measures are recommended.
<i>Microseris paludosa</i> marsh silverpuffs	Rank 1B	Closed-cone coniferous forest, cismontane woodland, coastal scrub, valley and foothill grassland. 5-300m. Blooms April-July.	Moderate. Suitable coastal scrub habitat is present within the Study Area. Documented occurrences in the vicinity of the Study Area (> five miles) are presumed extirpated (CNDDDB 2012).	This species was not observed during the 2013 May and July site visits. No further surveys or mitigation measures are recommended.
<i>Monolopia gracilens</i> woodland monolopia	Rank 1B	Broadleafed upland forest in openings, chaparral in openings, cismontane woodland, north Coast coniferous forest in openings, valley and foothill grassland on serpentine. 100-1200m elevation. Blooms Feb-July.	No Potential. No suitable habitat occurs within the Study Area.	No further surveys or mitigation measures are recommended.

Exhibit 2: CEQA Documents: Initial Study and Mitigated Negative Declaration

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE	RECOMMENDATIONS
<i>Pedicularis dudleyi</i> Dudley's lousewort	Rank 1B	Maritime chaparral, cismontane woodland, North Coast coniferous forest, valley and foothill grassland. 60-900m elevation. Blooms April-June.	No Potential. No suitable habitat occurs within the Study Area.	No further surveys or mitigation measures are recommended.
<i>Pentachaeta bellidiflora</i> white-rayed pentachaeta	FE, SE, Rank 1B	Valley and foothill grassland (often on serpentine soil) and cismontane woodland. 35- 620m elevation. Blooms March- May.	No Potential. No suitable habitat occurs within the Study Area.	No further surveys or mitigation measures are recommended.
<i>Plagiobothrys chorisianus</i> var. <i>chorisianus</i> Choris' popcornflower	Rank 1B	Chaparral, coastal prairie, and coastal scrub. Found in mesic areas at elevations of 15-100m. Blooms March-June.	Present. Suitable coastal scrub habitat is present within the Study Area. Documented occurrences are located within the Study Area for this species (CNDDDB 2012). This species was observed during protocol-level rare plant surveys conducted by WRA in May 20, 2013, and July 25, 2013.	Avoidance of mapped occurrences is recommended for protection of this species. Additional mitigation measures may be required if thjs species is disturbed.
<i>Polemonium carneum</i> Great Polemonium	Rank 2.2	Chaparral, coastal prairie, coastal scrub. Found in mesic areas at elevations of 15-160m. Blooms March-June.	Moderate. Suitable coastal scrub habitat is present within the Study Area. The nearest documented occurrence of this species is greater than five miles from the Study Area	This species was not observed during the 2013 May site visit. No further surveys or mitigation measures are recommended.
<i>Potentilla hickmanii</i> Hickman's cinquefoil	FE, SE, Rank 1B	Coastal bluff scrub, closed-cone coniferous forest, meadows and seeps, freshwater marshes and swamps. 10-135m elevation. Blooms April-August.	Unlikely. Suitable meadow and seep habitat are not present within the Study Area. The nearest documented occurrence of this species is greater than five miles from the Study Area	No further surveys or mitigation measures are recommended.

Exhibit 2: CEQA Documents: Initial Study and Mitigated Negative Declaration

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE	RECOMMENDATIONS
<i>Silene verecunda ssp. verecunda</i> San Francisco campion	Rank 1B	Coastal bluff scrub, chaparral, coastal prairie, coastal scrub, valley and foothill grassland (sandy). 30-645m elevation. Blooms March to June (August).	Moderate. Suitable coastal scrub habitat is present within the Study Area. The nearest documented occurrence of this species is greater than five miles from the Study Area	This species was not observed during the 2013 May site visit. No further surveys or mitigation measures are recommended.
<i>Trifolium hydrophilum</i> Saline clover	Rank 1B	Marshes and swamps, valley and foothill grassland on alkaline soils, vernal pools. Found on mesic sites at elevations of 0-300m. Blooms April-June.	Unlikely. Suitable habitat is not present within the Study Area.	No further surveys or mitigation measures are recommended.
<i>Triphysaria floribunda</i> San Francisco owl's clover	Rank 1B	Coastal prairie, coastal scrub, valley and foothill grassland usually on serpentinite. 10-160m elevation. Blooms April-June.	Unlikely. Suitable serpentine habitat is not present within the Study Area.	No further surveys or mitigation measures are recommended.

* Key to status codes:

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

Potential species occurrence definitions:

- Present. Species was observed on the site during site visits or has been recorded (i.e. CNDDDB, other reports) on the site recently.

Exhibit 2: CEQA Documents: Initial Study and Mitigated Negative Declaration

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE	RECOMMENDATIONS
				<ul style="list-style-type: none"> • <u>High Potential</u>. All of the habitat components meeting the species requirements are present and/or most of the habitat on or adjacent to the site is highly suitable. The species has a high probability of being found on the site. • <u>Moderate Potential</u>. Some of the habitat components meeting the species requirements are present, and/or only some of the habitat on or adjacent to the site is unsuitable. The species has a moderate probability of being found on the site. • <u>Unlikely</u>. Few of the habitat components meeting the species requirements are present, and/or the majority of habitat on and adjacent to the site is unsuitable or of very poor quality. The species has a low probability of being found on the site. • <u>No Potential</u>. Habitat on and adjacent to the site is clearly unsuitable for the species requirements (foraging, breeding, cover, substrate, elevation, hydrology, plant community, site history, disturbance regime). • <u>Not Present</u>. Species was not observed during protocol-level plant surveys performed during the appropriate blooming period.

APPENDIX C

STUDY AREA PHOTOGRAPHS



Above: Adjacent property and existing coastal trail immediately north of the Project Area, looking north.

Below: Adjacent property looking north.

Photographs taken August 29, 2012.





Above: Seymour Bridge connecting coastal trail on northern adjacent property to the Project Area, looking south.

Below: Monterey cypress grove in the vicinity of Seymour bridge, looking south.



Photographs taken August 29, 2012.

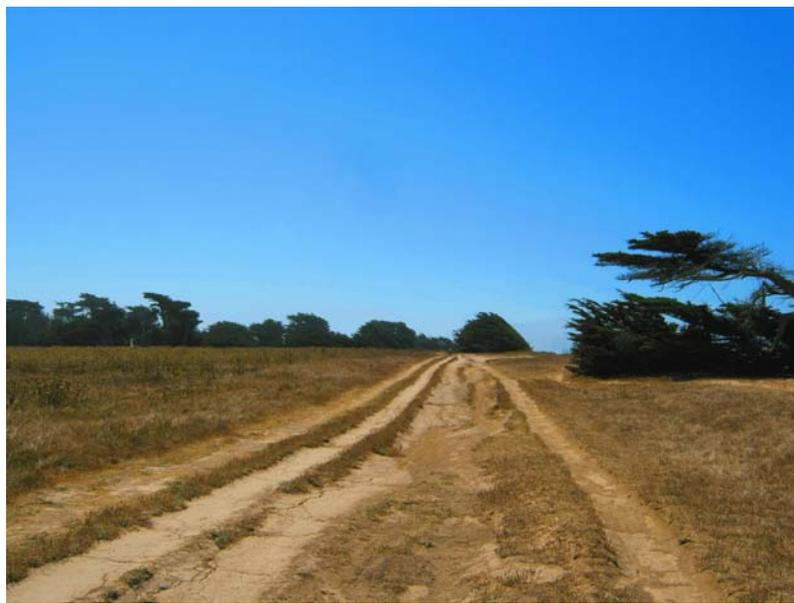


Above: Ephemeral stream channel in the northern Monterey cypress grove, looking northeast.

Below: Terminus of ephemeral stream channel in the northern Monterey cypress grove, looking west.



Photographs taken August 29, 2012.



Above: Informal dirt footpaths, including disturbed perennial herbaceous community. Photo taken in a westerly direction.

Below: Rutting and excessive soil compaction near the Study Area center, looking in a southerly direction.

Photographs taken August 29, 2012.





Above: Northern coastal scrub and perennial herbaceous communities at the center of the Study Area, looking in a northerly direction.

Below: Potential seasonal wetland and perennial herbaceous communities immediately north of the southern cypress grove, looking in an easterly direction.

Photographs taken August 29, 2012.



A P P E N D I X B

C U L T U R A L R E S O U R C E S S U R V E Y

.....

Tom Origer & Associates
Archaeology / Historical Research

August 27, 2012

Isabelle Minn
The Planning Center|DC&E
1625 Shattuck Avenue, Suite 300
Berkeley, California 94709

Dear Ms. Minn:

Enclosed is our cultural resources survey report for the Wavecrest Coastal Trail Project in Half Moon Bay. We will provide a copy of the report to the Northwest Information Center, Sonoma State University.

In summary, no prehistoric or historical resources were found during the surveys.

Letters were sent to the Native American Heritage Commission and certain local groups and individuals on August 15th and 21st, respectively. The Commission responded, but as of the date of this report, no other comments have been received. We will forward information as we receive it from the Native American community.

An invoice for this work is enclosed. Please contact us if we can be of further assistance or if you have questions about this report.

Sincerely,



Vicki Beard
Senior Associate

**A Cultural Resources Survey for the
Wavecrest Coastal Trail Project
Half Moon Bay, San Mateo County, California**

Vicki R. Beard, M.A.

August 27, 2012



**A Cultural Resources Survey for the
Wavecrest Coastal Trail Project
Half Moon Bay, San Mateo County, California**

Prepared by:

A handwritten signature in black ink, appearing to read "V. R. Beard", is written over a solid horizontal line.

Vicki R. Beard, M.A.

Tom Origer & Associates
Post Office Box 1531
Rohnert Park, California 94927
(707) 584-8200

Prepared for:

Isabelle Minn
The Planning Center|DC&E
1625 Shattuck Avenue, Suite 300
Berkeley, California 94709

August 27, 2012

ABSTRACT

Tom Origer & Associates conducted a cultural resources survey for the Wavecrest Coastal Trail Project in Half Moon Bay, San Mateo County, California. The study was completed at the request of Isabelle Minn of The Planning Center|DC&E, and was designed to satisfy requirements of the California Environmental Quality Act.

This study included archival research at the Northwest Information Center, Sonoma State University (NWIC File No.12-0178), contact with Native American representatives, examination of the library and files of Tom Origer & Associates, and field inspection of the proposed maintenance location.

No prehistoric or historical cultural resources were found during the survey. Documentation pertaining to this study is on file at the offices of Tom Origer & Associates (File No. 12-029).

Confidentiality Statement: *This report contains information regarding locations of archaeological resources. These resources are vulnerable to vandalism, and are protected by law. To safeguard these resources, this report should not be circulated publicly.*

Synopsis

Project: Wavecrest Coastal Trail
Location: Half Moon Bay, San Mateo County, California
Quadrangle: Half Moon Bay, California 7.5' series
Study Type: Intensive survey
Scope: About 1,500 feet
Finds: None

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INTRODUCTION

Tom Origer & Associates conducted a cultural resources survey for the Wavecrest Coastal Trail Project in Half Moon Bay, San Mateo County, California (Figure 1). The study was completed at the request of Isabelle Minn of The Planning Center|DC&E, and was designed to satisfy requirements of the California Environmental Quality Act. The study area consisted of a 1,500-foot long corridor on the bluff above the Pacific Ocean. Documentation pertaining to this study is on file at Tom Origer & Associates (File No. 12-072).

REGULATORY CONTEXT

The California Environmental Quality Act (CEQA) requires that cultural resources be considered during the environmental review process. This is accomplished by an inventory of resources within a study area and by assessing the potential that cultural resources could be affected by development.

This cultural resources survey was designed to satisfy environmental issues specified in the CEQA and its guidelines (Title 14 CCR §15064.5) by: (1) identifying all cultural resources within the project area; (2) offering a preliminary significance evaluation of the identified cultural resources; (3) assessing resource vulnerability to effects that could arise from project activities; and (4) offering suggestions designed to protect resource integrity, as warranted.

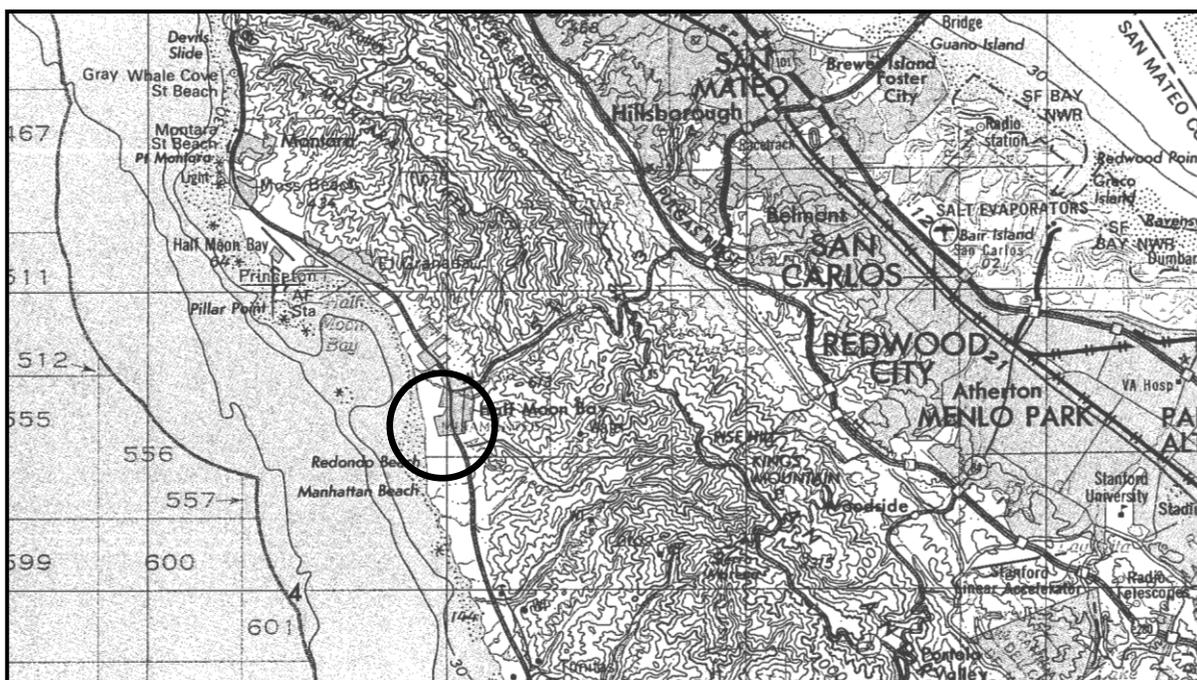


Figure 1. Project vicinity (adapted from the 1970 Santa Rosa 1:250,000-scale USGS map).

Resource Definitions

Cultural resources are classified by the State Office of Historic Preservation (OHP) as sites, buildings, structures, objects and districts, and each is described by OHP (1995) as follows.

Site. A site is the location of a significant event, a prehistoric or historic occupation or activity, or a building or structure, whether standing, ruined, or vanished, where the location itself possesses historic, cultural, or archaeological value regardless of the value of any existing structure.

Building. A building, such as a house, barn, church, hotel, or similar construction, is created principally to shelter any form of human activity. "Building" may also be used to refer to a historically and functionally related unit, such as a courthouse and jail, or a house and barn.

Structure. The term "structure" is used to distinguish from buildings those functional constructions made usually for purposes other than creating human shelter.

Object. The term "object" is used to distinguish from buildings and structures those constructions that are primarily artistic in nature or are relatively small in scale and simply constructed. Although it may be, by nature or design, movable, an object is associated with a specific setting or environment.

District. A district possesses a significant concentration, linkage, or continuity of sites, buildings, structures, or objects united historically or aesthetically by plan or physical development.

Significance Criteria

When a project might affect a cultural resource, the project proponent is required to conduct an assessment to determine whether the effect may be one that is significant. Consequently, it is necessary to determine the importance of resources that could be affected. The importance of a resource is measured in terms of criteria for inclusion on the California Register of Historical Resources (Title 14 CCR, §4852) as listed below. A resource may be important if it meets any one of the criteria below, or if it is already listed on the California Register of Historical Resources or a local register of historical resources.

An important historical resource is one which:

1. Is associated with events that have made a significant contribution to the broad patterns of local or regional history, or the cultural heritage of California or the United States.
2. Is associated with the lives of persons important to local, California, or national history.

3. It embodies the distinctive characteristics of a type, period, region or method of construction, or represents the work of a master or possesses high artistic values.
4. It has yielded, or may be likely to yield, information important to the pre-history or history of the local area, California, or the nation.

In addition to meeting one or more of the above criteria, eligibility for the California Register requires that a resource retain sufficient integrity to convey a sense of its significance or importance. Seven elements are considered key in considering a property's integrity: location, design, setting, materials, workmanship, feeling, and association.

Additionally, the OHP advocates that all historical resources over 45 years old be recorded for inclusion in the OHP filing system (OHP 1995:2), although the use of professional judgment is urged in determining whether a resource warrants documentation.

PROJECT SETTING

Study Area Location and Description

The study area is located in west-central San Mateo County, 0.30 miles southwest of Half Moon Bay, as shown on the Half Moon Bay 7.5' USGS topographic quadrangle (Figure 2). It consists of a 1,500-foot long corridor, approximately 100 feet wide, that runs along the bluff above the Pacific Ocean. This area is undeveloped.

The nearest year-round fresh water source is Arroyo León, a tributary to Pilarcitas Creek that lies about a mile east of the study area. Soils mapped for this location are of the Watsonville series (Wagner and Nelson 1961:Sheet 11). Drainage of these soils ranges greatly. Some Watsonville soils are well-drained while others are very poorly drained. Within the study area, the terrain is hummocky and water tends to collect in low areas. Coyote brush and grasses are the chief vegetation supported by Watsonville soils, and historically, parcels with these soils have been used to grow truck crops, for grain production, and as pasture (Wagner and Nelson 1961:70-71).

Cultural Setting

Archaeological evidence indicates that human occupation of California began at least 10,000 years ago (Moratto 1984:71). Early occupants appear to have had an economy based largely on hunting, with limited exchange, and social structures based on the extended family unit. Later, milling technology and an inferred acorn economy were introduced. This diversification of economy appears to be coeval with the development of sedentism and population growth and expansion. Sociopolitical complexity and status distinctions based on wealth are also observable in the archaeological record, as evidenced by an increased range and distribution of trade goods (e.g., shell beads, obsidian tool stone), which are possible indicators of both status and increasingly complex exchange systems.

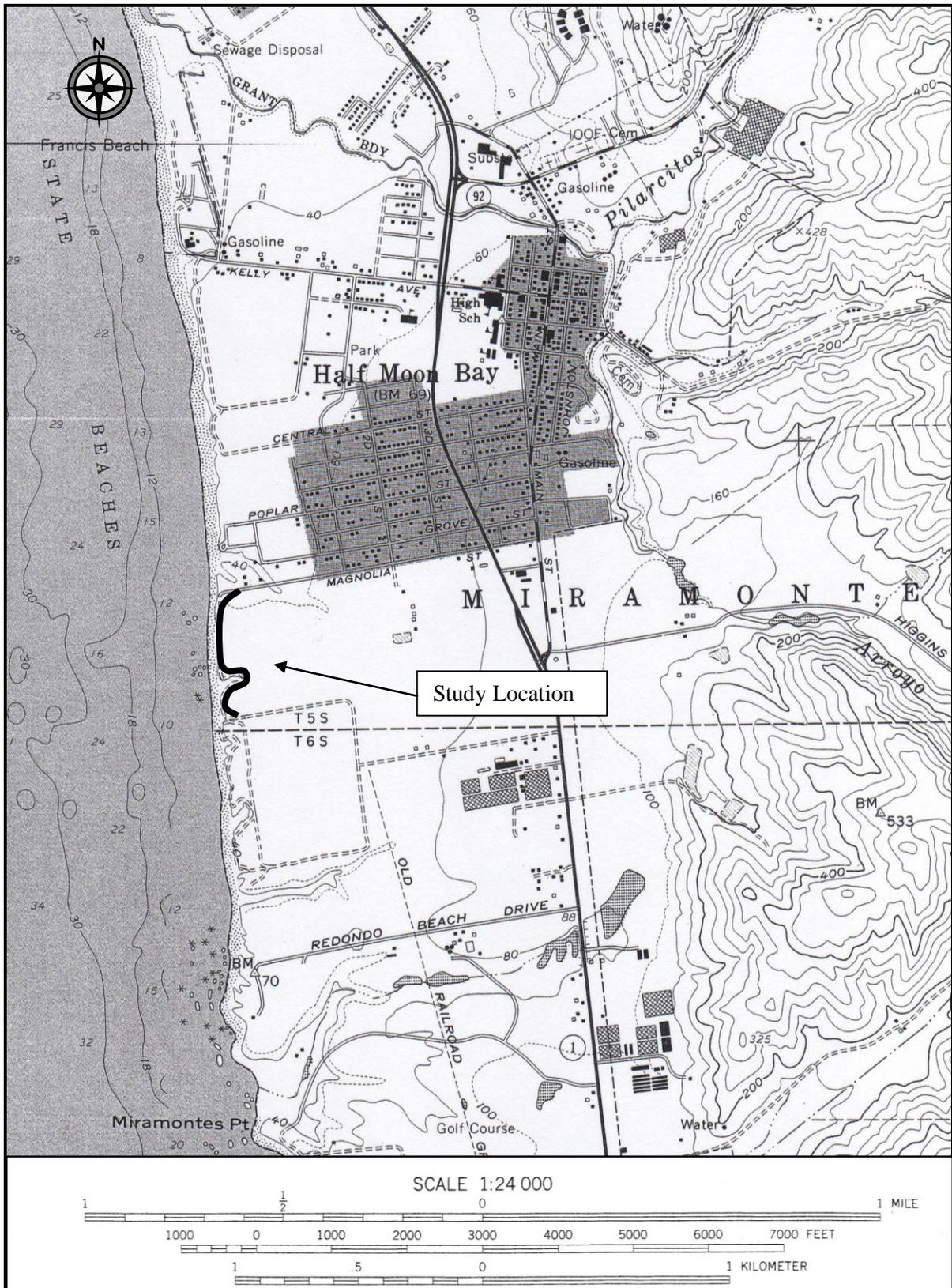


Figure 2. Study location (adapted from the USGS 1978 Half Moon Bay 7.5' topographic map).

At the time of European settlement, the study area was included in the territory controlled by the Ohlone, who are also referred to as Costanoans (Levy 1978:485-495). The Ohlone were hunter-gatherers who lived in rich environments that allowed for dense populations with complex social structures (Levy 1978:485-495; Kroeber 1925:462-473). They settled in large, permanent villages about which were distributed seasonal camps and task-specific sites. Primary village sites were occupied throughout the year and other sites were visited in order to procure particular resources that were especially abundant or available only during certain seasons. Sites often were situated near fresh water sources and in ecotones where plant life and animal life were diverse and abundant.

Historically, the study area is within the Rancho Miramontes granted to Juan Jose Candelario Miramontes in 1841. In 1853, Scottish immigrant James Johnston purchased nearly 1,200 acres of the 4,424-acre rancho where he and his brothers establish a successful cattle ranch. Historical maps show no specific historical use of the study area.

STUDY PROCEDURES AND FINDINGS

Native American Contact

A letter was sent to the State of California's Native American Heritage Commission seeking information from the sacred lands files, which track Native American cultural resources, and the names of Native American individuals and groups that would be appropriate to contact regarding this project. The Native American Heritage Commission replied with a letter dated August 21, 2012, in which they indicated that the sacred land file has no information about the presence of Native American cultural resources in the immediate project area. Letters were also sent to the following local groups and individuals:

Rosemary Cambra, Muwekma Ohlone Indian Tribe of the San Francisco Bay Area
Andrew Galvan, The Ohlone Indian Tribe
Ramona Garibay, Trina Marine Ruano Family
Jakki Kehl, Ohlone/Costanoan
Ann Marie Sayer, Indian Canyon Mutsun Band of Costanoan
Michelle Zimmer, Amah/Mutsun Tribal Band
Irene Zwierlein, Amah/Mutsin Tribal Band

No other comments have been received as of the date of this report. A log of contact efforts and copies of correspondence are provided as Appendix A.

Archival Study Procedures

Archival research included examination of the library and project files at Tom Origer & Associates. A review (NWIC File No. 12-0178) was completed of the archaeological site base maps and records, survey reports, and other materials on file at the Northwest Information Center (NWIC), Sonoma State University, Rohnert Park. Sources of information included but

were not limited to the current listings of properties on the National Register of Historic Places (National Register), California Historical Landmarks, California Register of Historical Resources (California Register), and California Points of Historical Interest as listed in the Office of Historic Preservation's *Historic Property Directory* (OHP 2012).

The Office of Historic Preservation has determined that structures older than 45 years should be considered potentially important historical resources, and former building and structure locations could be potentially important historic archaeological sites. Archival research included an examination of historical maps to gain insight into the nature and extent of historical development in the general vicinity, and especially within the study area. Maps ranged from hand-drawn maps of the 1800s (e.g., GLO plats) to topographic maps issued by the United States Geological Survey (USGS) and the Army Corps of Engineers (USACE) from the early to the middle 20th century.

In addition, ethnographic literature that describes appropriate Native American groups, county histories, and other primary and secondary sources were reviewed. Sources reviewed are listed in the "Materials Consulted" section of this report.

Archival Study Findings

Archival research found that the study area was surveyed in 1988 as part of the Wavecrest Restoration Project. No prehistoric or historical resources were identified during the survey (Clark 1988). There is one known resource within a 0.5-mile radius of the study area.

There are no reported ethnographic sites within or near the project area (Kroeber 1925; Levy 1985:485).

Review of historical maps found no evidence of buildings or structures on the project parcel (US Coast Survey 1863, 1931; USGS 1940, 1952).

Field Survey Procedures

An intensive field survey was completed by the author on August 23, 2012. Land within 100 feet of the edge of the bluff was examined by walking in a zigzag pattern within corridors 15 to 20 meters wide. Visibility was fair to poor due to vegetation, and a hoe was used to clear small patches so that the ground could be inspected.

Based on the distribution of known cultural resources and their environmental settings, it was anticipated that prehistoric archaeological sites could be found within the study area. Prehistoric archaeological site indicators expected to be found in the region include but are not limited to: obsidian and chert flakes and chipped stone tools; grinding and mashing implements such as slabs and handstones, and mortars and pestles; bedrock outcrops and boulders with mortar cups; and locally darkened midden soils containing some of the previously listed items plus fragments of bone, shellfish, and fire affected stones. Historic period site indica-

tors generally include: fragments of glass, ceramic, and metal objects; milled and split lumber; and structure and feature remains such as building foundations and discrete trash deposits (e.g., wells, privy pits, dumps).

Field Survey Findings

Archaeology

No prehistoric or historical archaeological materials were found within the study area.

Built Environment

The study area contains no buildings or structures.

RECOMMENDATIONS

Known Resources

Archaeology

No archeological resources were found during the survey and no resource-specific recommendations are made.

Built Environment

No historical buildings or structures were found within the study area, and no resource-specific recommendations are made.

Accidental Discovery

There is the slight possibility that buried archaeological deposits could be present, and accidental discovery could occur. In keeping with the CEQA guidelines, if archaeological remains are uncovered, work at the place of discovery should be halted immediately until a qualified archaeologist can evaluate the finds (§15064.5 [f]). Prehistoric archaeological site indicators include: obsidian and chert flakes and chipped stone tools; grinding and mashing implements (e.g., slabs and handstones, and mortars and pestles); bedrock outcrops and boulders with mortar cups; and locally darkened midden soils. Midden soils may contain a combination of any of the previously listed items with the possible addition of bone and shell remains, and fire affected stones. Historic period site indicators generally include: fragments of glass, ceramic, and metal objects; milled and split lumber; and structure and feature remains such as building foundations and discrete trash deposits (e.g., wells, privy pits, dumps).

The following actions are promulgated in Public Resources Code 5097.98 and Health and Human Safety Code 7050.5, and pertain to the discovery of human remains. If human remains are encountered, excavation or disturbance of the location must be halted in the vicinity of the find, and the county coroner contacted. If the coroner determines the remains are Native American, the coroner will contact the Native American Heritage Commission. The

Native American Heritage Commission will identify the person or persons believed to be most likely descended from the deceased Native American. The most likely descendent makes recommendations regarding the treatment of the remains with appropriate dignity.

SUMMARY

Tom Origer & Associates conducted a cultural resources survey for the Wavecrest Coastal Trail Project in Half Moon Bay, as requested by Isabelle Minn of The Planning Center|DC&E. No prehistoric or historical resources were found within the study area and no resource-specific recommendations were warranted.

MATERIALS CONSULTED

Alexander, P.

1916 *History of San Mateo County*. Burlingame Publishing, Burlingame.

Alley, B.

1883 *History of San Mateo County, California*. B.F. Alley, San Francisco.

Bean, L. (Editor)

1994 *The Ohlone Past and Present*. Ballena Press, Menlo Park.

Clark, M.

1988 *Archaeological Reconnaissance of the "North Project Area" of the Wavecrest Restoration Project in the City of Half Moon Bay, San Mateo, County, California*. Document S-9779 on file at the Northwest Information Center, Rohnert Park.

General Land Office

1860 Plat of the Miramontes Rancho finally confirmed to Vicente Miramontes and others. Department of the Interior, Washington, D.C.

Hoover, M., H. Rensch, E. Rensch, W. Abeloe

1966 *Historic Spots in California*. 3rd edition. Stanford University Press. Stanford.

Hoover, M., H. Rensch, E. Rensch, W. Abeloe, and D. Kyle

2000 *Historic Spots in California*. 5th edition, Stanford University Press. Stanford.

Kroeber, A.

1925 *Handbook of the Indians of California*. Bureau of American Ethnology, Bulletin 78, Smithsonian Institution, Washington, D.C.

Levy, R.

1978 Costanoan. In *California* edited by R. Heizer, pp. 485-495. Handbook of North American Indians, Vol. 8, W. Sturtevant, general editor. Smithsonian Institution, Washington, D.C.

Margolin, M.

1978 *The Ohlone Way*. Heyday Books, Berkeley.

Meighan, C.

1955 *Archaeology of the North Coast Ranges, California*. Reports of the University of California Archaeological Survey No. 30. University of California, Berkeley.

Moore and DePue

1878 *Moore and DePue's Illustrated History of San Mateo County, California*. G.T. Brown, San Francisco.

Moratto, M.

1984 *California Archaeology*. Academic Press, San Francisco.

Office of Historic Preservation

1995 *Instructions for Recording Historic Resources*. Office of Historic Preservation, Sacramento.

2011 *Historic Property Directory*. Office of Historic Preservation, Sacramento.

San Mateo County Recorder

1863 Map of the Miramontes Rancho. On file at the San Mateo County Recorder's office.

United States Coast Survey

1861 Map of the Coast of California in the Vicinity of Half Moon Bay. Register No. T993. Department of the Interior, Washington, D.C.

United States Coast and Geodetic Survey

1931 Half Moon Bay, Purisima to Pillar Point. Survey No. T4786. Department of the Interior, Washington, D.C.

United States Geological Survey

1940 Half Moon Bay, California. 15' map series. Geological Survey, Washington, D.C.

1952 Half Moon Bay, California. 7.5' map series. Geological Survey, Washington, D.C.

1961 Half Moon Bay, California. 7.5' map series. Geological Survey, Washington, D.C.

Wagner, R. and R. Nelson

1961 *Soil Survey of the San Mateo Area, California*. U.S. Department of Agriculture in cooperation with the University of California Agricultural Experiment Station.

Exhibit 2: CEQA Documents: Initial Study and Mitigated Negative Declaration

APPENDIX A: Native American Contact

Contact Log
Correspondence and Maps

Exhibit 2: CEQA Documents: Initial Study and Mitigated Negative Declaration

**Native American Contact Efforts
Ashland Family Housing Project
Alameda County, California**

Organization	Contact	Letters	Results
Native American Heritage Commission	Katy Sanchez	8/15/12	Letter received 8/21/12 NAHC has no information about resources in the im- mediate project area
Muwekma Ohlone Indian Tribe of the San Francisco Bay Area	Rosemary Cambra	8/21/12	No comments received as of the date of this report.
Amah/Mutsun Tribal Band	Jean-Mari Feyling	8/21/12	No comments received as of the date of this report.
The Ohlone Indian Tribe	Andrew Galvan	8/21/12	No comments received as of the date of this report.
Trina Marine Ruano Family	Ramona Garibay	8/21/12	No comments received as of the date of this report.
	Jakki Kehl	8/21/12	No comments received as of the date of this report.
	Katherine Erolinda Perez	8/21/12	No comments received as of the date of this report.
Indian Canyon Mutsun Band of Costanoan	Ann Marie Sayers	8/21/12	No comments received as of the date of this report.
	Linda G. Yamane	8/21/12	No comments received as of the date of this report.
Amah/Mutsun Tribal Band	Irene Zwierlein	8/21/12	No comments received as of the date of this report.

Tom Origer & Associates
Archaeology / Historical Research

August 15, 2012

Debbie Pilas-Treadway
Native American Heritage Commission
915 Capitol Mall
Sacramento, California 95814

VIA FACIMILE

Re: Wavecrest Coastal Trail, Half Moon Bay, San Mateo County, California

Dear Ms. Pilas-Treadway:

I write regarding a cultural resources study our firm is conducting for the above referenced project. The project area consists of approximately 1,500 linear feet of proposed trail route along the coast of San Mateo County, California as showed on the enclosed portion of the Half Moon Bay 7.5' topographic map. We are seeking information from the Native American Heritage Commission regarding possible sacred lands and other cultural sites within this area. We would also like to obtain a list of individuals whom it would be appropriate to contact regarding this project.

Below is information to aid in your search. Please contact me at (707) 584-8200 if you have any questions or need additional information. Thank you for your help.

Sincerely,



Janine M. Loyd
Senior Associate

Encl. Portion of Half Moon Bay 7.5' USGS map showing project area.

County	USGS Map	Township	Range	Sections	Comments
San Mateo	Half Moon Bay 7.5'	T5S	R5W		Miramontes Grant

Tom Origer & Associates
Archaeology / Historical Research

August 21, 2012

Rosemary Cambra
Muwekma Ohlone Indian Tribe of the San Francisco Bay Area
2574 Seaboard Avenue
San Jose, California 95131

Re: Wavecrest Coastal Trail, Half Moon Bay, San Mateo County

Dear Ms. Cambra:

I write to notify you about a cultural resources study that our firm is conducting for the Wavecrest Coastal Trail project near Half Moon Bay, San Mateo County, California. The project area consists of a 1,700-foot long trail along the bluff, as shown on the enclosed map.

If you have any information or concerns about this project we would be happy to convey them to our client.

Please contact us at (707) 584-8200 if you need additional information. Thank you for your help.

Sincerely,



Vicki Beard
Senior Associate

Tom Origer & Associates
Archaeology / Historical Research

August 21, 2012

Jean-Mari Feyling
Amah/Mutsun Tribal Band
19350 Hunter Court
Redding, California 96003

Re: Re: Wavecrest Coastal Trail, Half Moon Bay, San Mateo County

Dear Ms. Feyling:

I write to notify you about a cultural resources study that our firm is conducting for Wavecrest Coastal Trail project near Half Moon Bay, San Mateo County, California. The project area consists of a 1,700-foot long trail along the bluff, as shown on the enclosed map. Wavecrest Coastal Trail project near Half Moon Bay, San Mateo County, California. The project area consists of a 1,700-foot long trail along the bluff, as shown on the enclosed map.

If you have any information or concerns about this project we would be happy to convey them to our client.

Please contact us at (707) 584-8200 if you need additional information. Thank you for your help.

Sincerely,



Vicki Beard
Senior Associate

Tom Origer & Associates
Archaeology / Historical Research

August 21, 2012

Andrew Galvan
The Ohlone Indian Tribe
PO Box 3152
Fremont, California 94539

Re: Re: Wavecrest Coastal Trail, Half Moon Bay, San Mateo County

Dear Mr. Galvan:

I write to notify you about a cultural resources study that our firm is conducting for the Wavecrest Coastal Trail project near Half Moon Bay, San Mateo County, California. The project area consists of a 1,700-foot long trail along the bluff, as shown on the enclosed map.

If you have any information or concerns about this project we would be happy to convey them to our client.

Please contact us at (707) 584-8200 if you need additional information. Thank you for your help.

Sincerely,



Vicki Beard
Senior Associate

Tom Origer & Associates
Archaeology / Historical Research

August 21, 2012

Ramona Garibay
Trina Marine Ruano Family
30940 Watkins Street
Union City, California 94587

Re: Re: Wavecrest Coastal Trail, Half Moon Bay, San Mateo County

Dear Ms. Garibay:

I write to notify you about a cultural resources study that our firm is conducting for the Wavecrest Coastal Trail project near Half Moon Bay, San Mateo County, California. The project area consists of a 1,700-foot long trail along the bluff, as shown on the enclosed map.

If you have any information or concerns about this project we would be happy to convey them to our client.

Please contact us at (707) 584-8200 if you need additional information. Thank you for your help.

Sincerely,



Vicki Beard
Senior Associate

Tom Origer & Associates
Archaeology / Historical Research

August 21, 2012

Jakki Kehl
720 North 2nd Street
Patterson, California 95363

Re: Re: Wavecrest Coastal Trail, Half Moon Bay, San Mateo County

Dear Ms. Kehl:

I write to notify you about a cultural resources study that our firm is conducting for the Wavecrest Coastal Trail project near Half Moon Bay, San Mateo County, California. The project area consists of a 1,700-foot long trail along the bluff, as shown on the enclosed map.

If you have any information or concerns about this project we would be happy to convey them to our client.

Please contact us at (707) 584-8200 if you need additional information. Thank you for your help.

Sincerely,



Vicki Beard
Senior Associate

Tom Origer & Associates
Archaeology / Historical Research

August 21, 2012

Katherine Erolinda Perez
PO Box 717
Linden, CA 95236

Re: Re: Wavecrest Coastal Trail, Half Moon Bay, San Mateo County

Dear Ms. Perez:

I write to notify you about a cultural resources study that our firm is conducting for the Wavecrest Coastal Trail project near Half Moon Bay, San Mateo County, California. The project area consists of a 1,700-foot long trail along the bluff, as shown on the enclosed map.

If you have any information or concerns about this project we would be happy to convey them to our client.

Please contact us at (707) 584-8200 if you need additional information. Thank you for your help.

Sincerely,



Vicki Beard
Senior Associate

Tom Origer & Associates
Archaeology / Historical Research

August 21, 2012

Ann Marie Sayers
Indian Canyon Mutsun Band of Costanoan
PO Box 28
Hollister, California 95024

Re: Re: Wavecrest Coastal Trail, Half Moon Bay, San Mateo County

Dear Ms. Sayers:

I write to notify you about a cultural resources study that our firm is conducting for the Wavecrest Coastal Trail project near Half Moon Bay, San Mateo County, California. The project area consists of a 1,700-foot long trail along the bluff, as shown on the enclosed map.

If you have any information or concerns about this project we would be happy to convey them to our client.

Please contact us at (707) 584-8200 if you need additional information. Thank you for your help.

Sincerely,



Vicki Beard
Senior Associate

Tom Origer & Associates
Archaeology / Historical Research

August 21, 2012

Linda G. Yamane
1585 Mira Mar Ave.
Seaside, California 93955

Re: Re: Wavecrest Coastal Trail, Half Moon Bay, San Mateo County

Dear Ms. Yamane:

I write to notify you about a cultural resources study that our firm is conducting for the Wavecrest Coastal Trail project near Half Moon Bay, San Mateo County, California. The project area consists of a 1,700-foot long trail along the bluff, as shown on the enclosed map.

If you have any information or concerns about this project we would be happy to convey them to our client.

Please contact us at (707) 584-8200 if you need additional information. Thank you for your help.

Sincerely,



Vicki Beard
Senior Associate

Tom Origer & Associates
Archaeology / Historical Research

January 13, 2012

Irene Zwierlein
Amah/Mutsun Tribal Band
789 Canada Road
Woodside, California 94062

Re: Re: Wavecrest Coastal Trail, Half Moon Bay, San Mateo County

Dear Ms. Zwierlein:

I write to notify you about a cultural resources study that our firm is conducting for the Wavecrest Coastal Trail project near Half Moon Bay, San Mateo County, California. The project area consists of a 1,700-foot long trail along the bluff, as shown on the enclosed map.

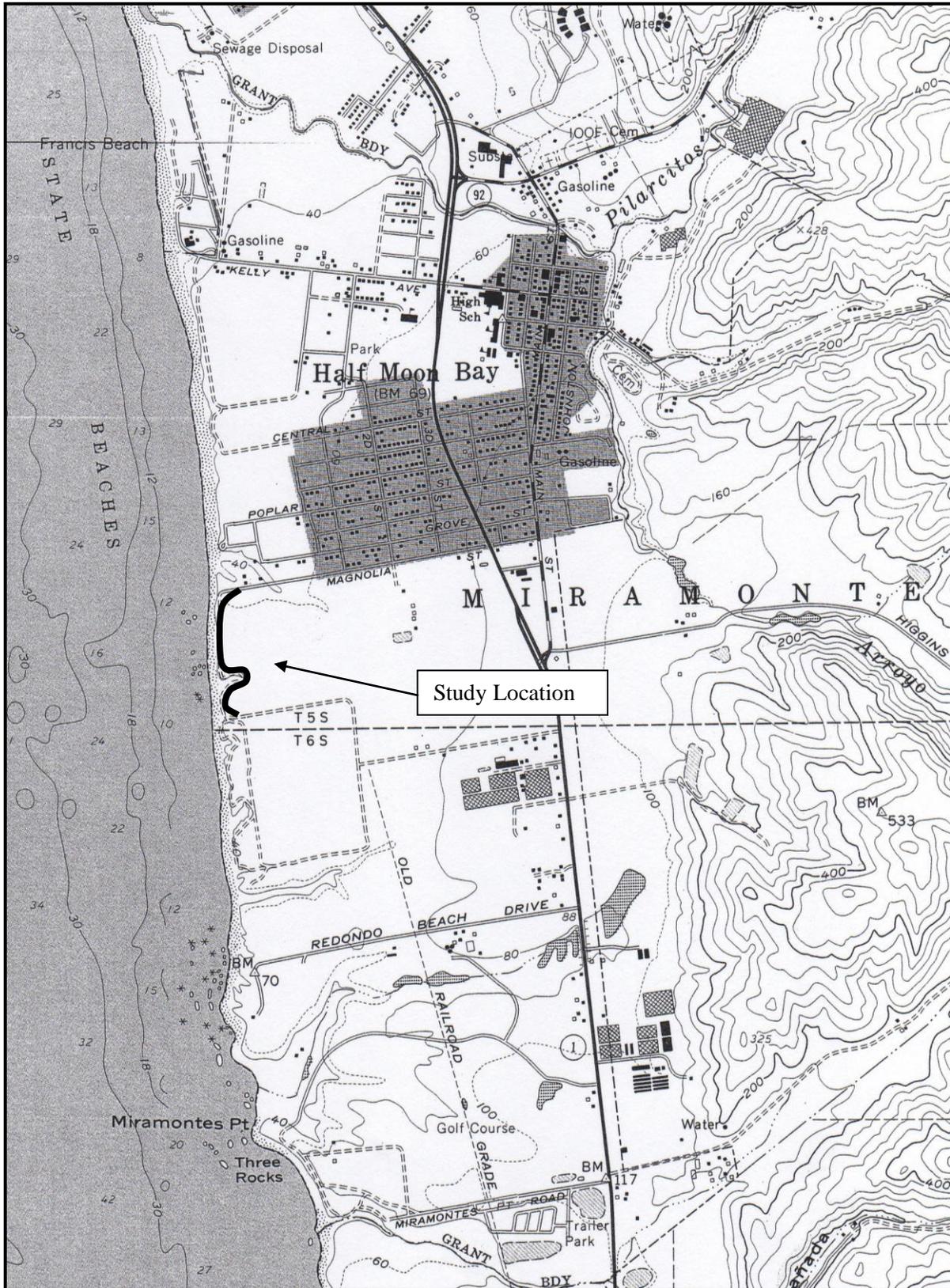
If you have any information or concerns about this project we would be happy to convey them to our client.

Please contact us at (707) 584-8200 if you need additional information. Thank you for your help.

Sincerely,



Vicki Beard
Senior Associate



STATE OF CALIFORNIAEdmund G. Brown, Jr., Governor**NATIVE AMERICAN HERITAGE COMMISSION**915 CAPITOL MALL, ROOM 364
SACRAMENTO, CA 95814
(916) 653-6251
Fax (916) 657-5390

August 21, 2012

Janine M. Loyd
Tom Origer & Associates
P.O. Box 1531
Rohnert Park, CA 94927Sent by Fax: 707-584-8300
Number of Pages: 2

Re: Wavecrest Coastal Trail, Half Moon Bay, San Mateo County.

Dear Ms. Loyd:

A record search of the sacred land file has failed to indicate the presence of Native American cultural resources in the immediate project area. The absence of specific site information in the sacred lands file does not indicate the absence of cultural resources in any project area. Other sources of cultural resources should also be contacted for information regarding known and recorded sites.

Enclosed is a list of Native Americans individuals/organizations who may have knowledge of cultural resources in the project area. The Commission makes no recommendation or preference of a single individual, or group over another. This list should provide a starting place in locating areas of potential adverse impact within the proposed project area. I suggest you contact all of those indicated, if they cannot supply information, they might recommend others with specific knowledge. By contacting all those listed, your organization will be better able to respond to claims of failure to consult with the appropriate tribe or group. If a response has not been received within two weeks of notification, the Commission requests that you follow-up with a telephone call to ensure that the project information has been received.

If you receive notification of change of addresses and phone numbers from any of these individuals or groups, please notify me. With your assistance we are able to assure that our lists contain current information. If you have any questions or need additional information, please contact me at (916) 653-4038.

Sincerely,

A handwritten signature in black ink, appearing to read "Debbie Pilas-Treadway".

Debbie Pilas-Treadway
Environmental Specialist III

**Native American Contacts
San Mateo County
August 21, 2012**

Jakki Kehl
720 North 2nd Street
Patterson, CA 95363
jakki@bigvalley.net
(209) 892-1060

Ohlone/Costanoan

Muwekma Ohlone Indian Tribe of the SF Bay Area
Rosemary Cambra, Chairperson
PO Box 360791
Milpitas, CA 95036
muvekma@muvekma.org
408-205-9714
510-581-5194

Ohlone / Costanoan

Amah/Mutsun Tribal Band
Irene Zwierlein, Chairperson
789 Canada Road
Woodside, CA 94062
amah_mutsun@yahoo.com
(650) 851-7747 - Home
650-400-4806 cell preferred
(650) 851-7489 - Fax

Ohlone/Costanoan

The Ohlone Indian Tribe
Andrew Galvan
PO Box 3152
Fremont, CA 94539
chochenyo@AOL.com
(510) 882-0527 - Cell
(510) 687-9393 - Fax

Ohlone/Costanoan
Bay Miwok
Plains Miwok
Patwin

Amah/Mutsun Tribal Band
Jean-Marie Feyling
19350 Hunter Court
Redding, CA 96003
jmfgmc@sbcglobal.net
530-243-1633

Ohlone/Costanoan

Trina Marine Ruano Family
Ramona Garibay, Representative
30940 Watkins Street
Union City, CA 94587
soaprootmo@msn.com
510-972-0645-home

Ohlone/Costanoan
Bay Miwok
Plains Miwok
Patwin

Coastanoan Rumsen Carmel Tribe
Tony Cerda, Chairperson
240 E, 1st Street
Pomona, CA 97766
rumsen@aol.com
(909) 464-2074
(909) 524-8041 Cell
909-629-6081

Ohlone/Costanoan

Indian Canyon Mutsun Band of Costanoan
Ann Marie Sayers, Chairperson
P.O. Box 28
Hollister, CA 95024
ams@indiancanyon.org
831-637-4238

Ohlone/Costanoan

This list is current only as of the date of this document.

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This list is only applicable for contacting local Native Americans with regard to cultural resources for the proposed Wavecrest Coastal Trail, San Mateo County

A P P E N D I X C

E N G I N E E R I N G G E O L O G I C
R E V I E W

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ENGINEERING GEOLOGIC REVIEW WAVECREST COASTAL TRAIL

San Mateo County, CA

January 28, 2014 rev



Job: CLT-WAVECREST-584

Prepared for:
THE PLANNING CENTER | DC&E
1625 Shattuck Avenue, Suite 300
Berkeley CA 94709



TIMOTHY C. BEST, CEG
ENGINEERING GEOLOGY AND HYDROLOGY

1002 Columbia Street, Santa Cruz, CA 95060 • Tel (831) 425-5832 • Fax: (831) 425-5830 e-mail: timbest@coastgeo.com

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1.0 INTRODUCTION

This revised report provides an Engineering Geologic Review of the proposed Wavecrest Coastal Trail. The project site is located along the outer edge of a steep coastal bluff in San Mateo County, about 4 miles south of Half Moon Bay. This report is a revision of my November 18, 2012 report to incorporate comments requested by the City of Half Moon Bay.

The project proposes a roughly one-mile long 4 to 8-foot wide multi use trail. The segment of the California Coastal Trail will extend about 1 mile from Poplar Beach south to Redondo Beach Road (Figure 1). Most of the trail will be located on flat ground and will require minimal grading. The project is proposed in two phases. The first phase is the construction of the northern portion of the trail located on Wavecrest property, owned by the Coastside Land Trust. The southern segment of trail is to be constructed at a later date in the second phase of the project.

1.1 PURPOSE AND SCOPE

The purpose of this study was to evaluate the geologic conditions at the site and assess the implications of the proposed project with respect to erosion and coastal bluff stability. Included in this report and accompanying plan sheets are recommendations to mitigate the potential geologic and erosional risks associated with the proposed trail to an acceptable level for the intended use of the trail for regular recreational use. Recommendations are specific to the construction of the northern portion of the trail. Additional work will be required to develop final prescriptions for the southern trail segment.

Work performed during this investigation included:

1. Review of available published and unpublished geologic literature for the area
2. Review of six sets of stereo aerial photographs
3. Field reconnaissance of the proposed trail
4. Evaluation of field and air photo data to develop recommendations for trail design and siting
5. Preparation of this report and the accompanying graphics.

This assessment relied on the visual recognition of landscape and geologic features. Subsurface exploration was not undertaken and was outside the scope of this study.

2.0 PHYSICAL ENVIRONMENT

2.1 GEOMORPHIC SETTING

The project site is characterized by a broad gently sloping marine terrace that slopes seaward at about 4%. The terrace is fronted by a linear 50± foot high steep actively eroding coastal bluff

with a loose talus and a narrow beach is found at its base (Figure 1, Photos 1 and 2). The bluff face is inclined at 70 to 80 degrees. The bluff is indented by several steep sided coastal gullies and ravines, many of which have enlarged in recent years in part due to changes in surface drainage patterns. The property is crossed by remnants of several old roads and a series of informal trails. The property is undeveloped and vegetated with non-native grassland, northern coastal scrub, seasonal wetlands, and Monterey cypress forest habitat.

The northern portion of the project area is part of the 50-acre Wavecrest property, purchased by the Coastside Land Trust from the Peninsula Open Space Trust in 2012. An old agricultural road is routed along the top edge of the coastal bluff. The seaward end of the property is drained by what appears to be several very shallow linear drainage ditches spaced roughly 150 feet apart and oriented perpendicular to the coastline. A man-made drainage ditch and deep ravine (Ravine 1) is located on City of Half Moon Bay property bounding the project area to the north. This drainage ditch was constructed circa 1960s to divert runoff out of its natural channel and away from an old county landfill located on the bluff-top just inland from Poplar Beach. Failure of a culvert at the mouth of the ditch where it drains into the ocean has resulted in significant and rapid erosion and the formation of a deep ravine (Photos 8 and 9). **See 3.2.1 Ravine 1** (Page 11) for a more detailed discussion.



Photo 1: Coastal bluff and gullies fronting the Wavecrest property (2009). The landscape is typical for the project area.
(from California Coastal Records Project, www.californiacoastline.org)

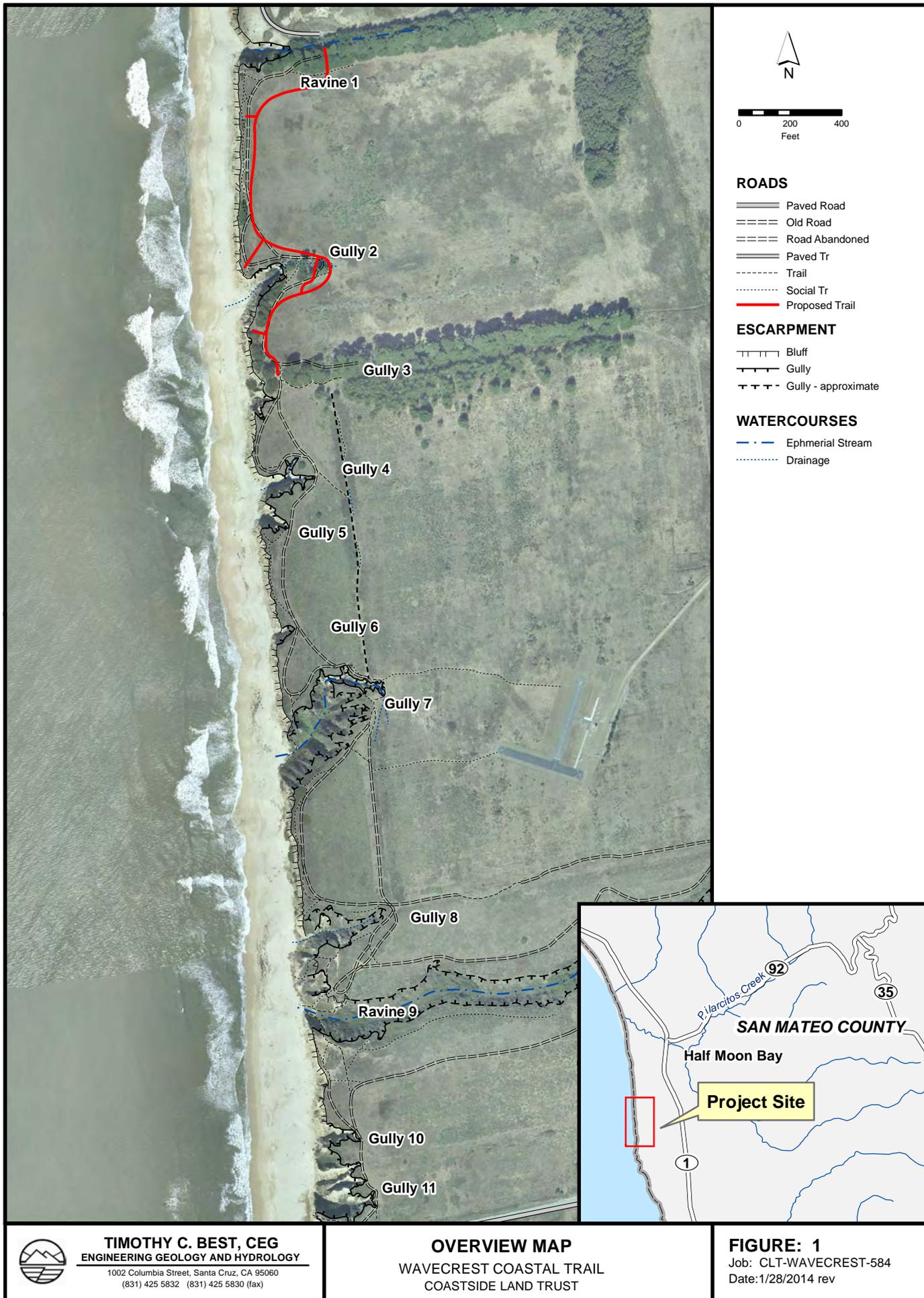


Photo 2: Coastal bluff south of Wavecrest property (2009). Bluff is indented by several gullies. Remnants of the old agricultural road paralleling the coastline is visible inland.
(from California Coastal Records Project, www.californiacoastline.org)

The southern half of the project area between Wavecrest and Ravine 2 is comprised of multiple small parcels and paper roads. An old agricultural road is located along the bluff edge with a second road paralleling the coastline located 350± feet inland.

2.1.1 Climate

Half Moon Bay is characterized by a coastal fog-belt Mediterranean climate with cool, rainy winters and mild, foggy summers. Prevailing onshore winds often result in winter low clouds and mist and in summer fog. Mean annual rainfall averages 18 inches.



TIMOTHY C. BEST, CEG
ENGINEERING GEOLOGY AND HYDROLOGY
 1002 Columbia Street, Santa Cruz, CA 95060
 (831) 425 5832 (831) 425 5830 (fax)

OVERVIEW MAP
 WAVECREST COASTAL TRAIL
 COASTSIDE LAND TRUST

FIGURE: 1
 Job: CLT-WAVECREST-584
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2.2 GEOLOGY AND SOILS

The site lies along the Central California coast on the western flank of the Santa Cruz Mountains, in the central portion of the Coast Range physiographic province of California. This portion of the Coast Range is formed by a series of rugged, linear ridges and valleys following the pronounced northwest to southeast structural grain of central California geology. The Santa Cruz Mountains are mostly underlain by a large, elongate prism of granitic and metamorphic basement rocks, known collectively as the Salinian Block. These rocks are separated from contrasting basement rock types to the northeast and southwest by the San Andreas and San Gregorio-Nacimiento strike-slip fault systems, respectively. Overlying the granitic basement rocks is a sequence of dominantly marine sedimentary rocks of Paleocene (65 to 55 million years ago) to Pliocene (5.3 to 1.6 million years ago) age and non-marine sediments of Pliocene to Pleistocene (1.6 million to 11,500 years ago) age (Figure 2).

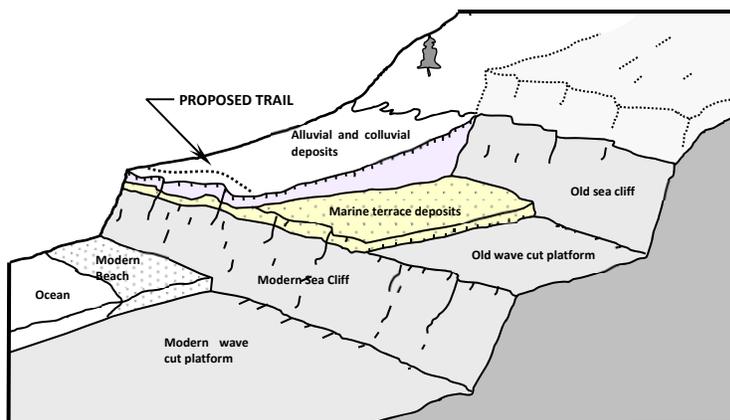


Diagram 1: Schematic of marine terrace deposits.

This portion of California forms the boundary of the Pacific and North American lithospheric plates that are separated by a broad system of northwest-southeast trending strike slip faults that includes the San Andreas (SAF) and San Gregorio (SGF) faults. For the past 15 million years (mid -Miocene) the Pacific Plate has been slipping northwest with respect to the North American Plate (Atwater, 1970) (Figure 2). Compression along this fault system has resulted in tectonic uplift reflected by the Santa Cruz Mountains which follow the pronounced structural grain of the central California geology. Along the coast, ongoing tectonic activity is evident in the formation of a series of uplifted marine terraces. The Loma Prieta earthquake of 1989 and its continuing aftershocks are the most recent reminders of the geologic unrest in the region.

The marine terraces were formed in the last few hundred thousand years when sea level was higher, relative to the land surface, than at present. At that time, the ocean carved a sea cliff comparable to the modern day cliff. When sea level fell due to the onset of continental glaciation, it left behind a wave-cut bench covered by beach and near shore marine deposits. That bench has further been covered to varying degrees by alluvial and colluvial sediments.

Tectonic uplift has elevated the terrace surfaces to their current position, about 50 feet above the ocean. A narrow, steep sand beach fronts the sea cliff.

2.2.1 Bedrock Geology

Bedrock is not exposed at the project site or along the coastal bluff being buried by thick marine terrace deposits and modern beach sands. Based on regional mapping by Brabb et al. (1998) the site is underlain at depth by Purisima Sandstone which is described as a locally highly fractured, well indurated (hard) marine fine-grained sandstone, siltstone and mudstone. Bedrock is mapped dipping moderately to the west and south.

2.2.2 Surficial Geology

Overlying bedrock is a 50± foot thick mantle of Quaternary-age marine terrace sediments (Qmt). This material is well exposed in the coastal bluff where it consists primarily of weakly lithified beach and alluvial sand, gravel, and silt. The marine terraces likely correspond to a high sea level stand about 83,000 year ago (Kennedy et al., 1982). Thin dune sands locally cap the terrace deposits. This material forms a near continuous low berm along the top edge of the bluff.

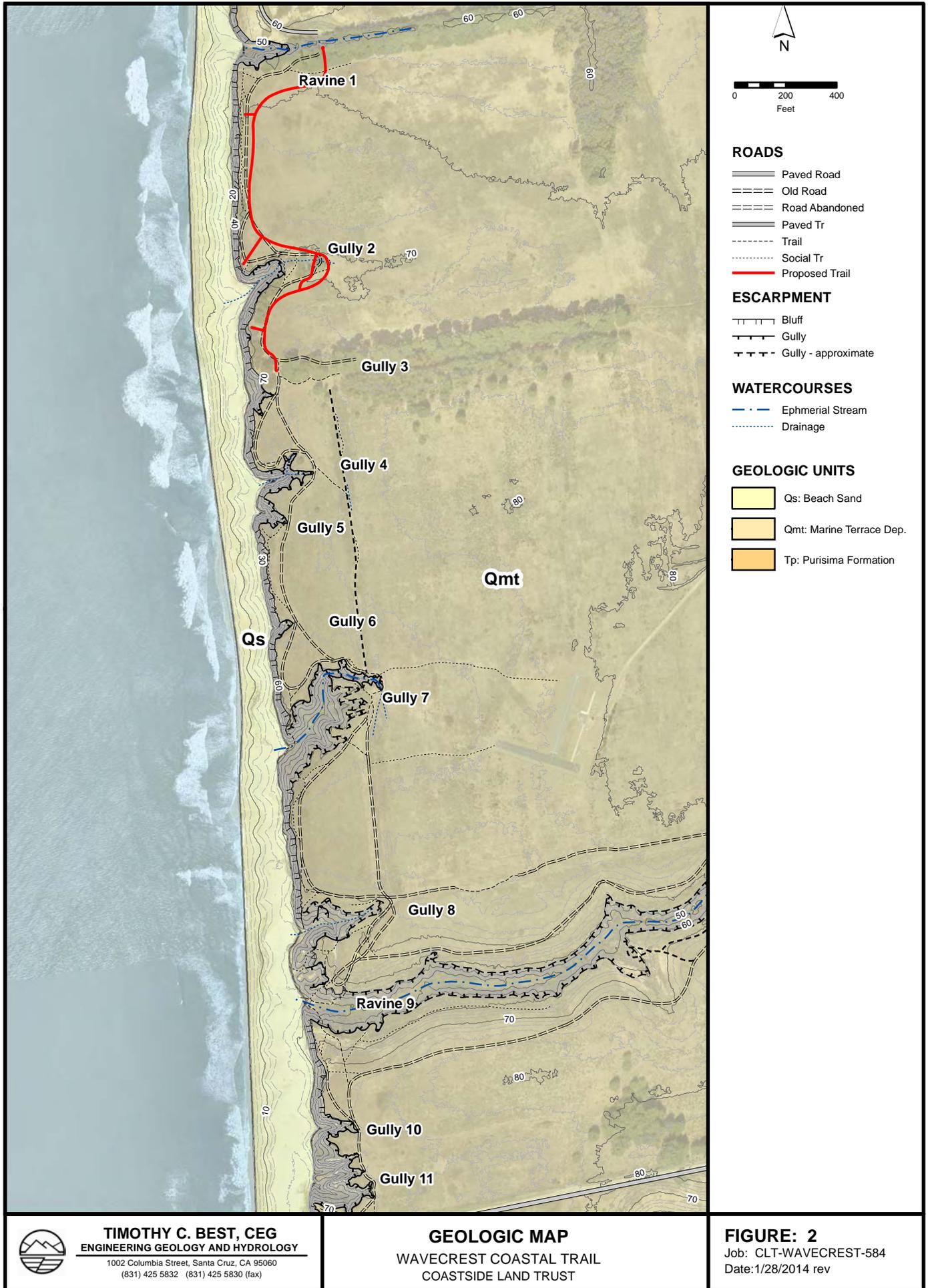


Photo 3: Bluff face showing terrace sediments



Photo 4: Top edge of bluff with low outside berm

A seasonal perched water table likely develops within the terrace deposits between layers of more and less permeable materials. Evidence of seasonal groundwater seepage was observed locally on the coastal bluff and may be a contributing factor in the formation and enlargement of gullies.



TIMOTHY C. BEST, CEG
ENGINEERING GEOLOGY AND HYDROLOGY
 1002 Columbia Street, Santa Cruz, CA 95060
 (831) 425 5832 (831) 425 5830 (fax)

GEOLOGIC MAP
WAVECREST COASTAL TRAIL
COASTSIDE LAND TRUST

FIGURE: 2
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2.2.3 Soils

Surficial soils are mapped by NRCS (2003) as Watsonville loam (WmA and WsB). From field observations this material consists primarily of loose to medium dense clayey SILT to silty SAND (ML – SM). These soils are prone to erosion from runoff where runoff is concentrated and by wind where bare ground is exposed. The breakdown of soils along trails from use and the subsequent erosion of the loose material by water and wind cause the trails to become rutted. When wet, the soils can become slick.

2.3 REGIONAL FAULTS AND SEISMICITY

The subject property is located within a highly seismically-active region of California. A broad system of inter-related northwest-southeast trending strike-slip faults represents a segment of the boundary between the Pacific and North American crustal plates (Figure 3). For approximately the past 15 million years (mid-Miocene) the Pacific plate has been slipping northwestward with respect to the North American plate (Atwater, 1970; Graham and Dickinson, 1978). The majority of movement has been taken up by the San Andreas Fault itself; however, there are other faults within this broad system that have also experienced movement at one time or another. The regional faults of significance include the San Andreas and San Gregorio faults.

2.3.1 San Andreas Fault

The San Andreas Fault is an active, northwest-trending right lateral strike slip fault zone located about 6.5 miles northeast of the project site. The main trace of the fault trends northeast-southwest and extends over 700 miles from the Gulf of California through the Coast Range to Point Arena, where the fault extends offshore. The San Andreas Fault was responsible for the 1906 San Francisco earthquake (M_w 7.9) and the 1989 Loma Prieta earthquake (M_w 7.0).

The San Andreas Fault system can be divided into segments with earthquakes of different magnitudes and recurrence intervals (WGOCEP, 1996). The great 1906 earthquake, the predominant historic seismic event of the San Andreas Fault system in northern California, ruptured all currently locked segments of the fault (from near the Mendocino triple junction to San Juan Bautista). The 1906 rupture overlaps the independent subsegments (Peninsula segment and Santa Cruz Mountains segment). Current research into prehistoric events along the northern San Andreas Fault indicates that a similar great event probably occurred most recently in the 17th century (Schwartz et al., 1986).

The San Francisco Peninsula segment is the closest segment of the fault to the site. This segment of the San Andreas Fault has been assigned a slip rate that results in a M_w 7.3 earthquake with a recurrence interval of 400 years (WGOCEP, 1996). The 1906 segment of the

fault has been assigned a slip rate that results in a larger M_w 7.9 earthquake with a recurrence interval of 210 years.

2.3.2 San Gregorio Fault

The San Gregorio Fault is an active, northwest-trending right lateral strike slip fault zone located less than a mile offshore of the project area. The San Gregorio Fault is part of a coastal system of parallel strike slip faults extending from Point Conception in the south to the Marin Peninsula in the north (Greene, 1977; Weber and Nolan, 1995). The fault zone is located mainly offshore, west of San Francisco and Monterey Bays, with onshore locations at promontories, such as Moss Beach, Pillar Point, Pescadero Point, and Point Año Nuevo.

The landward extension of the San Gregorio Fault shows evidence of late Pleistocene and Holocene movement at both Point Año Nuevo (Jennings, 1994; Weber and Nolan, 1995) and Pillar Point (Koehler et al., 2005; Simpson et al., 1997). Quaternary and Holocene slip rates along the San Gregorio Fault have been difficult to constrain narrowly, partly because much of the fault is offshore and because much of the fault has highly complex geometry. Koehler et al. (2005) reports the most recent earthquake occurred within the past 500 years. The San Gregorio fault has been assigned a slip rate that results in a M_w 7.3 earthquake with a recurrence interval of 400 years (WGOCEP, 1999; WGOCEP, 2003).

2.3.3 Seismic Shaking

Ground motion maps are being created for each area affected by the California Seismic Hazards Mapping Act as a by-product of the delineation of Seismic Hazards Zones by the Department of Conservation (Cao et al., 2003; CGS, 2002; Petersen et al., 1996). These maps show an estimate of the likelihood of earthquake ground motions, based on a probabilistic seismic hazard analysis. Such analysis incorporates seismic and geologic information to consider the probability of all possible damaging earthquakes, calculates the potential range of ground motions for each potential earthquake, and arrives at a level of ground shaking that has a given probability.

These maps form the basis of earthquake shaking likelihood in the regional assessment of liquefaction and seismically-induced landslides for zonation purposes. Ground motions shown on the maps are expressed as maximum horizontal accelerations (MHA) having a 10-percent probability of being exceeded in a 50-year period (corresponding to a 475-year return period) in keeping with the UBC-level of hazard. Separate maps are prepared of expected MHA for three types of surficial geology (hard rock, soft rock, and alluvium), based on averaged ground motions from three different attenuation relations.

Mean Peak Ground Acceleration (PGA) on firm rock at the subject site with a 10% probability of exceedance in 50 years is reported to be 0.59g (CGS, 2002; Petersen et al., 1996). High ground accelerations associated with fault rupture along either of these two fault systems is likely a contributing factor in coastal bluff erosion.

3.0 DISCUSSION OF GEOLOGIC HAZARDS

3.1 COASTAL BLUFF EROSION

The steep coastal bluff at the project site is roughly 50 feet high, fronted by a narrow beach. Because a protective beach is largely absent, the relatively weak marine terrace deposits that form the coastal bluffs are subjected to wave impact and coastal erosion during periods of high surf.

Rates of coastal bluff retreat are governed by the ability of large storm waves to attack the base of the cliff and the relative ease with which cliff material can be dislodged, either directly by wave attack, or through secondary processes such as block falls and slumping occurring higher on the cliff face. Failure deposits material onto the back edge of the beach, which temporarily buffers the bluff from wave erosion. Sea cliff retreat is an episodic process, in which failure events are often linked to individual storms or seismic disturbances (Best and Griggs, 1991; Hampton and Dingler, 1998; Hampton et al., 2004).

Review of historic aerial photographs dating back to 1928 finds the principal mechanism of bluff retreat is from wave attack, which undercuts the bluff resulting in periodic shallow block falls. These failures incorporate less than 50 linear feet of the bluff and extend less than 5 feet back in from the top edge of the bluff. Large-scale landslides are not present at the project site but are found elsewhere along the San Mateo Coast in similar earth materials. Based on field observation, the risk of large-scale landslides impacting the trail is low.

3.1.1 Coastal Bluff Erosion Rates

Rates of bluff retreat over the past 70 years were calculated from a comparison of time-sequential aerial photographs dating back to 1943 and which are on file at U.C. Santa Cruz Map library. The method used involved measurements of the position of the seacliff edge to specific fixed reference points visible in each of the photos. Oblique photographs of the coastal bluff taken offshore extend back to 1972 and are available on-line at California Coastal Records Project (www.californiacoastline.org).

Review of aerial photographs found less than 20 feet of erosion had occurred over the past 70 years. This averages to less than 4 inches per year. Most of the observed failures were small block falls that extended only a few feet into the bluff face. No significant failures were observed. The measured erosion rate is less than the 6 inches/year erosion rate reported by Griggs and Savoy (2005) along this segment of coast the 9 inches/year reported by (BAGG, 2006) at Half Moon Bay Golf Links located ½ miles south of the project area.

Due to an expected rise in sea level, future erosion will likely occur at a slightly higher rate than the measured 6 to 8 inches per year. In addition, large slope failures that could extend up to 20 feet or more into the bluff face may be possible as a result of a large earthquake along the nearby San Gregorio Fault. A detailed slope stability analysis would be required to evaluate earthquake related instability, however, such an analysis is not warranted for recreational trail.

3.1.2 Bluff top setback

For short and long-term trail stability, the trail will need to be set back from the top edge of the bluff. The setback distance is dependent upon the design life of the trail and the desired level of long-term stability but also needs to consider visitor expectations of being close to the bluff edge. The trail should be set back far enough as to provide a reasonable level of stability and safety. However, setting the trail too far back may simply result in visitors avoiding the new trail and using the existing informal trails that are located closer to the bluff edge.

For reasonable long term stability the proposed trail should be located a minimum of 30 to 40 feet from the top edge of the coastal bluff. The setback is based on a 50 year design life, an average erosion rate of 4" per year with an additional 10 foot buffer to address uncertainties. Additional erosion could occur in the event of a large earthquake. If erosion does undermine the trail at some future time, the trail can be easily relocated inboard and away from the bluff edge with minimal grading. The trail can be set closer if a shorter life expectancy is acceptable.

3.2 RAVINE AND GULLY EROSION

Within the project area the coastal bluff is incised by nine narrow and steep sided gullies and two larger ravines. The difference between a gully and a ravine is simply size. A gully is a small local erosional feature whereas a ravine is larger often receives off site drainage. The features are mapped on Figure 1.

Both ravines and gullies are a result of concentrated surface runoff draining off the fields, ditches, roads and trails and from groundwater emerging out of the gully face. A contributing factor in some areas is runoff through rodent burrows which has resulted in soil piping and the formation of several "sinkholes". Continued collapse of the resulting soil pipe can lead to the formation of a gully.

At several locations the active gully has encroached part way into the existing trail forcing the trail to be relocated. To prevent future gully erosion from impacting the trail, the proposed trail will need to be offset from these features and constructed so that runoff is not concentrated. Alternatively, the gully could be armored and runoff collected and piped to prevent it from flowing over the gully edge. The later measures are much more invasive and expensive, and therefore are not recommended.



Photo 5: Aerial view of Gullies 4 and 5
(from California Coastal Records Project, www.californiacoastline.org)



Photo 6: Gully 5. Gully head erosion with sinkhole in background.

The following is a brief discussion of the more pertinent gullies and ravines within the project area. The discussion is organized according to the Northern and Southern areas.

PHASE 1: NORTHERN TRAIL SEGMENT

3.2.1 Ravine 1

Ravine 1 is located off Coastal Land Trust property at the north end of the project area at Poplar Beach / Bluff Top Coastal Park. The ravine is addressed in this report as it affects CLT's property and the proposed trail alignment, although the ravine is within City of Half Moon Bay's jurisdiction. The ravine is approximately 250 feet long with steep 40-foot high unstable banks (Photo 3) and an actively eroding 20+ foot high channel nickpoint. A 10± foot deep U-shaped drainage ditch that is crossed by a 44-foot long rail car bridge is located about 50 feet upstream from the nickpoint (Photo 4).



Photo 6 Ravine 1
 Looking north across the mouth of Ravine 1



Phot7: Bridge at Ravine 1

The drainage ditch was constructed circa 1960's to divert runoff out of its natural channel and away from an old county landfill located within an incised drainage on the bluff-top just inland from Poplar Beach. Once the channel was diverted, the old abandoned channel was used as part of the landfill. A bluff top road had crossed the mouth of the drainage ditch with a culvert that conveyed runoff from the ditch onto rip rap on the beach. The landfill was closed around 1976.

Around 1990 the culvert at the mouth of the drainage ditch washed out allowing the ravine to form. This ravine rapidly incised eroding over 250 feet inland over the past 25± years (Photos 5 and 6). On the south side of the bridge the ravine wall is 40 feet high, near vertical and actively eroding. The top edge of the steep ravine is unsafe and could be fatal if a visitor were to unknowingly fall over the edge.



Photo 8: Ravine 1 - 1972
 Note culvert at drainage ditch outlet
 (from California Coastal Records Project, www.californiacoastline.org)



Photo 9: Ravine 1 - 2010
 Note establish large ravine
 (from California Coastal Records Project, www.californiacoastline.org)

Erosion in the ravine is active and ongoing. There is a high potential for erosion to undermine the bridge abutments and ultimately the segments of trail leading to the bridge within the next 10 to 20 years. Therefore, it is essential for long-term stability that remedial measures be implemented to stabilize the ravine. Because the ravine is located off of Coastal Land Trust Property and outside the project area a detailed assessment of the ravine and development of remedial measures to stabilize the ravine was outside the scope of this study.

With respect to the proposed trail that will need to connect to the bridge, the trail should be offset a minimum of 50 feet from the side of the ravine before turning and connecting with the bridge. If the ravine is not stabilized then headward erosion of the ravine will force the bridge and trail to be relocated. A landuse planner should evaluate whether the edge should be fenced off or signs installed to identify the hazard. It is strongly recommended that mitigation measures be developed in the near future to stabilize the ravine and mitigate the hazard along the top of the ravine.

3.2.2 Gully 3

Gully 3 is located is a 150 foot long deeply incised gully indenting the coastal bluff. It is located in the area proposed for construction in the second Phase of the project. Historic aerial photographs show a low rate of gully erosion. A shallow drainage with several cypress trees extends an additional 150 feet inland terminating at a seasonal wet area. Several informal trails cross the drainage with an old agricultural road wrapping around its head. Portions of the ground are seasonally wet with probable ponded water.

The proposed trail will need to cross the ravine. This can be done either along the old road that extends through the small grove of cypress trees (central crossing) or further inland at the east end of the cypress trees (upper crossing) (Photo 10). Both sites present challenges with consideration to existing vegetation and habitat.

The type of crossing is dependent upon what type of access will be needed. For trail use a low puncheon is recommended; if truck access is required then an embedded culvert could be installed. Adjacent segments of the trail should be rocked. Additional work will be required to develop final treatment alternatives for this crossing.



Photo 10: Gully 3

Photo shows location of possible crossings.
(from Google Maps)

SOUTHERN AREA (FUTURE PHASE)

3.2.3 Gully 7

Gully 7 is a 600 foot long active gully/ravine located in the southern portion of the project area. Over 100 feet of headward gully erosion has occurred in a 30 year period between 1993 and 2011 (photos 11 and 12). A contributing factor in the rapid growth of this gully appears to be concentration of runoff along an old road that parallels the coast in this area.



Photo 11: Gully 7 - 2011

Photo shows location of the gully head over a 41 year period.
(from Google Maps)



Photo 12: Recent erosion at the head of Gully 7

The old road is aligned north-south along “paper road” depicted on San Mateo County Parcel Maps and is identified as “Beach Avenue” in the County GIS database. This road appears to have been passable in the 1986 aerial photographs but has since been overgrown. The road is intersected by Gully 7 where it makes a sharp bend and rapidly southward, following the road for 100+ feet. Continued gully erosion is expected without drainage improvements.

The proposed trail should be offset a minimum of 25 feet from the sides of the gully and 50+ feet from the gully head. In addition, drainage along the old road should be evaluated and corrected as feasible. Additional work will be required to develop treatment recommendations along the old road. This work will require inspecting the site during or following a large storm to accurately delineate drainage patterns.

3.2.4 Ravine 9

Ravine 9 is a narrow and steep sided ravine extending 3500+ feet inland and draining a 100± acre area located in the southern portion of the project area. The ravine is up to 150 feet wide and 25± feet deep; sideslopes range between 50 to 85 percent. The ravine walls are indented by a series of shallow swales that likely formed over time by gullying and shallow landslide processes. Most of the ravine is vegetated with coastal brush along the walls and riparian vegetation along the valley bottom. The ravine is crossed by a series of informal trails at its mouth and by an old agricultural road located about 1800 feet inland. Bridging the ravine would require a long span (140± foot) bridge similar to what was installed along Cowell-Purisima Coastal Trail. The cost of the bridge would be expensive, likely exceeding \$250,000 and would not provide access to the beach. For these reasons this alternative is not recommended. Based on my discussions with the project team and the expenses associated with the bridging the ravine, the main coastal trail will be routed inland and across the ravine via the existing ranch road. Because the ravine mouth trails will continue to be used to access the beach, upgrades to these trails may also be necessary.

3.2.4.1 Ravine Mouth Trail

The ravine is crossed at its mouth by a series of narrow steep gradient informal trails giving access to the beach (Figure 1 and Photo 13). Many of these trails are well establish and are visible in the 1972 aerial photographs. The trails are very steep with gradients between 20% to over 40% and with many segments dropping down the fall line of the bluff. Underlying earth materials are semi lithified silty sand that breaks down with use and is easily eroded where runoff is concentrated. As a result, the trails are deeply eroded with several segments now located within entrenched gullies. Informal discussions with trail users indicate the trails are difficult to navigate during inclement weather. These trails are not sustainable in their current configuration.

Users will continue to use these trails since they provide access to the beach and the most direct access to the coastal bluff trail. The trails at the ravine mouth are constrained by steep slopes, erodible soils, emergent groundwater, stream flow within the ravine and wave runoff erosion which periodically erodes the toe of the bluff and will difficult to upgrade. The trails are also affected by visitor use patterns, which tend to follow opportunistic routes up or down the bluff face.

Trail upgrades are dependent upon the type of access needed, desired level of stability, and funding. BAGG (2006) prepared a geotechnical report and BKF (2006) prepared civil plans addressing the construction of a proposed 4 foot wide beach pathway located at both side of the ravine.

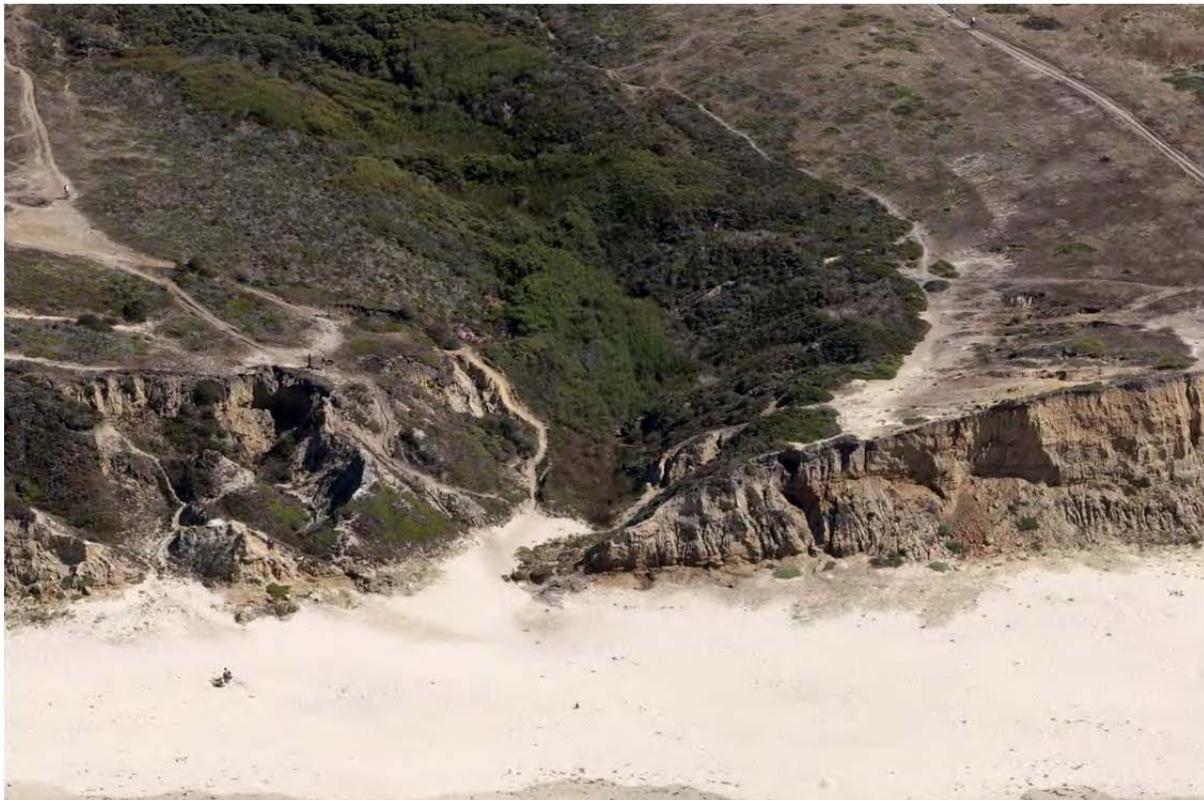


Photo 13: Mouth of Ravine 2
(from California Coastal Records Project, www.californiacoastline.org)

Possible treatment alternatives to address the ravine mouth trail were explored, ranging from retaining the trails as is to rerouting the trail. Of these alternatives, temporary steps are recommended as the best approach for the project site. The alternatives are described below

1. **Retain trails as is:** In this alternative, no work is done and the trails continue to be used without maintenance. This is the least costly solution in the short term but will result in accelerated erosion and trails may become inaccessible at times.
2. **Temporary steps (preferred):** In this alternative, the path is widened and a series of simple wood steps are installed, largely following the existing trail alignment. The steps are constructed from railroad ties (or similar) held in place with rebar or pipe and backfilled with crushed rock. This alternative is similar to that proposed by BAGG (2006) and BKF (2006). The wood steps provide good short-term access but may erode out over time and therefore would require long-term maintenance. More substantial structures involving harden structures (e.g. concrete, rock, etc.) would provide a more permanent pathway but would be much more expensive and may be difficult to permit.
3. **Permanent stairs:** In this alternative a permanent pathway and stairs involving more sustainably construction methods (e.g. concrete, rock riprap, retaining walls, etc). are installed along a new alignment. This would provide longer-term protection but would be more intrusive and as mentioned before unlikely to be permitted.
4. **Trail reroute:** In this alternative the primary trail would be rerouted to have a lower grade which could allow for disability access. Because the trail would cross steep and potentially unstable slopes a series of retaining walls would be required.

3.2.4.2 Inland Road crossing

Review of the inland road crossing is outside the scope of this study. The 1986 aerial photographs show the crossing may have been reconstructed possibly due to damage from the 1982 or 1986 storms.

3.3 DRAINAGE

Surface drainage is primarily by sheet flow across the terrace with concentrated flow occurring within bottom of the ravines and gullies.

Runoff is concentrated along many of the trails that have become rutted with use preventing the water from draining off them. The concentration of runoff along these poorly drained trail segments results in accelerated erosion of the trail tread and can contribute to erosion in nearby gullies.



Photo 14: Photo showing poorly drained and rutted trail tread



Photo 15: Poorly drained and rutted trail discharging into head of gully

As previously mentioned, drainage problems exist on along an old overgrown road that intersects the head of Gully 7. This road parallels the coast about 350 feet in from the coastal bluff. As previously mentioned it is aligned with a “paper road” depicted on San Mateo County Parcel Maps and identified as “Beach Avenue” in the County GIS database. This road is built up slightly on fill with shallow ditches located to either side. The landward ditch appears intercept sheet flow coming off the fields with some of that flow diverted towards Gully 7. Runoff from the road has contributed to over 100 feet of headward gully erosion over a 30 year period between 1993 and 2011. Continued erosion in this gully is likely. The rapid gully growth illustrates the importance of proper road and trail drainage in this area.

There are several wet areas with seasonally ponded water. Where erosion and ponding of water has occurred users often move to the outboard edge to avoid the ruts and wet areas, effectively widening the trail and increasing erosion.

The proposed trail will need to be properly drained to minimize the risk of erosion. Because the underlying soils are easily eroded, it is recommended that the trail be surfaced with aggregate to minimize the potential for rutting. Placement of aggregate will also mitigate the wet trail segments. Rock should be separated from native soils with soil stabilization fabric.

There is a high density of rodent burrows in the project area which have the potential to impact the proposed the trail. As previously mentioned rodent burrows contribute to the development of sinkholes and the expansion of gullies. Experience at the Cowell-Purisima Farms Coastal Trail, located south of the project area, found rodents are able to burrow through compacted base rock and affect the trail tread. This problem tended to be most prevalent in the first year following construction and along trail segments where there was no underlying geotechnical stabilizing fabric. Placing the recommended soil stabilization fabric will minimize the impact of

rodent burrows but not prevent it. The only way to prevent burrows would be to install wire mesh or pave the trail.

Because some of the existing informal trails concentrate runoff and could drain onto the proposed trail, some of these trails will also need to be upgraded. Upgrades may require the import of earth to infill the ruts and level the tread surface with surrounding ground, and the installation of drainage dips. In some areas the nearby trails should be abandoned. Drainage along the old road should also be upgraded to minimize the potential for continued erosion at Gully 7 to undermine the proposed trail.

4.0 RECOMMENDATIONS

The following are preliminary recommendations for northern portion of the trail (Phase 1) and conceptual recommendations for the southern trail segment (Phase 2). See Sheets 1 and 2 for details.

4.1 PHASE 1: NORTHERN TRAIL SEGMENT

4.1.1 SET BACKS

Final trail location is yet to be determined. The follow are recommended minimum setbacks:

- 30 feet from the top edge of the coastal bluff
- 50 feet from the south margin of Ravine 1
- 50 feet from the head of Gully 7
- 25 feet from the edge of all other gullies

4.1.2 TRAIL SURFACING (Preliminary)

Subgrade

- Trail shall be stripped of vegetation and highly organic to soil. The depth of stripping is assumed to be 4 to 6 inches.
- The subgrade shall be scarified to depth of 4 inches, moisture conditioned and compacted to minimum of 90 percent relative compaction. The subgrade shall be compacted 12 inches beyond the edge of the base rock surface.
- Over-excavation may be required in some areas where unsuitable material is encountered.

Base rock

- Base rock shall consist of Class II base rock conforming to the latest Caltrans standards AND be approved by the project geotechnical consultant. It has been our experience that base rock from Pilarcetos or Langley quarries is not as durable for trail use compared to rock obtained from other quarries. For this reason we recommend the project geotechnical consultant source the rock.

- Rock shall be separated from native ground with approved soil stabilization fabric (Miri 500X or equivalent)
- Base rock shall be brought up to native grade with 3% to 5% outslope and compacted to minimum 95% relative compaction.

4.1.3 TRAIL DRAINAGE

- Trail shall constructed to cause minimal disruption to natural drainage patterns and avoid discharging runoff into gullies.
- Trail shall be outsloped 3% to 5%
- Broad reverse grade dips shall be installed at 50 to 100 foot spacings as feasible. Location of drainage dips to be determined by project geotechnical consultant.
- Drainage improvements are also required on many of the side trails. Additional work will be required to determine these locations.

4.1.4 RAVINE 1:

Bridge

- There is a high potential for the existing bridge to be undermined within the next 10 to 20 years.
- Remedial measures are required to prevent ongoing ravine erosion from undermining the bridge and adjacent trails. This will most likely require placement of engineered fill or rock to stabilize the eroding nickpoint and drain ground water, and installation of a large diameter culvert to convey runoff down to the breach.
- Additional work will be required to develop remedial measures

Trail offset

- For short-term stability the proposed trail should be offset a minimum of 50 feet from the top edge of the ravine before turning and connecting with the bridge.

Ravine wall safety

- The south ravine wall is over 40 feet high and may present a safety hazards to users. A landuse planner should evaluate whether the edge should be fenced off or signs installed to identify the hazard.

4.2 PHASE 2: SOUTHERN TRAIL SEGMENT – CONCEPTUAL RECOMMENDATIONS

4.2.1 GULLY 3

- The proposed trail can cross through either the small grove of cypress trees, following the original old agricultural road or further inland at the east end of the cypress trees. This latter site may be more constrained due to a nearby wet area.
- Install a low puncheon for trail use
- Install an embedded culvert for truck access
- Additional work will be required to develop final treatment prescriptions

4.2.2 GULLY 7

- Offset the trail a minimum of 50 feet from the head and 25 feet from the sides of the gully
- Correct drainage problems along the old agricultural road to prevent runoff from concentrating and diverting to the gully head. Additional work will be required to develop drainage improvement recommendations

4.2.3 RAVINE 9: Ravine Mouth Trail

Trail upgrades are dependent upon the type of access needed, desired level of stability, and funding. The following are possible treatment alternatives:

- **Retain trails as is:**
No treatment alternative
- **Temporary steps:**
Widen trail and install series of wood steps constructed from railroad ties (or similar) held in place with rebar or pipe and backfilled with crushed rock. This alternative is similar to that proposed by BAGG (2006).
- **Permanent stairs:**
Install permanent pathway and stairs involving more sustainable construction methods (e.g. concrete, rock riprap, retaining walls, etc).
- **Trail reroute:**
Reroute trail to have a lower grade to allow for disability access. This will require extensive grading and retaining structures.

5.0 REFERENCES

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6.0 LIMITATIONS

1. The interpretations and conclusions presented in this report are based on a study of inherently limited scope. Observations were qualitatively limited to surface expressions and limited natural and artificial exposures of subsurface materials at and adjacent to the project area. Subsurface sampling and slope stability modeling are beyond the scope of this investigation. For this reason, the conclusions should be considered limited in extent.
2. Recommendations outlined in this report are based on qualitative observations and are designed to minimize the level of potential risk associated with the identified geologic hazards. Any “engineered” structure identified or recommended in this report should be reviewed by a licensed civil or geotechnical engineer as deemed necessary by the landowner. The conclusions and recommendations noted in this report are based on probability and do not imply the site will not possibly be subjected to rainfall, ground failure or seismic shaking so intense that structures or roads will be severely damaged or destroyed.
3. This written report comprises all our professional opinions, conclusions and recommendations. This report supersedes any previous oral or written communications concerning our opinions, conclusions and recommendations.
4. This report is issued with the understanding that it is the duty and responsibility of the client, or his or her representative or agent, to ensure that the recommendations contained herein are fully implemented.
5. The findings of this report are valid as of the present date. However, changes in the conditions of a property or landform can occur with the passage of time, whether due to natural processes or to the works of man, on this or adjacent properties. In addition, changes in applicable or appropriate standards occur whether they result from legislation or the broadening of knowledge. Accordingly, the findings of this report may be invalidated, wholly or partially, by changes outside my control.

I would like to thank you for this opportunity to assist you in your land use planning. If you have any questions or desire additional clarification, please do not hesitate to contact me.

Sincerely,

Timothy C. Best
Engineering Geologist #1682

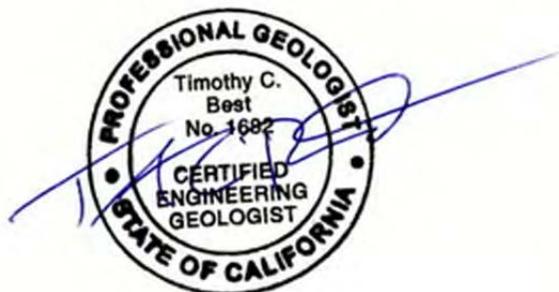


Exhibit 2: CEQA Documents: Initial Study and Mitigated Negative Declaration



1625 Shattuck Avenue, Suite 300
Berkeley, California 94709
510.848.3815



PLACEWORKS



ATTACHMENT 4



State of Cal
DEPARTMENT OF FISH AND WILDLIFE
Bay Delta Region
7329 Silverado Trail
Napa, CA 94558
(707) 944-5500
www.wildlife.ca.gov

BROWN JR., Governor
CHARLTON H. BONHAM, Director



April 17, 2014

PLANNING DEPT

APR 18 2014

RECEIVED

Mr. Scott Phillips, Associate Planner
City of Half Moon Bay
501 Main Street
Half Moon Bay, CA 94019

Dear Mr. Phillips:

Subject: Wavecrest Coastal Trail, Mitigated Negative Declaration, SCH #2014032063,
City of Half Moon Bay, San Mateo County

This letter is intended to summarize the California Department of Fish and Wildlife's (CDFW) concerns regarding the natural resource impacts associated with the subject project. CDFW is providing comments on the Mitigated Negative Declaration (MND) as a Trustee Agency pursuant to the California Environmental Quality Act (CEQA) Section 15386. As trustee for the State's fish and wildlife resources, CDFW has jurisdiction over the conservation, protection, and management of the fish, wildlife, native plants, and the habitat necessary for biologically sustainable populations of such species for the benefit and use by the people of California.

Project Location and Description

The proposed Wavecrest Coastal Trail Project (Project) is located on the 50-acre Wavecrest Coastal Land Trust (CLT) Property in the City of Half Moon Bay. The Wavecrest CLT Property is approximately at the mid-point of the Half Moon Bay coastline, south of Seymour Street and three-quarters of a mile west of Highway 1.

There are several unofficial dirt trails on the Wavecrest CLT Property that have been made by recreationalists. The proposed Project would entail decommissioning these existing dirt trails and constructing an official 1,698-linear-foot multi-use trail to provide public access through the Project area and be a formal segment of the California Coastal Trail. Project activities will include construction of an 8-foot-wide trail with compacted rock, approximately 342 linear feet of 6-foot-wide spur trails to coastal overlooks and through a Monterey cypress grove, a 12-foot-long puncheon and a 58-foot-long boardwalk near wetlands to elevate the trail; and installation of a 42-inch-tall split-rail fencing and signs to provide directions at each trail end. Restoring the informal trail areas will include ripping and reseeding with a native seed mix collected from within five miles of the restoration site, removal of non-native plants, weeding, mowing, and raking.

Biological Resource Impacts

The MND shows that the proposed new trail and walkways will be located near aquatic habitat such as wetlands. CDFW recommends this section of the MND be revised to specify the amount of fill that would be placed within the wetlands during installation of the walkways and puncheon. CDFW is concerned that wetland habitat may be fully or partially lost if walkways will have support structures or abutments built into them. CDFW recommends that all potential impacts to wetlands be fully analyzed in the MND, and minimization and compensatory mitigation included to offset any impacts to wetlands.

Mr. Scott Phillips
April 17, 2014
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CDFW advises that, for any activity that will divert or obstruct the natural flow, or substantially change or use any material from the bed, bank or channel (which may include associated riparian, wetland and pond habitat) of a river or stream (ephemeral or perennial), CDFW may require a Lake and Streambed Alteration Agreement (LSAA), pursuant to Section 1600 *et seq.* of the Fish and Game Code. Issuance of an LSAA is subject to CEQA. CDFW, as a Responsible Agency under CEQA, will consider the MND for the proposed project. The MND should fully identify the potential impacts to the stream, wetland and/or riparian resources and provide adequate avoidance, mitigation, monitoring and reporting commitments for completion of the LSAA. To obtain information about the LSAA notification process, please access our website at <http://www.dfg.ca.gov/habcon/1600/> or to request a notification package, contact CDFW's Bay Delta Regional Office at (707) 944-5500.

Special-Status Species

The MND includes several avoidance and minimization measures, and compensatory mitigation for impacts to special-status plant and wildlife species that cannot be avoided (BIO-1 through BIO-7), and includes a Mitigation and Monitoring Plan. CDFW has the following recommendations to include in the MND:

The MND correctly identifies the San Francisco garter snake (SFGS) as a fully protected species. Because SFGS is fully protected under Section 5050 of the Fish and Game Code, take of the species cannot be authorized by CDFW. Take is defined in Section 86 of the Fish and Game Code, as "to hunt, pursue, catch, capture, or kill, or to attempt to hunt, pursue, catch, capture, or kill." Take includes handling and relocation of SFGS. CDFW recommends revising some of the measures from BIO-3A through BIO-3G to ensure take of SFGS is completely avoided during Project activities, including handling or relocating SFGS.

BIO-3D states exclusion fencing will be checked a minimum of one time per week. CDFW recommends that the MND specify that a CDFW and U.S. Fish and Wildlife Service (USFWS) approved biological monitor will be on-site during all construction activities and the exclusion fence and Project area will be checked daily, prior to construction work, to ensure the fence is still intact and SFGS have not entered the area.

BIO-3E states that pipes, culverts and other structures where SFGS can hide will be capped or inspected the next morning. BIO-3E also states if SFGS are found in these stored structures, a permitted biologist with CDFW approval to move snakes will relocate the snake if it doesn't move on its own accord. To prevent SFGS from being attracted to these structures, CDFW recommends these items be stored inside a staging area encircled by a CDFW-approved exclusion fence.

CDFW also recommends the following be incorporated into these mitigation measures:

- Vegetation removed will be placed directly into a disposal vehicle and removed from the site. Vegetation will not be piled on the ground unless it is later transferred, piece by piece, under the direct supervision of the USFWS and CDFW approved biological monitor.
- Any vehicle parked on-site for more than 30 minutes will be inspected by the biological monitor before it is moved to ensure that SFGS have not moved under the vehicle. Prior to being used, parking areas must be checked by the CDFW and USFWS approved biological monitor.

Mr. Scott Phillips
April 17, 2014
Page 3

The San Francisco dusky-footed woodrat (SFDW) has the potential to be present on the Project site. Measure BIO-5 may be considered as an avoidance or minimization measure for SFDW and should not be considered as mitigation for any potential impacts of the project to SFDW. Mitigation generally consists of protecting an appropriately sized area and/or enhancing the remaining habitat to maintain or increase the local population. Measure BIO-5 describes flushing out SFDW and destroying nests for those nests that cannot be avoided during construction. CDFW does not recommend this practice. SFDW individuals need to be physically relocated to a temporary shelter while being displaced; otherwise, they are an easy target for predators and are likely to be killed. CDFW has several examples of how to provide temporary shelter, trapping and relocating SFDW, enhancing the habitat, and other minimization and mitigation measures for this species. CDFW recommends that a pre-construction survey for SFDW be conducted within two weeks prior to the start of Project activities. If SFDW are found, an effective mitigation and monitoring plan should be prepared to compensate for all potential impacts of the project on SFDW. CDFW staff is available to assist in preparing the mitigation and monitoring plan for SFDW.

The MND states the Choris' popcorn flower (*Plagiobothrys chorisianus* var. *chorisianus*) is known to occur on the Wavecrest CLT Property and a high potential exists for other sensitive plants to occur. Choris' popcorn flower is designated by the California Native Plant Society as 1B.2 (rare, threatened, or endangered in California and elsewhere). In order to determine the type and extent of sensitive plant species present within the Project area, CDFW recommends additional rare plant surveys be conducted prior to Project activities in accordance with CDFW protocols for surveying and evaluating impacts to rare plants. The CDFW survey protocols are available at http://dfg.ca.gov/biogeodata/cnddb/plants_and_animals.asp. CDFW recommends that impacts to sensitive plants be avoided by establishing an appropriately-sized buffer surrounding all sensitive plant populations that may be documented within the Project area. If impacts to sensitive plant species cannot be completely avoided, these impacts should be fully analyzed before finalizing the MND and mitigation for loss of these plants should be included in the mitigation and monitoring plan.

Conclusion

CDFW appreciates the opportunity to provide comments on the MND. If you have any questions, please contact Ms. Suzanne DeLeon, Environmental Scientist, at (831) 440-9433 or suzanne.deleon@wildlife.ca.gov; or Ms. Brenda Blinn, Senior Environmental Scientist (Supervisory), at (707) 944-5541 or brenda.blinn@wildlife.ca.gov.

Sincerely,



Scott Wilson
Regional Manager
Bay Delta Region

cc: State Clearinghouse

ATTACHMENT 5



MEMORANDUM

DATE April 29, 2014
TO Bruce Ambo and Scott Phillips
City of Half Moon Bay
FROM Kyle Simpson
SUBJECT Wavecrest Coastal Trail IS/MND - Responses to Public Comments

This memorandum provides responses to comments received on the Public Review Draft of the Initial Study/Mitigated Negative Declaration (IS/MND) for the Wavecrest Coastal Trail Project. The IS/MND was circulated for a 30-day period beginning on March 20, 2014 and concluding on April 18, 2014.

Although CEQA Statute and CEQA Guidelines do not require a Lead Agency to prepare written responses to comments received on an IS/MND (as contrasted with a Draft Environmental Impact Report [see State CEQA Guidelines Section 15088]), the City of Half Moon Bay has elected to prepare the following written responses with the intent of conducting a comprehensive and meaningful evaluation of the proposed Project.

During the public review period, one letter was received, and it is attached in its entirety to this memorandum. Within the comment letter, several individual comments have been identified. The number designations in this memorandum are correlated to the bracketed and identified portions of the letter.

Responses to Comments on the IS/MND

California Department of Fish and Wildlife (CDFW), April 17, 2014.

- Response 1: This comment provides an introduction to the comment letter and describes the Project and location of the Project. This comment does not question the adequacy of the analysis included in the IS/MND, and thus, no response is required.
- Response 2: This comment expresses concern regarding the proximity at which the proposed trail alignment is located to wetlands, and recommends that the Biological Resources section of the IS/MND include the specific amount of fill that would be placed within the wetlands during installation of project components. The comment further recommends that all potential impacts to wetlands be fully analyzed in the IS/MND and minimization and compensatory mitigation be included to offset any impacts to wetlands. As included in the Project Description, the trail alignment and construction activities would avoid all wetlands. Specifically, the Project Description states that



the primary alignment of the trail would wrap around the outside of the grove, while avoiding the seasonal wetland to the south to the extent possible. This alignment would require a boardwalk or puncheon near the wetland area. The boardwalk would be constructed outside of the seasonal wetlands, and no impacts, outside of those mitigated through the use of construction-period Best Management Practices are necessary. In order to clarify the Project Description, the following text included in Section B.b, Trail Alignment, has been modified as shown below. No further response is required.

- **Avoidance of Gully and Seasonal Wetlands.** The primary alignment would wrap around the outside of the grove, while avoiding the seasonal wetland to the south ~~to the extent possible~~. This alignment would require a boardwalk or puncheon near the wetland area. An additional spur trail would connect underneath the existing grove. Since the existing clearance is not adequate for a multi-use trail, the spur trail would be limited to pedestrian use to avoid the need for significant limb removal.

Response 3: This comment states that CDFW may require a Lake and Streambed Alteration Agreement for any activity that would divert or obstruct the natural flow, or substantially change or use any material from the bed, bank or channel of a river or stream. As included in the Project Description and discussed in Response 2, the trail alignment and construction activities would avoid all wetlands and thus, no Lake and Streambed Alteration Agreement would be required. No further response is required.

Response 4: This comment provides an introduction to the following six comments (Comments 5 through 10). This comment does not question the adequacy of the analysis included in the IS/MND, and thus, no response is required.

Response 5: This comment states that the IS/MND correctly identifies the San Francisco garter snake (SFGS) as a fully protected species. The comment continues by stating that SFGS is fully protected under Section 5050 of the Fish and Game Code, take of the species, which is defined in Section 86 of the Fish and Game Code as "to hunt, pursue, catch, capture, or kill or to attempt to hunt, pursue, catch, capture, or kill." The comment recommends that mitigation measures related to SFGS be revised to ensure that take of SFGS is completely avoid during Project activities. The comment does not specifically identify which mitigation measures should be revised.

Mitigation Measures BIO-3B through BIO-3G address potential impacts to SFGS and do not propose any take of SFGS. Specifically, Mitigation Measure BIO-3B states that if any SFGS are located within the Project site immediately before the onset of construction activities, the SFGS shall be allowed to leave the work on their own.



The mitigation measure does not recommend handling or otherwise forcibly removing any SFGS located within the Project site.

Mitigation Measures BIO-3C through BIO-3G specify the actions that would be required to ensure avoidance of SFGS, including exclusion fencing around the perimeter of the Limit of Work and other precautions (i.e. capping stored pipes and site inspections for trapped animals). If a SFGS is found within the project area, Mitigation Measures BIO-3E and BIO-3F specifically state that the animal should be allowed to passively leave the work area on its own. In addition, the mitigation measures further state that if a SFGS is trapped or otherwise located within the fenced area a SFGS-permitted biologist shall move the individual(s) with approval from U.S. Fish and Wildlife Service (USFWS) and CDFW. Because the mitigation measures do not recommend or allow for take without the approval of USFWS and CDFW, the mitigation measures are adequate and revisions are not necessary. No further response is required.

Response 6: This comment recommends that a CDFW- and USFWS-approved biological monitor be on-site during all construction activities and the exclusion fence and the Project site will be checked daily prior to construction of work to ensure that the fence is still intact and SFGS have not entered the site. As a result of this recommendation, Mitigation Measures BIO-1B and BIO-3B has been amended to provide clarity, as shown below. Changes to Mitigation Measure BIO-3D are shown in Response 8. No further response is required.

Mitigation Measure BIO-1B: ~~The contractor or applicant shall designate a person to monitor~~ A USFWS- and CDFW-approved biological monitor shall be on-site to ensure compliance with all minimization measures. The on-site monitor(s) will remain on-site for the duration of the proposed Project, including vegetation removal, grading and cleanup activities.

Mitigation Measure BIO-3B: ~~A qualified biologist~~ A USFWS- and CDFW-approved biological monitor shall survey the work site immediately before the onset of ground clearing or construction activities. Any SFGS shall be allowed to leave the work area on their own, and shall be monitored as practical by the ~~biologist~~ USFWS- and CDFW-approved biological monitor to ensure they do not reenter the work area.

Response 7: This comment recommends that, in order to prevent SFGS from being attracted to pipes, culverts or other structures, those items should be stored in a staging area encircled by a CDFW-approved exclusion fence. Mitigation Measure BIO-3E has been amended as shown in Response 8. No further response is required.

Response 8: This comment recommends that applicable mitigation measures incorporate the following requirements:



- Vegetation removed will be placed directly into a disposal vehicle and removed from the site. Vegetation will not be piled on the ground unless it is later transferred, piece by piece, under the direct supervision of the USFWS and CDFW approved biological monitor.
- Any vehicle parked on-site for more than 30 minutes will be inspected by the biological monitor before it is moved to ensure that SFGS have not moved under the vehicle. Prior to being used, parking areas must be checked by the CDFW and USFWS approved biological monitor.

In accordance with these recommendations, Mitigation Measures BIO-3D and BIO-3E have been modified as shown below. No further response is required.

Mitigation Measure BIO-3D: Wildlife exclusion fencing will be erected and maintained around the perimeter of the Limit of Work, including the Project staging areas and access route, to prevent SFGS and CRLF from entering the site. Any wetland areas within the Limit of Work would also be protected by wildlife exclusion fencing. Installation of the fence will be performed under the supervision of a USFWS- and CDFW-approved ~~biologist~~biological monitor. Once the fencing is installed, workers will clear all vegetation within this area with belt driven weed whackers or other hand tools to a height of 4 to 6 inches. Vegetation removed will be placed directly into a disposal vehicle and removed from the site. Vegetation will not be piled on the ground unless it is later transferred, piece by piece, under the direct supervision of the USFWS- and CDFW-approved biological monitor. Following the removal of vegetation, preconstruction surveys will be performed prior to the start of any ground breaking activities by a USFWS- and CDFW-approved ~~biologist~~biological monitor. Fencing will be equipped with one-way escape funnels. Fencing will extend a minimum of 36 inches above ground level and will be buried 4 to 6 inches into the ground. Exclusion fencing will be checked ~~a minimum of one time per week~~daily, prior to construction work, by a USFWS- and CDFW-approved biological monitors for the duration of the Project to identify problems or weaknesses in fence integrity and function, and to ensure that no SFGS have entered the area. All compromised portions will be repaired and/or replaced immediately.

Mitigation Measure BIO-3E: Because CRLF and SFGS may take refuge in cavity-like and den-like structures such as pipes and may enter stored pipes and become trapped, all construction pipes, culverts, or similar structures that are stored at a construction site for one or more overnight periods will be stored in a staging area encircled by a CDFW-approved exclusion fence, and either securely capped prior to storage or thoroughly inspected by the on-site monitor and/or the construction foreman/manager for these animals before the pipe is subsequently buried, capped, or otherwise used or moved in any way. If a CRLF is discovered inside a pipe by the on-site monitor or anyone else, a qualified



biologist shall move the animal to a safe nearby location and monitor it until it is determined that it is not imperiled by predators or other dangers. CRLF will not be removed from the vicinity or remain in captivity overnight unless in the care of a certified wildlife veterinarian. If a SFGS is found, it should be allowed to passively leave the work area on its own, as determined by the on-site monitor. Any vehicle parked on-site for more than 30 minutes will be inspected by the biological monitor before it is moved to ensure that SFGS have not moved under the vehicle. Prior to being used, parking areas must be checked by the CDFW- and USFWS-approved biological monitor. If a CRLF or SFGS is trapped, a CRLF- or SFGS-permitted biologist shall move the individual(s) with permission from USFWS and ~~CDFG~~CDFW. If SFGS are discovered, the snake may be relocated by a permitted biologist and with USFWS and ~~CDFG~~CDFW approval.

- Response 9: This comment states that Mitigation Measure BIO-5 should be considered as an avoidance or minimization measure for San Francisco dusky-footed woodrat (SFDW), but it should not be considered mitigation for any potential impacts of the Project on SFDW. Based on consultation with WRA Environmental Associates, the City believes that Mitigation Measure BIO-5, as included in the IS/MND, represents the industry-standard for mitigating potential impacts to SFDW, and Mitigation Measure BIO-5 is adequate to reduce the potential impacts to a less-than-significant level. No further response is required.
- Response 10: This comment recommends that additional rare plant surveys be conducted prior to Project activities in accordance with CDFW protocols. Although rare plant surveys were conducted during spring and summer of 2013, based on concerns raised by CDFW, Mitigation Measure BIO-7 has been amended as shown below. No further response is required.
- Mitigation Measure BIO-7:** Prior to initiation of construction activities and in accordance with CDFW survey protocols, rare plant surveys shall be conducted within the Project Area. If it is determined that construction-related activities will impact Choris' popcorn flower or other rare plants within the Project site, a mitigation plan for protecting this species should be developed. Mitigation measures may include additional avoidance measures, salvaging and transplanting of plants within disturbance areas, and collection and storage of seeds for future re-establishment efforts.
- Response 11: This comment provides a closing to the comment letter. This comment does not question the adequacy of the analysis included in the IS/MND, and thus, no response is required.



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State of California – The Natural Resources Agency
DEPARTMENT OF FISH AND WILDLIFE
Bay Delta Region
7329 Silverado Trail
Napa, CA 94558
(707) 944-5500
www.wildlife.ca.gov

EDMUND G. BROWN JR., Governor
CHARLTON H. BONHAM, Director



April 17, 2014

Mr. Scott Phillips, Associate Planner
City of Half Moon Bay
501 Main Street
Half Moon Bay, CA 94019

Dear Mr. Phillips:

Subject: Wavecrest Coastal Trail, Mitigated Negative Declaration, SCH #2014032063,
City of Half Moon Bay, San Mateo County

This letter is intended to summarize the California Department of Fish and Wildlife's (CDFW) concerns regarding the natural resource impacts associated with the subject project. CDFW is providing comments on the Mitigated Negative Declaration (MND) as a Trustee Agency pursuant to the California Environmental Quality Act (CEQA) Section 15386. As trustee for the State's fish and wildlife resources, CDFW has jurisdiction over the conservation, protection, and management of the fish, wildlife, native plants, and the habitat necessary for biologically sustainable populations of such species for the benefit and use by the people of California.

Project Location and Description

The proposed Wavecrest Coastal Trail Project (Project) is located on the 50-acre Wavecrest Coastal Land Trust (CLT) Property in the City of Half Moon Bay. The Wavecrest CLT Property is approximately at the mid-point of the Half Moon Bay coastline, south of Seymour Street and three-quarters of a mile west of Highway 1.

There are several unofficial dirt trails on the Wavecrest CLT Property that have been made by recreationalists. The proposed Project would entail decommissioning these existing dirt trails and constructing an official 1,698-linear-foot multi-use trail to provide public access through the Project area and be a formal segment of the California Coastal Trail. Project activities will include construction of an 8-foot-wide trail with compacted rock, approximately 342 linear feet of 6-foot-wide spur trails to coastal overlooks and through a Monterey cypress grove, a 12-foot-long puncheon and a 58-foot-long boardwalk near wetlands to elevate the trail; and installation of a 42-inch-tall split-rail fencing and signs to provide directions at each trail end. Restoring the informal trail areas will include ripping and reseeding with a native seed mix collected from within five miles of the restoration site, removal of non-native plants, weeding, mowing, and raking.

Biological Resource Impacts

The MND shows that the proposed new trail and walkways will be located near aquatic habitat such as wetlands. CDFW recommends this section of the MND be revised to specify the amount of fill that would be placed within the wetlands during installation of the walkways and puncheon. CDFW is concerned that wetland habitat may be fully or partially lost if walkways will have support structures or abutments built into them. CDFW recommends that all potential impacts to wetlands be fully analyzed in the MND, and minimization and compensatory mitigation included to offset any impacts to wetlands.

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CDFW advises that, for any activity that will divert or obstruct the natural flow, or substantially change or use any material from the bed, bank or channel (which may include associated riparian, wetland and pond habitat) of a river or stream (ephemeral or perennial), CDFW may require a Lake and Streambed Alteration Agreement (LSAA), pursuant to Section 1600 *et seq.* of the Fish and Game Code. Issuance of an LSAA is subject to CEQA. CDFW, as a Responsible Agency under CEQA, will consider the MND for the proposed project. The MND should fully identify the potential impacts to the stream, wetland and/or riparian resources and provide adequate avoidance, mitigation, monitoring and reporting commitments for completion of the LSAA. To obtain information about the LSAA notification process, please access our website at <http://www.dfg.ca.gov/habcon/1600/> or to request a notification package, contact CDFW's Bay Delta Regional Office at (707) 944-5500.

3

Special-Status Species

The MND includes several avoidance and minimization measures, and compensatory mitigation for impacts to special-status plant and wildlife species that cannot be avoided (BIO-1 through BIO-7), and includes a Mitigation and Monitoring Plan. CDFW has the following recommendations to include in the MND:

4

The MND correctly identifies the San Francisco garter snake (SFGS) as a fully protected species. Because SFGS is fully protected under Section 5050 of the Fish and Game Code, take of the species cannot be authorized by CDFW. Take is defined in Section 86 of the Fish and Game Code, as "to hunt, pursue, catch, capture, or kill, or to attempt to hunt, pursue, catch, capture, or kill." Take includes handling and relocation of SFGS. CDFW recommends revising some of the measures from BIO-3A through BIO-3G to ensure take of SFGS is completely avoided during Project activities, including handling or relocating SFGS.

5

BIO-3D states exclusion fencing will be checked a minimum of one time per week. CDFW recommends that the MND specify that a CDFW and U.S. Fish and Wildlife Service (USFWS) approved biological monitor will be on-site during all construction activities and the exclusion fence and Project area will be checked daily, prior to construction work, to ensure the fence is still intact and SFGS have not entered the area.

6

BIO-3E states that pipes, culverts and other structures where SFGS can hide will be capped or inspected the next morning. BIO-3E also states if SFGS are found in these stored structures, a permitted biologist with CDFW approval to move snakes will relocate the snake if it doesn't move on its own accord. To prevent SFGS from being attracted to these structures, CDFW recommends these items be stored inside a staging area encircled by a CDFW-approved exclusion fence.

7

CDFW also recommends the following be incorporated into these mitigation measures:

- Vegetation removed will be placed directly into a disposal vehicle and removed from the site. Vegetation will not be piled on the ground unless it is later transferred, piece by piece, under the direct supervision of the USFWS and CDFW approved biological monitor.
- Any vehicle parked on-site for more than 30 minutes will be inspected by the biological monitor before it is moved to ensure that SFGS have not moved under the vehicle. Prior to being used, parking areas must be checked by the CDFW and USFWS approved biological monitor.

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The San Francisco dusky-footed woodrat (SFDW) has the potential to be present on the Project site. Measure BIO-5 may be considered as an avoidance or minimization measure for SFDW and should not be considered as mitigation for any potential impacts of the project to SFDW. Mitigation generally consists of protecting an appropriately sized area and/or enhancing the remaining habitat to maintain or increase the local population. Measure BIO-5 describes flushing out SFDW and destroying nests for those nests that cannot be avoided during construction. CDFW does not recommend this practice. SFDW individuals need to be physically relocated to a temporary shelter while being displaced; otherwise, they are an easy target for predators and are likely to be killed. CDFW has several examples of how to provide temporary shelter, trapping and relocating SFDW, enhancing the habitat, and other minimization and mitigation measures for this species. CDFW recommends that a pre-construction survey for SFDW be conducted within two weeks prior to the start of Project activities. If SFDW are found, an effective mitigation and monitoring plan should be prepared to compensate for all potential impacts of the project on SFDW. CDFW staff is available to assist in preparing the mitigation and monitoring plan for SFDW.

9

The MND states the Choris' popcorn flower (*Plagiobothrys chorisianus* var. *chorisianus*) is known to occur on the Wavecrest CLT Property and a high potential exists for other sensitive plants to occur. Choris' popcorn flower is designated by the California Native Plant Society as 1B.2 (rare, threatened, or endangered in California and elsewhere). In order to determine the type and extent of sensitive plant species present within the Project area, CDFW recommends additional rare plant surveys be conducted prior to Project activities in accordance with CDFW protocols for surveying and evaluating impacts to rare plants. The CDFW survey protocols are available at http://dfg.ca.gov/biogeodata/cnddb/plants_and_animals.asp. CDFW recommends that impacts to sensitive plants be avoided by establishing an appropriately-sized buffer surrounding all sensitive plant populations that may be documented within the Project area. If impacts to sensitive plant species cannot be completely avoided, these impacts should be fully analyzed before finalizing the MND and mitigation for loss of these plants should be included in the mitigation and monitoring plan.

10

Conclusion

CDFW appreciates the opportunity to provide comments on the MND. If you have any questions, please contact Ms. Suzanne DeLeon, Environmental Scientist, at (831) 440-9433 or suzanne.deleon@wildlife.ca.gov; or Ms. Brenda Blinn, Senior Environmental Scientist (Supervisory), at (707) 944-5541 or brenda.blinn@wildlife.ca.gov.

11

Sincerely,



Scott Wilson
Regional Manager
Bay Delta Region

cc: State Clearinghouse

City of Half Moon Bay - Wavecrest Crest Trail Project Mitigation Monitoring and Reporting Program

ATTACHMENT 6

Environment Checklist	Impact Summary	Mitigation Measure	Monitoring and Reporting Program		Completion Status (if Complete enter date)
			Monitoring and Reporting Actions	Implementation Schedule	
<p>AIR QUALITY AND GREENHOUSE GASES</p> <p>iii. b. Construction emissions violate air quality standard or contribute substantially to an existing or projected air quality violation.</p>	<p>MM AIR-1 - The Project contractor shall prepare a dust control plan prior to commencement of construction activities. Specification of the approved dust control measures shall be included in all construction documents. The dust control plan shall include all applicable measures listed below:</p> <ul style="list-style-type: none"> - Water all active construction areas at least twice daily. - Grading and construction equipment shall be shut down when not in use. - Construction activities shall not occur during windy periods. - Exposed soil shall be periodically sprinkled to retard dust; no City water shall be used for this. - Water all active construction areas at least twice daily. - Cover all trucks hauling soil, sand, and other loose materials or require all trucks to maintain at least 2 feet of space from the top of the holding area. - Apply water three times daily on all unpaved access roads, parking areas, and staging areas at construction sites. - Sweep daily (preferably with water sweepers) all paved access roads, parking areas, staging areas at construction sites, and adjacent public streets if soil material is visible. - Hydroseed or apply soil stabilizers (non-toxic) to inactive construction areas. - Enclose, cover, water twice daily, or apply soil stabilizers (non-toxic) to exposed stockpiles (dirt, sand, etc.). - Limit traffic speeds on unpaved roads to 15 miles per hour (mph). - Replant vegetation in disturbed areas as quickly as possible. - To minimize combustive emissions from construction equipment, internal combustive engines should be idled at a minimum and properly maintained and operated. 	<p>1) Include requirement on any project plans and/or specifications.</p> <p>2) City of Half Moon Bay Building Department to conduct inspection during construction to ensure compliance.</p>	<p>Prior to commencement of construction activities / During construction</p>	<p>City of Half Moon Bay Planning Department City of Half Moon Bay Building Department</p>	
<p>BIOLOGICAL RESOURCES</p> <p>iv. a. Impacts to sensitive species and habitats.</p>	<p>MM BIO-1A - Prior to the start of groundbreaking activities, all construction personnel will receive training on listed species and their habitats by a qualified biologist. The importance of these species and their habitat will be described to all employees as well as the minimization and avoidance measures that are to be implemented as part of the Project. An educational brochure containing color photographs of all listed species in the work area(s) will be distributed to all employees working within the Project Area(s). The original list of employees who attend the training sessions will be maintained by the applicant and be made available for review by the USFWS and the CDFW upon request.</p>	<p>1) Training to be determined by a qualified biologist.</p> <p>2) Review contract specifications and retain for administrative record.</p>	<p>Prior to commencement of construction activities</p>	<p>City of Half Moon Bay Planning Department</p>	
<p>iv. a. Impacts to sensitive species and habitats.</p>	<p>MM BIO-1B - A USFWS- and CDFW-approved biological monitor will be on-site to ensure compliance with all minimization measures. The on-site monitor(s) will remain on-site for the duration of the proposed Project, including vegetation removal, grading and cleanup activities.</p>	<p>1) Review contract specifications and retain for administrative record.</p> <p>2) City of Half Moon Bay Building Department to conduct inspection during construction to ensure compliance.</p>	<p>During construction</p>	<p>City of Half Moon Bay Planning Department City of Half Moon Bay Building Department</p>	
<p>iv. a. Impacts to sensitive species and habitats.</p>	<p>MM BIO-1C - Designated construction staging areas will be utilized as the staging areas for the trail construction activities. All vehicles associated with project activities will be clustered within these areas at the end of each work day or when not in use to minimize habitat disturbance and water quality degradation. Fueling and maintenance of equipment will be conducted off-site if practicable, and at least 50 feet from any wetland.</p>	<p>Review contract specifications and retain for administrative record.</p>	<p>During construction</p>	<p>City of Half Moon Bay Planning Department</p>	
<p>iv. a. Impacts to sensitive species and habitats.</p>	<p>MM BIO-1D - No trash shall be deposited on the site during construction activities. All trash shall be placed in trash receptacles with secure lids stored in vehicles and removed nightly from the Project Area.</p>	<p>1) Review contract specifications and retain for administrative record.</p> <p>2) City of Half Moon Bay Building Department to conduct inspection during construction to ensure compliance.</p>	<p>During construction</p>	<p>City of Half Moon Bay Planning Department City of Half Moon Bay Building Department</p>	

Environmental Checklist	Impact Summary	Mitigation Measure	Monitoring and Reporting Program		Completion Status (if Complete enter date)
			Monitoring and Reporting Actions	Implementation Schedule	
IV.a.	Impacts to nesting birds.	<p>MM BIO-2A - Construction, including the removal of vegetation and the arrival of motor vehicles and equipment, shall occur only outside of nesting season (from September to January). This would reduce impacts to nesting birds, including raptors, to less than significant.</p> <p>MM BIO-3A - Immediately before the onset of construction or vegetation removal, a qualified biologist shall survey the work site. If California red-legged frog, tadpoles, or eggs are found, the approved biologist shall contact the USFWS to determine if moving any of these life-stages is appropriate. If the USFWS approves moving animals, only the approved biologist will participate in activities associated with the capture, handling, and monitoring California red-legged frog, and be given reasonable time to do so.</p>	<p>Include requirement on any project plans and/or specifications.</p> <p>1) Survey methods will be submitted to and approved by CDFW prior to commencement of surveys.</p> <p>2) The qualified biologist will be approved by CDFW within 30-days of initiating surveys.</p> <p>3) Qualified biologist will complete pre-construction surveys within 48-hrs of planned start of work activities. A survey report containing survey methods and results will be submitted to CDFW (as above) and the City Planning Department prior to the start of work.</p> <p>4) If CRLF are observed during the survey CDFW and the City Planning Department will be notified immediately and the approved biologist, with USFWS approval, will move the animals.</p>	During construction	City of Half Moon Bay Planning Department
IV.a.	Impacts to California red-legged frog.		<p>1) Survey methods will be submitted to and approved by CDFW prior to commencement of surveys.</p> <p>2) The qualified biologist will be approved by CDFW within 30-days of initiating surveys.</p> <p>3) Qualified biologist will complete pre-construction surveys within 48-hrs of planned start of work activities. A survey report containing survey methods and results will be submitted to CDFW (as above) and the City Planning Department prior to the start of work.</p> <p>4) If CRLF are observed during the survey CDFW and the City Planning Department will be notified immediately and the approved biologist, with USFWS approval, will move the animals.</p>	Pre-construction	City of Half Moon Bay Planning Department
IV.a.	Impacts to San Francisco garter snake.	<p>MM BIO-3B - A USFWS- and CDFW-approved biological monitor shall survey the work site immediately before the onset of ground clearing or construction activities. Any SFGS shall be allowed to leave the work area on their own, and shall be monitored as practical by the USFWS- and CDFW-approved biological monitor to ensure they do not reenter the work area.</p>	<p>1) Survey methods will be submitted to and approved by CDFW prior to commencement of surveys.</p> <p>2) The qualified biologist will be approved by CDFW within 30-days of initiating surveys.</p> <p>3) Qualified biologist will complete pre-construction surveys within 48-hrs of planned start of work activities. A survey report containing survey methods and results will be submitted to CDFW (as above) and the City Planning Department prior to the start of work.</p> <p>4) If SFGS are observed during the survey, CDFW and the City Planning Department will be notified immediately and any SFGS will be allowed to leave the work area.</p> <p>5) The qualified biologist will monitor the work area to ensure SFGS do not reenter the work area.</p>	Pre-construction; During construction	City of Half Moon Bay Planning Department

Environmental Checklist	Impact Summary	Mitigation Measure	Monitoring and Reporting Program			Completion Status (if Complete enter date)
			Monitoring and Reporting Actions	Implementation Schedule	Responsible Agency/Party	
IV.a.	Impacts to California red-legged frog and San Francisco garter snake.	MM BIO-3C - To ensure that the CRLF and SFGS do not get trapped, the contractor will use only tightly woven fiber netting or similar material for erosion control or other purposes. Plastic monofilament netting (erosion control matting), rolled erosion control products or similar material shall not be used in the Project Area because CRLF, SFGS, and other species may become entangled or trapped in it.	1) Include requirement on any project plans and/or specifications. 2) Contractor, crew, or consultant to conduct inspection during construction to ensure compliance. If measures are identified as inadequate the City Planning Department will be notified immediately and restorative measures shall be enacted. Following inspection a report will be submitted to the City Planning Department.	Pre-construction; During construction	City of Half Moon Bay Planning Department	
IV.a.	Impacts to California red-legged frog and San Francisco garter snake.	MM BIO-3D - Wildlife exclusion fencing will be erected and maintained around the perimeter of the Limit of Work, including the Project staging areas and access route, to prevent SFGS and CRLF from entering the site. Any wetland areas within the Limit of Work would also be protected by wildlife exclusion fencing. Installation of the fence will be performed under the supervision of a USFWS- and CDFW-approved biological monitor. Once the fencing is installed, workers will clear all vegetation within this area with bolt driven weed whackers or other hand tools to a height of 4 to 6 inches. Vegetation removed will be placed directly into a disposal vehicle and removed from the site. Vegetation will not be piled on the ground unless it is later transferred, piece by piece, under the direct supervision of the USFWS- and CDFW-approved biological monitor. Following the removal of vegetation, preconstruction surveys will be performed prior to the start of any ground breaking activities by a USFWS- and CDFW-approved biological monitor. Fencing will be equipped with one-way escape funnels. Fencing will extend a minimum of 36 inches above ground level and will be buried 4 to 6 inches into the ground. Exclusion fencing will be checked daily, prior to construction work, by a USFWS- and CDFW-approved biological monitors for the duration of the Project to identify problems or weaknesses in fence integrity and function, and to ensure that no SFGS have entered the area. All compromised portions will be repaired and/or replaced immediately.	1) Include requirement on any project plans and/or specifications. 2) The qualified biologist will be approved by CDFW within 30-days of initiating surveys. 3) Qualified biologist will complete pre-construction surveys within 48-hrs of planned start of work activities. A survey report containing survey methods and results will be submitted to CDFW (as above) and the City Planning Department prior to the start of work. 4) Qualified biologist will complete pre-construction survey within 48-hrs of planned start of work activities to identify problems or weaknesses in fence integrity and function. 5) The biological monitor shall check the exclusion fencing at a minimum of one time per week to identify problems or weaknesses in fence integrity and function.	Pre-construction; During construction	City of Half Moon Bay Planning Department; San Francisco Bay Regional Water Quality Control Board	

Environmental Checklist	Impact Summary	Mitigation Measure	Monitoring and Reporting Program		Completion Status (if Complete enter date)
			Monitoring and Reporting Actions	Implementation Schedule	
IV.a.	Impacts to California red-legged frog and San Francisco garter snake.	<p>MM BIO-3E - Because CRLF and SFGS may take refuge in cavity-like and den-like structures such as pipes and may enter stored pipes and become trapped, all construction pipes, culverts, or similar structures that are stored at a construction site for one or more overnight periods will be stored in a staging area enclosed by a CDFW-approved exclusion fence, and either securely capped prior to storage or thoroughly inspected by the on-site monitor and/or the construction foreman/manager for these animals before the pipe is subsequently buried, capped, or otherwise used or moved in any way. If a CRLF is discovered inside a pipe by the on-site monitor or anyone else, a qualified biologist shall move the animal to a safe nearby location and monitor it until it is determined that it is not impeded by predators or other dangers. CRLF will not be removed from the vicinity or remain in captivity overnight unless in the care of a certified wildlife veterinarian. If a SFGS is found, it should be allowed to passively leave the work area on its own, as determined by the on-site monitor. Any vehicle parked on-site for more than 30 minutes will be inspected by the biological monitor before it is moved to ensure that SFGS have not moved under the vehicle. Prior to being used, parking areas must be checked by the CDFW- and USFWS-approved biological monitor. If a CRLF or SFGS is trapped, a CRLF- or SFGS-permitted biologist shall move the individual(s) with permission from USFWS and CDFW. If SFGS are discovered, the snake may be relocated by a permitted biologist and with USFWS and CDFW approval.</p>	<p>1) Include requirement on any project plans and/or specifications.</p> <p>2) After one or more overnight periods, the biological monitor and/or construction foreman/manager shall thoroughly inspect any construction pipes, culverts, or similar structures.</p> <p>3) If CRLF is discovered inside a pipe, a qualified biologist shall move the animal.</p> <p>4) If a SFGS is found, it should be allowed to passively leave the work area by a qualified biologist.</p> <p>5) If CRLF or SFGS are trapped, a qualified biologist shall move the individual(s) with permission from USFWS and CDFW.</p>	During construction	City of Half Moon Bay Planning Department
IV.a.	Impacts to California red-legged frog and San Francisco garter snake.	<p>MM BIO-3F - To prevent inadvertent trapping of SFGS and CRLF during construction, the on-site monitor and/or construction foreman/manager shall ensure that all excavated, steep-walled holes or trenches more than 1 foot deep are completely covered at the close of each working day by plywood or similar materials, or provided with one or more escape ramps constructed of earth fill or wooden planks and inspected by the on-site biologist. Before such holes or trenches are filled, they will be thoroughly inspected for trapped animals by the onsite biologist and/or construction foreman/manager. If at any time a trapped CRLF or SFGS is discovered by the on-site biologist or anyone else, the animal should be allowed to passively leave the work area on its own, as determined by the onsite biologist. If a CRLF or SFGS is trapped, a CRLF or SFGS permitted biologist shall move the individual(s) with permission from USFWS and CDFW. If SFGS are discovered, the snake may be relocated by a permitted biologist and with USFWS and CDFW approval.</p>	<p>1) Include requirement on any project plans and/or specifications.</p> <p>2) If CRLF is discovered inside a pipe, a qualified biologist shall move the animal.</p> <p>3) If a SFGS is found, it should be allowed to passively leave the work area by a qualified biologist.</p> <p>4) If CRLF or SFGS are trapped, a qualified biologist shall move the individual(s) with permission from USFWS and CDFW.</p>	During construction, as appropriate and necessary.	City of Half Moon Bay Planning Department
IV.a.	Impacts to California red-legged frog and San Francisco garter snake.	<p>MM BIO-3G - Upon completion of construction and restoration, all fencing material will be removed from the site and disposed of properly. If applicable, the applicant will monitor the property according to a USFWS-approved monitoring and management plan.</p>	<p>Include requirement on any project plans and/or specifications.</p>	Post-construction	City of Half Moon Bay Planning Department;
IV.a.	Impacts to monarch butterfly.	<p>MM BIO-4 - If tree removal is occurs between September and March require protocol-level survey for roosting monarch butterfly prior to tree removal. Any positive detection of a roost may require consultation with CDFW on how and when to proceed with construction activities.</p>	<p>Include requirement on any project plans and/or specifications.</p>	During construction	California Department of Fish and Wildlife City of Half Moon Bay Planning Department

Environmental Checklist	Impact Summary	Mitigation Measure	Monitoring and Reporting Program		Completion Status (if Complete enter date)
			Monitoring and Reporting Actions	Implementation Schedule	
IV a.	Impacts to San Francisco dusky-footed woodrat.	<p>MM BIO-5 - A pre-construction survey for San Francisco dusky-footed woodrat sick houses will be conducted, prior to vegetation removal. If sick houses are observed, they should be avoided if possible. If avoidance is not feasible, the houses should be dismantled by hand under the supervision of a biologist. If young are encountered during the dismantling process, the material should be placed back on the house and the house will remain unmolested for two to three weeks in order to give the young enough time to mature and leave the house. After two to three weeks, the nest dismantling process may begin again. Nest material will be moved to suitable adjacent areas (riparian, woodland, scrub) that will not be impacted.</p>	<p>1) Survey methods will be submitted to and approved by CDFW prior to commencement of surveys.</p> <p>2) The qualified biologist will be approved by CDFW within 30-days of initiating surveys.</p> <p>3) Qualified biologist will complete pre-construction surveys within 48-hrs of planned start of work activities. A survey report containing survey methods and results will be submitted to CDFW (as above) and the City Planning Department prior to the start of work.</p> <p>4) If dusky-footed woodrat are observed during the survey CDFW and the City Planning Department will be notified immediately and the approved biologist, with USFWS approval, will move the nests if avoidance is not feasible.</p>	Pre-construction	City of Half Moon Bay Planning Department
IV a.	Impacts to bats.	<p>MM BIO-6 - If Project activities which include disturbing trees (including dead trees) occur between April 1 to August 31, a pre-construction survey for bats should be conducted by a qualified biologist no less than 14 days prior to these activities. Methods for detection should include ultrasonic acoustic surveys and/or other site appropriate survey methods. If special status bat species are found to be roosting during surveys, species- and roost-specific mitigation measures will be developed. Such measures will be developed in consultation with CDFW.</p>	<p>1) Survey methods will be submitted to and approved by CDFW prior to commencement of surveys.</p> <p>2) The qualified biologist will be approved by CDFW within 30-days of initiating surveys.</p> <p>3) Qualified biologist will complete pre-construction surveys within 14 days prior to the planned start of work activities. A survey report containing survey methods and results will be submitted to CDFW (as above) and the City Planning Department prior to the start of work.</p> <p>4) If bat species are found, species- and roost-specific measures will be developed in consultation with CDFW.</p>	Pre-construction	City of Half Moon Bay Planning Department

Environment Checklist	Impact Summary	Mitigation Measure	Monitoring and Reporting Program		Completion Status (if Complete enter date)
			Monitoring and Reporting Actions	Implementation Schedule	
IV.a.	Impacts to Choris' popcorn flower.	MM BIO-7 - Prior to initiation of construction activities and in accordance with CDFW survey protocols, rare plant surveys shall be conducted within the Project Area. If it is determined that construction-related activities will impact Choris' popcorn flower or other rare plants within the Project site, a mitigation plan for protecting this species should be developed. Mitigation measures may include additional avoidance measures, salvaging and transplanting of plants within disturbance areas, and collection and storage of seeds for future re-establishment efforts.	1) Include requirement on any project plans and/or specifications. 2) A qualified biologist will monitor construction-related activities to determine whether Choris popcorn flower is impacted 3) If Choris' popcorn flower is determined to be impacted by construction-related activities, a mitigation plan will be developed in consultation with CDFW.	Pre-construction	City of Half Moon Bay Planning Department
CULTURAL RESOURCES					
V.b.	Impacts on archaeological resources	MM CUL-1 - If an archaeological site(s) is encountered during grading or other soil disturbing activities, project managers and project contractors shall comply with the provisions set forth in Sections 15064.5 (c) or (e) of the CEQA Guidelines, depending on the type of resource encountered. The site(s) will be recorded by a qualified archaeologist, including the extent of the site boundaries. The trail alignment(s) and/or associated features shall be relocated away from the archaeological site(s), unless the site(s) are evaluated and determined not to be eligible for listing on the California Register of Historical Resources. The archaeologist shall determine the required distance from the resource. If the eligible site(s) cannot be avoided, the proposed trail shall be designed with protective elements that would provide for trail use with minimal effect on the archaeological site(s). These protective elements may include fencing, or placement of the trail on a bridge, boardwalk, or earthen berm. Prior to construction, data recovery and testing shall be conducted as needed. A final report, including the results of the surveys and evaluations, shall be provided to the State Historic Preservation Officer for review. Furthermore, in the event that an archaeological resource is discovered during project construction activities (e.g. excavation, grading), the following provisions of Section 15064.5 (c) of the CEQA Guidelines are to be followed. (1) A lead agency shall first determine whether the site is a historical resource, as defined in subdivision (a). (2) If a lead agency determines that the archaeological site is a historical resource, it shall refer to the provisions of Section 21084.1 of the Public Resources Code, and this section, Section 15126.4 of the Guidelines, and the limits contained in Section 21083.2 of the Public Resources Code do not apply. (3) If an archaeological site does not meet the criteria defined in subdivision (a), but does meet the definition of a unique archaeological resource in Section 21083.2 of the Public Resources Code, the site shall be treated in accordance with the provisions of section 21083.2. The time and cost limitations described in Public Resources Code Section 21083.2 (c-f) do not apply to surveys and site evaluation activities intended to determine whether the Project location contains unique archaeological resources. (4) If an archaeological resource is neither a unique archaeological nor a historical resource, the effects of the Project on those resources shall not be considered a significant effect on the environment. It shall be sufficient that both the resource and the effect on it are noted in the initial Study or EIR, if one is prepared to address impacts on other resources, but they need not be considered further in the CEQA process.	Include requirement on any project plans and/or specifications.	During construction	City of Half Moon Bay Planning Department
V.d.	Impacts on paleontological resources	MM CUL-2 - If paleontological resources are encountered during grading or other soil disturbing activities, construction shall be halted within 50 feet of the site and a qualified paleontologist will be contacted to investigate the find within 24 hours. If the find is deemed to be significant, a complete paleontological survey and removal of paleontological finds shall be warranted prior to resuming construction activities in the area.	Include requirement on any project plans and/or specifications.	During construction	City of Half Moon Bay Planning Department

Environmental Checklist	Impact Summary	Mitigation Measure	Monitoring and Reporting Program			Completion Status (if Complete enter date)
			Monitoring and Reporting Actions	Implementation Schedule	Responsible Agency/Party	
V.d.	Impacts on human remains	<p>MM CUL-3 - If human remains are encountered during grading or other soil disturbing activities, work will halt within 50 feet of the remains and the County Coroner will be notified immediately. An archaeologist will also be contacted to evaluate the find. In accordance with subdivision (c) of Section 7050.5 of the CHSC, if the Coroner recognizes the human remains to be of Native American origin or has reason to believe they are, the Coroner must notify the Native American Heritage Commission within 24 hours of this identification. Subsequently, pursuant to Section 5097.96 of the Public Resources Code, the Native American Heritage Commission will identify a Native American Most Likely Descendant to inspect the site and provide recommendations for the proper treatment of the remains and associated grave goods.</p>	<p>Include requirement on any project plans and/or specifications.</p>	<p>During construction</p>	<p>City of Half Moon Bay Planning Department; San Mateo County Coroner's Office</p>	
HYDROLOGY AND WATER QUALITY						
IX.c.	Violate water quality standards or waste discharge requirements or degrade water quality.	<p>MM HYDRO-1 - The following construction Best Management Practices (BMPs) recommended by San Mateo County (and other BMPs required by the Half Moon Bay City Engineer) shall be employed to reduce erosion to less than significant levels:</p> <ul style="list-style-type: none"> - Limiting construction activities to the dry season (May 1 to September 30). - Using (but not overusing) reclaimed water for dust control. - Stabilizing construction sites, including entrances and exits. - Following construction, stabilizing disturbed sites with native plant materials, hydroseeding, or similar measures. - Storing stockpiled materials under tarps when they are not actively being used. - Balancing cut and fill materials when possible. - Disposing all wastes and debris properly. - Recycling materials and wastes that can be recycled (such as aggregate base materials, wood, etc.). - Inspecting vehicles and equipment frequently for leaks and repairing promptly. Use drip pans to catch leaks until repairs are made. - Cleaning up spills or leaks immediately and disposing of cleanup materials properly. 	<p>1) Include requirement on any project plans and/or specifications.</p> <p>2) Half Moon Bay Public Works Department to conduct inspection during construction to ensure compliance.</p>	<p>Pre-construction; During construction</p>	<p>City of Half Moon Bay Planning Department City of Half Moon Bay Public Works Department</p>	
NOISE						
XII.a., XII.b. and XII.d.	Impacts from construction related noise increases.	<p>MM NOISE-1 - In addition to compliance with existing local, State and federal regulations, the following measures should be required for new construction associated with the Project:</p> <ul style="list-style-type: none"> - Time. Construction activity shall be limited to the hours of 7 AM to 6 PM, Monday through Saturday. No construction is allowed on Sundays and federal holidays. - Mufflers. All construction vehicles and equipment shall be fitted with working mufflers. - Location. All stationary noise generating equipment, such as compressors, should be located as far as possible from existing houses. - No Idling Machinery, including motors, shall be turned off when not in use. - Disturbance Coordinator. A "disturbance coordinator" shall be designated with the responsibility of responding to any local complaints regarding construction noise. The coordinator (an employee of the general contractor) will determine the cause of the complaint and will require that reasonable measures warranted to correct the problem be implemented. A telephone number of the noise disturbance coordinator shall be conspicuously posted at the construction site and on the notification sent to neighbors adjacent to the site. 	<p>1) Include requirement on any project plans and/or specifications.</p> <p>2) Half Moon Bay Building Department to conduct inspection during construction to ensure compliance.</p>	<p>During construction</p>	<p>City of Half Moon Bay Planning Department City of Half Moon Bay Building Department</p>	
TRANSPORTATION/TRAFFIC						

Environment Checklist	Impact Summary	Mitigation Measure	Monitoring and Reporting Program		Completion Status (if Complete enter date)
			Monitoring and Reporting Actions	Implementation Schedule	
XVI.b.	Impacts from construction-related vehicle trips.	MM TRAF-1A - Construction contractor shall be responsible for providing a Traffic Control Plan (TCP) approved by the City Traffic Engineer, prior to the start of construction. The TCP shall include traffic control measures in order to ensure traffic safety during all construction phases. The traffic control devices may involve signage, use of delineators, flashing arrows, and/or temporary lane lines at the discretion of the City Traffic Engineer. The TCP shall be approved by the City Traffic Engineer. The TCP shall include provisions for advanced notification (signage) of the proposed detour routes and coordination with emergency service providers.	<p>1) Include requirement on any project plans and/or specifications.</p> <p>2) The TCP shall be approved prior to commencement of construction activities.</p> <p>3) Traffic control devices shall be installed prior to commencement of construction activities.</p> <p>4) Contractor or crew to conduct inspection during construction to ensure compliance.</p>	Prior to commencement of construction activities / During construction	<p>City of Half Moon Bay Planning Department</p> <p>City of Half Moon Bay Public Works Department</p>
XVI.b.	Impacts from construction-related vehicle trips.	MM TRAF-1B - The Project shall be constructed in a manner to avoid a substantial increase in construction-period traffic congestion. - The applicant will identify locations for contractor parking on site for the duration of the construction period so that parking does not affect the operation local roads. - Vehicle trips to and from the site for purposes of transporting cut and fill would be prohibited during peak traffic AM and PM peak hours. - In the event of lane closures due to deliveries, adequate number of flaggers and the appropriate signage would be required to ensure the safe passage of vehicles, bicyclists, and pedestrians.	<p>1) Include requirement on any project plans and/or specifications.</p> <p>2) Half Moon Bay Public Works Department to conduct inspection during construction to ensure compliance.</p>	Prior to commencement of construction activities / During construction	<p>City of Half Moon Bay Planning Department</p> <p>City of Half Moon Bay Public Works Department</p>