Biological Resources Assessment

Fort Ord Regional Trail and Greenway Project

prepared by

Transportation Agency for Monterey County
55-B Plaza Circle
Salinas, California 93901
Contact: Rich Deal, Principal Engineer

prepared with the assistance of

Rincon Consultants, Inc.
437 Figueroa Street, Suite 203
Monterey, California 93940

September 2019

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Environmental Scientists | Planners | Engineers
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Executive Summary

The Fort Ord Regional Trail and Greenway (FORTAG) project includes approximately 28 miles of new paved Trail. The proposed FORTAG alignment is located at the southern end of Monterey Bay in Monterey County, within the Central California Coast Ecoregion. The Trail will cross the cities of Monterey, Del Rey Oaks, Seaside and Marina, unincorporated areas of Monterey County, California State University Monterey Bay campus lands, Fort Ord Reuse Authority lands, United States Army lands, California Department of Transportation right-of-way lands, and Monterey Peninsula Regional Park District property. Some portions of the alignment occur within the California Coastal Zone. The Trail will connect with the existing Monterey Bay Coastal Recreation Trail just west of State Route 1 and will extend through developed areas and across former Fort Ord lands to the east.

The Biological Study Area (BSA) examined for this analysis includes approximately 38 miles of linear Trails (28-mile Trail alignment and 10 miles of Trail options), from north of the City of Marina to south of the City of Seaside, a 50-foot survey buffer, and expanded study areas where the final alignment may vary.

27 vegetation communities and/or land cover types were identified within the proposed project area:

- Iceplant mat
- Agriculture
- Landscaped
- Monterey cypress
- Monterey pine
- Arroyo willow
- Bare ground
- Maritime Chaparral
- Manzanita chaparral
- Sandmat manzanita chaparral
- Black sage scrub
- Chamise – black sage chaparral
- Chamise chaparral
- California sagebrush scrub
- Developed
- Dune scrub
- Eucalyptus
- Non-native annual grassland
- Mixed Monterey pine - oak woodland
- Coastal oak sage scrub
- Coast live oak woodland
- Ephemeral pond
- Riparian woodland
- Ruderal
- Emergent wetland
- Open water
- Coyote brush scrub
- Detention basin

Six special status species were observed within the BSA during the reconnaissance survey; Monterey spineflower (*Chorizanthe pungens* var. *pungens*) - Federally threatened, Monterey gilia (*Gilia tenuiflora* ssp. *Arenaria*) - Federally endangered and state threatened, Hickman's onion (*Allium hickmanii*) - California Rare Plant Rank (CRPR) 1B.2, Sandmat manzanita (*Arctostaphylos pumila*) - CRPR 1B. 2, Monterey cypress (landscaped) (*Hesperocyparis macrocarpa*) - CRPR 1B. 2, and

Monterey pine (landscaped) (*Pinus radiata*) - CRPR 1B. 1. Rincon determined that a total of 38 additional special status plant species have potential to occur within the BSA.

Two special status wildlife species were observed within the BSA during surveys:

- Coast horned lizard (*Phrynosoma blainvillii*) – State Species of Special Concern (SSC)
- Northern harrier (*Circus cyaneus*) – SSC

Eighteen additional special status wildlife species have the potential to occur within the BSA:

- Smith's blue butterfly (*Euphilotes enoptes smithi*) – Federally Endangered
- California tiger salamander (*Ambystoma californiense*) – Federally and State Threatened
- California red-legged frog (*Rana draytonii*) – Federally Threatened
- Coast Range newt (*Taricha torosa*) – SSC
- Western pond turtle (*Emys marmorata*) – SSC
- Northern California legless lizard (*Anniella pulchra*) – SSC
- Two-striped garter snake (*Thamnophis hammondii*) – SSC
- Cooper's hawk (*Accipiter cooperii*) – Watch List
- Golden eagle (*Aquila chrysaetos*) – Fully Protected
- Burrowing owl (*Athene cunicularia*) – SSC
- Ferruginous hawk (*Buteo regalis*) – SSC
- White-tailed kite (*Elanus leucurus*) – Fully Protected
- California horned lark (*Eremophila alpestris actia*) – Watch List
- Tricolored blackbird (*Agelaius tricolor*) – SSC
- Townsend's big-eared bat (*Corynorhinus townsendii*) – SSC
- Pallid bat (*Antrozous pallidus*) – SSC
- Monterey dusky-footed woodrat (*Neotoma fuscipes Luciana*) – SSC
- American badger (*Taxidea taxus*) – SSC

Sensitive natural communities known to occur within the BSA include: central maritime chaparral, coastal and valley freshwater marsh, riparian woodlands, chamise chaparral, woolly-leaf manzanita, coyote brush scrub, sandmat manzanita chaparral, and chamise – black sage chaparral. One federally designated critical habitat unit for Monterey spineflower also occurs within the BSA.

Potential jurisdictional areas in the BSA are generally limited to the Canyon Del Rey/218 segment, which includes Laguna Grande Regional Park, Canyon Del Rey Creek, and the Frog Pond Wetland Preserve; however, isolated potential jurisdictional features such as detention basins are present within other areas of the BSA.

The proposed project could impact special status plant and wildlife species if these species are present at the time of construction. The project will impact potential upland California tiger salamander habitat. Additionally, the project could impact potential jurisdictional waters of the U.S. and State. Measures to avoid, minimize, and mitigate potential impacts have been developed for all potential impacts.

1 Introduction

Rincon Consultants, Inc. (Rincon) has prepared this Biological Resources Assessment (BRA) to document existing conditions, summarize previous biological resource reports and studies, and provide a basis for evaluation of potential impacts to special status and sensitive biological resources from the implementation of the proposed Fort Ord Regional Trail and Greenway (FORTAG) project located in Monterey County, California. This BRA has been prepared to support the California Environmental Quality Act (CEQA) environmental review of the FORTAG project.

1.1 Project Location

The proposed FORTAG alignment is located at the southern end of Monterey Bay in Monterey County (Appendix A, Figure 1 and

Figure 2), within the Central California Coast Ecoregion. The Trail will cross the cities of Monterey, Del Rey Oaks, Seaside and Marina, unincorporated areas of Monterey County, California State University Monterey Bay (CSUMB) campus lands, Fort Ord Reuse Authority (FORA) lands, United States Army lands, California Department of Transportation (Caltrans) right-of-way lands, and Monterey Peninsula Regional Park District property. Some portions of the alignment occur within the California Coastal Zone. The Trail will connect with the existing Monterey Bay Coastal Recreation Trail (Coastal Rec Trail) just west of State Route 1 (SR 1) and will extend through developed areas and across former Fort Ord lands to the east.

1.2 Project Description

The FORTAG project would involve construction of a multi-use Trail in northwestern Monterey County, generally surrounding the cities of Seaside and Marina and the California State University, Monterey Bay (CSUMB) campus. The lead agency for the project is the Transportation Agency of Monterey County (TAMC).

The proposed FORTAG alignment includes approximately 28 miles of new paved Trail, with up to 10 miles of Trail options, primarily on the inland side of SR 1. The Trail would accommodate pedestrians and bicyclists of all abilities. It would also accommodate equestrians within some segments. Dogs would be allowed on-leash throughout the system. The estimated number of Trail users would be between 1,000 and 3,000 daily, with the highest usage occurring on the CSUMB campus and near the Coastal Rec Trail (Powell 2019).

The proposed Trail alignment would cross public roadways in several locations. Most of these crossings would consist of at-grade, requiring improvements and modifications, such as roadway and lane modifications; construction of medians, curb extensions, warning devices, and traffic control devices; and enhanced safety signing and striping. The Trail could additionally include a certain number of grade-separated crossings, including: undercrossings, pedestrian/bicycle bridges, and roundabouts, if such design options are selected. The specific types of crossings within each segment are described in the following section.

The majority of the Trail would be a 12-foot-wide paved path, with a two-foot-wide unpaved shoulder on both sides. A small portion of the Trail (approximately 2,000 feet or one percent) would be developed on existing paved roadways in two locations: in Del Rey Oaks on Angelus Way,

between Rosita Road and Work Memorial Park; and in Marina on Beach Road, between Del Monte Boulevard and DeForest Road. FORTAG will also include amenities such as rest areas, benches, and shade structures. Amenity areas would be located adjacent to the Trail in a four-foot wide area with compacted native soil.

In the Frog Pond Wetland Preserve in Del Rey Oaks, the proposed Trail width would be reduced to eight feet, and a stable permeable surface would be used in lieu of pavement due to the sensitive natural resources in the area. Where space allows, the Trail would be surrounded by an open space greenway buffer on both sides. Portions of the greenway would support unpaved paths for use by hikers, mountain bikers, equestrians, and naturalists. Under crossings are planned along the Canyon Del Rey/218 Trail segment at General Jim Moore Boulevard and under SR 218 at Frog Pond; under Reservation Road on the Northern Loop segment; and under 2nd Avenue on the CSUMB Loop North segment. Lighting will be added to all undercrossings and over crossings. Lighting is also proposed as needed at road crossings and other locations for safety and to aid in crime prevention. Lighting in open space areas, when necessary for public safety purposes, would be designed to minimize impacts to wildlife and the natural setting. FORTAG would require minimal extension of existing electric utilities to provide lighting.

Fencing may be added where necessary to separate Trail users from conflicting vehicle traffic or from equestrian use on greenway segments Fencing may also be used to protect habitats with sensitive species, to provide a guardrail for safety, or to channelize bike riders and pedestrians in locations where the Trail is adjacent to private property and access control is required. Retaining walls may be needed to retain slopes at certain locations.

Approximately 2,050 feet of retaining walls would be required through the entire FORTAG system.

The FORTAG corridor is organized into seven segments, each of which is illustrated in Figure 2. There are several design options being considered in some of the segments, including for the alignment itself, as well as for roadway crossings. Design options totaled 10-miles of Trail. The BSA encompassed all design options, and potential impacts to biological resources from buildout of one or more of the design options have been evaluated.

Northern Marina Segment

The Northern Marina segment is located north of the City of Marina. The proposed alignment for the Marina segment would run along Beach Road from Del Monte Boulevard on the west to DeForest Road. Along Beach Road, the Trail options include either a Class II facility, which includes a bike lane along the north side of the street; or Class III facility, which is bike boulevard on both sides of the street. At DeForest Road, the Trail would exit the roadway right-of-way on the north side of Windyhill Park and run along the back side of residences on publicly-held land adjacent to Estrella Del Mar Way and Quebrada Del Mar Road. The Trail would then extend northeast along the boundary of the Marina Municipal Airport Property, connecting with the Northern Loop segment north of the Marina airport.

Northern Loop Segment

From northeastern Marina, the Northern Loop segment would traverse through Marina Municipal Airport property, near the Salinas River, to Blanco Road. The Trail would cross Blanco Road via a new bicycle/pedestrian bridge. On the south side of Blanco Road, the Trail would continue southeast to Reservation Road, crossing Reservation Road via new undercrossing approximately 150 feet west of Inter-Garrison Road. The alignment would then continue southwest, generally south of

Inter-Garrison Road, crossing Inter-Garrison Road twice via existing at-grade crossings. The Trail would continue northwestward to Engineering Equipment Road.

CSUMB Loop North Segment

From west to east, the CSUMB Loop North segment would extend from the existing Recreation Trail, over SR 1 via an existing overcrossing at 8th Street. The alignment would continue east along the southern side of 8th Street. The proposed alignment would cross 2nd Avenue approximately 300 feet south of the 2nd Avenue / 8th Street intersection via a roundabout and/or undercrossing. The roundabout would serve as an interim access across 2nd Avenue until the overcrossing can be funded and constructed. However, the roundabout may remain following construction of the overcrossing. From 2nd Avenue the Trail would continue east, generally south of 8th Street and through an existing intermittently used parking lot on the CSUMB campus. The Trail would cross Imjin Road via a new pedestrian/bicycle bridge and then loop to the south toward Engineering Equipment Road, where this segment would connect with the Northern Loop extending further to the east and the CSUMB Loop South segment extending to the south.

CSUMB Loop South Segment

From west to east, the CSUMB Loop South segment would extend from the existing Recreation Trail beneath SR 1 via an existing undercrossing at 1st Street/Divarty Street. The Trail would remain on the south side of Divarty Street as it extends east to cross 1st Avenue, 2nd Avenue, and General Jim Moore Boulevard via at-grade crossings. East of General Jim Moore Boulevard, the Trail would turn to the southwest behind the Academic 3 building, Joel and Dena Gambord Business and Information Technology building, and Tanimura & Antle Family Memorial Library on the CSUMB campus. The Trail would then cross 6th Avenue and extend eastward along Butler Street to 8th Avenue. The segment would then turn to the north to travel parallel to and east of 8th Avenue to connect with the CSUMB North segment and the Northern Loop segment approximately 820 feet north of Inter-Garrison Road.

National Monument Loop Segment

From the southeast corner of the CSUMB campus, the National Monument Loop segment would continue south, immediately east of 8th Avenue to Gigling Road and then parallel to 8th Avenue to Parker Flats Cut Off Road. The intersection of Gigling Road and 8th Avenue would include a roundabout to clarify the right-of-way for Trail users and separate the Trail from 8th Avenue. In this area there would also be an approximately 1,700-foot-long bypass from the main spine to a vista point approximately 750 feet east of 8th Avenue. From 8th Avenue the Trail would abut the northern shoulder of Parker Flats Cut Off Road to the east to before crossing to the southwest at the intersection of Parker Flats Cut Off Road and Normandy Road, northwest of the Central Coast Veterans Cemetery.

From the Veterans Cemetery, the National Monument Loop segment would extend southeast to the vicinity of Eucalyptus Road and then southwest toward General Jim Moore Boulevard. East of the City of Seaside, the Trail would curve along the westernmost border of the Fort Ord National Monument to connect with the Canyon Del Rey / SR 218 and Ryan Ranch segments. This segment would additionally include connections from the eastern terminus of San Pablo Avenue at General Jim Moore Boulevard and Broadway Avenue at General Jim Moore Boulevard in Seaside, with a Trail extending both northeast and southeast to connect to FORTAG, and another connection south and east from General Jim Moore Boulevard near the terminus of Kimball Avenue in Seaside.

Canyon Del Rey /SR 218 Segment

From the southern terminus of the National Monument Loop segment, the Canyon Del Rey / SR 218 segment would meander southward toward South Boundary Road and then southwest toward General Jim Moore Boulevard.

The Trail would cross under General Jim Moore Boulevard via a new undercrossing into the Frog Pond Wetland Preserve in Del Rey Oaks. The alignment would follow the existing Trail south and then west along the eastern and southern perimeter of Frog Pond before crossing Canyon Del Rey Boulevard. As noted earlier, the Trail would be comprised of an eight-foot wide stable, permeable surface Trail in this location due to the sensitive natural resources in the area. There would not be an additional shoulder or separated Trails, and the proposed Trail improvements would only occur from the undercrossing to the south, then west adjacent to SR 218 – improvements would not be made to the entire loop Trail around the Frog Pond Wetland Preserve, and bikes would be prohibited except along the FORTAG alignment.

From Canyon Del Rey / SR 218 near the Del Rey Oaks City Hall, the Trail would extend northeast up Carlton Drive to Plumas Avenue. At Plumas Avenue, the Trail would extend within a PG&E easement along the south side of Plumas Avenue west toward Del Rey Woods Elementary School and east to the top of Plumas Avenue near General Jim Moore Boulevard. Along Canyon Del Rey Boulevard/SR 218 the Trail would also continue east along the south side of Del Rey Park, along the existing paved Angelus Way right-of-way, and then through Work Memorial Park to the Safeway Shopping Center. Adjacent to the Safeway market, the Trail would abut Canyon Del Rey Boulevard/SR 218, crossing Fremont Boulevard within the existing intersection crosswalk. At this location FORTAG would connect with the planned North Fremont Street Bicycle and Pedestrian Project in Monterey. On the west side of Fremont Boulevard, the Trail would switch back into Laguna Grande Regional Park, traversing the southwestern side of Laguna Grande in the City of Monterey, before crossing Del Monte Boulevard to connect with the Recreation Trail at Roberts Lake Park.

Ryan Ranch Segment

From the southern terminus of the National Monument segment, the Ryan Ranch segment would extend southeast toward Ryan Ranch, crossing South Boundary Road at Rancho Saucito. This segment would connect the main FORTAG spine with employment areas in the Ryan Ranch Business Park in the City of Monterey.

1.2.1 Project Construction

Timing and Duration

Construction for the first phase of FORTAG is estimated to begin in 2020, with an estimated completion date (for this phase) of 2021. Additional construction could continue for several years, depending upon funding availability and participation of the underlying jurisdiction. A total project construction schedule has not been finalized and is subject to funding availability and other considerations. Three miles of Canyon Del Ray/SR 218 segment would be constructed first from 2020 to 2021 followed by most of the other segments from 2022 to 2024. Remaining Trail segments would be constructed after 2024 as funding becomes available.

General Methodology

In general, construction activities for the project would include excavation of material sources, clearing and grubbing, grading, placement of aggregate base and asphalt concrete, revegetation, installation of signs, and installation of lighting and other safety related features necessary to meet current design practice. Large construction equipment would include Trail dozers, skid steers, narrow track loaders, rollers, and vibrating plate compactors. High visibility fencing will be used to delineate the limits of work and construction impacts in natural habitats.

Most of the Trail would be composed of a four-inch layer of asphalt concrete over a six-inch aggregate base. An estimated 42,000 tons of asphalt concrete are expected to be used to construct the Trail.

The following best management practices would be implemented during project construction to comply with the Monterey Bay Air Resources District's Rule 402 (Nuisance) and CEQA Guidelines:

- Prohibit all grading activities during periods of high wind (over 15 mph)
- Water active construction areas as needed based on the activity, soil and wind exposure
- Apply chemical soil stabilizers on inactive construction areas (disturbed lands unused for four consecutive days)
- Apply native hydro-seed or non-toxic binders to exposed areas after cut/fill operations
- Maintain at least 2-foot freeboard in haul trucks, and cover all trucks hauling dirt, sand, or other loose materials
- Plant native vegetative ground cover in disturbed areas as soon as possible, in coordination with mitigation planting requirements identified in this EIR for biological resources
- Cover inactive storage piles

In undisturbed areas as much as practical, limit the construction zone to a 20-foot corridor to minimize impacts to habitat and wildlife

Construction Staging

Construction staging areas would be located on existing pavement and disturbed areas adjacent to Trails. Staging areas would include existing parking lots adjacent to the Trail, vacant or abandoned parking lots at CSUMB, and cleared areas from Fort Ord construction areas. Roadway shoulders would be used for construction staging where lots or cleared areas are not available adjacent to the work site. Construction staging areas would be located at least 50 feet from waterways and would include erosion control Best Management Practices, such as fiber rolls. Dust control measures, such as watering, would be implemented at staging areas during construction to reduce fugitive dust and construction would be limited to daytime hours.

2 Methodology

2.1 Regulatory Overview

Regulated or sensitive resources studied and analyzed herein include special status plant and animal species, nesting birds and raptors, sensitive plant communities, jurisdictional waters and wetlands, wildlife movement, and locally protected resources, such as protected trees. Regulatory authority over biological resources is shared by Federal, State, and local authorities. Primary authority for regulation of general biological resources lies within the land use control and planning authority of local jurisdictions.

2.1.1 Definition of Special Status Species

For the purposes of this report, special status species include:

- Species listed as threatened or endangered under the Federal Endangered Species Act (FESA); species that are under review may be included if there is a reasonable expectation of listing within the life of the project
- Species listed as candidate, threatened, or endangered under the California Endangered Species Act (CESA)
- Species designated as Fully Protected, Species of Special Concern, or Watch List by the California Department of Fish and Wildlife (CDFW)
- Species designated as sensitive by the U.S. Forest Service or Bureau of Land Management, if the project would affect lands administered by these agencies
- Species designated as locally important by the Local Agency and/or otherwise protected through ordinance or local policy.

2.1.2 Environmental Statutes

For the purpose of this report, potential impacts to biological resources were analyzed based on the following statutes (Detailed discussions included in Appendix B):

- California Environmental Quality Act (CEQA)
- Federal Endangered Species Act (FESA)
- California Endangered Species Act (CESA)
- Federal Clean Water Act (CWA)
- California Fish and Game Code (CFGC)
- Migratory Bird Treaty Act (MBTA)
- The Bald and Golden Eagle Protection Act
- Porter-Cologne Water Quality Control Act
- Fort Ord Habitat Management Plan (HMP) (1997a)
- Fort Ord Habitat Conservation Plan (HCP) (in progress)
- FORA Base Reuse Plan (1997b)
- FORA Base Reuse Plan Reassessment (2012)

- City of Seaside Local Coastal Program (LCP) (2013)
- City of Seaside Municipal Code (Chapter 8.54, Trees)
- City of Seaside General Plan
- California Coastal Act Marina
- City of Marina Municipal Code
- City of Monterey General Plan (2005)
- City of Monterey Municipal Code
- City of Monterey Local Coastal Program
- City of Del Rey Oaks Municipal Code
- Monterey County Municipal Code
- Current 2007 California State University Master Plan
- Draft 2017 California State University Master Plan
- Monterey Peninsula Regional Parks District (MPRPD) Master Plan

2.1.3 Jurisdictional Waters Regulations

Drainage ditches, seasonal wetlands, ephemeral and perennial streams, and seasonally flooded constructed basins in the Study Areas may be jurisdictional waters of the U.S. under CWA Sections 404 and 401, subject to USACE and RWQCB jurisdictions. In addition, the aquatic resources have defined beds, banks, and/or riparian habitats that are potentially under CDFW jurisdiction. Note the final jurisdictional determinations of the boundaries of waters, and riparian habitats, are made by each agency, typically at the time that authorizations to impact such features are requested.

2.1.4 Guidelines for Determining CEQA Significance

The following threshold criteria, as defined by the CEQA Guidelines Appendix G, were used to evaluate potential environmental effects. Based on these criteria, the proposed project would have a significant effect on biological resources if it would:

a) *Have substantial adverse effects, 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.*

b) *Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the California Department of Fish and Wildlife or US Fish and Wildlife Service.*

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

d) *Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.*

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

f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional or state habitat conservation plan.

2.2 Biological Study Area

The Biological Study Area (BSA) for this project is defined as the Trail alignment, plus a 50-foot buffer on either side, and additional areas that were identified for analysis, to allow for flexibility at later stages of design, and to support avoidance of sensitive biological resource through Trail design where feasible. This resulted in an irregular study area that generally occurs as a 100-foot wide corridor with various areas in which the corridor has been expanded. The BSA is depicted on

Figure 3 (Appendix A). Throughout this report the BSA refers to the defined study area, which represents an area far broader than the impact area that would result from Trail development. The 16-foot wide Trail (8 feet on either side of the Trail centerline) as currently defined is herein referred to as the "Trail corridor." The BSA did not include the associated greenway, as no project development is proposed for this area.

2.3 Literature Review

Prior to field surveys, Rincon conducted a literature review to characterize the nature and extent of biological resources on and adjacent to the BSA. The literature review included an evaluation of current and historical aerial photographs of the site (Google Earth 2018), regional and site-specific topographic maps, climatic data, and other available background information.

Queries of the U.S. Fish and Wildlife Service (USFWS) Information for Planning and Consultation system (IPaC; UFWS 2019), CDFW California Natural Diversity Database (CNDDB; 2019a), and California Native Plant Society (CNPS) online Inventory of Rare and Endangered Plants of California (2019) were conducted to obtain comprehensive information regarding State and federally listed species, as well as other special status species, considered to have potential to occur within the *Marina* and *Seaside, California* USGS 7.5-minute topographic quadrangles and the surrounding ten quadrangles (Salinas, Monterey, Moss Landing, Prunedale, San Juan Bautista, Natividad, Spreckels, Carmel Valley, and Mt. Carmel). The results of database-queries and lists of special status species were reviewed by Rincon's regional biological experts for accuracy and completeness. The final list of special status biological resources to be evaluated is the result of documented occurrences within the 12-quad search area and species known to occur in the region based on the biologists' expert opinions. The results of the species potential-to-occur assessment were compiled into a table presented as Appendix E.

The following resources were reviewed for additional information on existing conditions relating to biological resources along the Trail corridor:

- Aerial photographs of the maintenance sites and vicinity
- United States Department of Agriculture (USDA), Natural Resources Conservation Service (NRCS) Web Soil Survey (2010)
- USFWS Critical Habitat Portal (2019a)
- CDFW CNDDB map of State and federally listed species that have been previously documented within a 5-mile (8-kilometer) radius of the project sites (2019a)
- CDFW Biogeographic Information and Observation System (BIOS 2019b)
- CNDDB Special Vascular Plants, Bryophytes, and Lichens List (2018)

2.4 Desktop Mapping

Prior to conducting field surveys, Rincon developed detailed vegetation community and land-cover-type maps based on a review of aerial imagery and existing data on mapped vegetation communities on the FORA. The purpose of the preliminary desktop mapping was to identify approximate boundaries of vegetation communities and make preliminary assessments of areas likely to support sensitive biological resources. The preliminary assessments help to prioritize fieldwork activity and inform the field-based mapping of vegetation communities.

2.5 Field Reconnaissance Survey

The reconnaissance-level field surveys were conducted by Senior Biologists Samantha Kehr and Kyle Weichert on March 28 and 29, 2019 and by Samantha Kehr, Kyle Weichert, and Associate Biologist Beth Wilson on June 18, 19, and 20, 2019. The surveys consisted of pedestrian surveys of each Trail section containing natural habitats combined with windshield surveys of entirely developed areas, to document and field-verify vegetation communities and site conditions. During surveys, the biologists field-verified, refined and mapped the boundaries of vegetation communities and other land-cover types, documented the approximate limits of jurisdictional waters (waters of the state and waters of the U.S., including basins, drainages, vernal pools, ponds, lakes, and creeks as applicable), mapped occurrences of incidental observation of special status species (including state and federal listed species), and developed a list of observed plants and wildlife. Definitive surveys to confirm the presence or absence of special status species were not performed and are not included with this analysis. Definitive surveys for special status plant and wildlife species generally require specific survey protocols, extensive field survey time, and are conducted only at specific time periods of the year.

2.6 Hydrology

The hydrology of the BSA and individual Trail segments was evaluated through a review of topographic maps, aerial photos, existing documents (e.g., Canyon del Rey Master Drainage Plan, Salinas River Watershed Management Action Plan, Frog Pond Wetland Preserve Enhancement and Erosion Control Plan), and the National Hydrography Dataset (NHD) and California Department of Water Resources Water Management Planning Tool (USGS 2019; CDWR 2019).

2.7 Existing Conditions and Impact Assessments

Existing conditions of the project site were assessed based on a review of background literature, aerial imagery, and the results of the reconnaissance survey. This information was compiled into maps and written descriptions of vegetation communities that form the foundation of the analysis for special status species potential to occur. The presence of any sensitive vegetation communities, jurisdictional areas or other special status biological resources within the BSA was documented as part of the analysis and is included in maps and the technical discussions. Based on the types and condition of vegetation communities present within the BSA, Rincon conducted a habitat assessment for special status species and determined the potential for special status species to occur within the BSA. The impact analysis to address the CEQA Appendix G checklist items outlined under Section 2.13 is based on the presence of, or potential for occurrence of special status biological resources in the context of the proposed development (including the construction and use of the Trail).

Potential impacts to California tiger salamander (CTS) upland habitat was evaluated based on a desktop analysis of potential breeding habitat within 1.3 miles (dispersal distance for CTS; USFWS 2017) of the BSA. All identifiable sites with potential to support CTS breeding were mapped, and buffered with a 1.3-mile buffer. The area defined by the buffered potential breeding sites was overlain on the vegetation communities mapping for the BSA, and the total acres of suitable upland habitat (non-native annual grassland) that overlaps the 1.3-mile buffer areas was calculated as the total potential impacts to CTS upland habitat.

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3 Existing Conditions

3.1 Physical Characteristics

Elevations within the BSA range from approximately 15 to 520 feet (4.5 to 158.5 meters) above mean sea level (msl). The climate in this region is generally mild with an annual minimum average temperature of 48 degrees F, a maximum average temperature of 65 degrees F, and an average annual precipitation of 19.73 inches (NOAA, 2019). The topography of the BSA includes coastal alluvial terraces and relatively low-lying rolling dune-like hill systems near the coast composed from stabilized sand. The portions of the BSA that extend through Fort Ord are composed primarily of natural habitats, while portions of the BSA extend into urban areas on the CSU Monterey Bay campus and in the Cities of Seaside and Marina. Commercial agricultural lands border the northern portions of the BSA.

3.1.1 Watershed and Drainages

There are two watersheds located within the BSA, Canyon Del Rey and Salinas River (USGS 2019; CDWR 2019). The Salinas River watershed can be further split into two sub-watersheds, which are unnamed, and therefore discussed in this report based on relative location, north or south. The Trail segments are located within three sub-watersheds as follows:

Canyon Del Rey

- Ryan Ranch
- Canyon Del Rey/218
- National Monument Loop

Salinas River – South

- CUSMB North and CSUMB South segments are located entirely within the southern Salinas River subwatershed
- Northern portions of the National Monument Loop
- Southern sections of the Northern Loop and Northern Marina segments

Salinas River – North

- Small portions of the Northern Marina and Northern Loop segments

Canyon del Rey Sub-watershed

The Canyon del Rey sub-watershed (HUC 12-180600150304) occurs in the south end of the BSA. Canyon del Rey Creek (also referred to as Arroyo del Rey Creek) is an ephemeral stream that flows to the Pacific Ocean, draining approximately 17 square miles (approximately 10,750 acres) of land surface, including portions of the cities of Seaside, Del Rey Oaks, Monterey, and unincorporated Monterey County (Balance Hydrologics 2014).

The headwaters of Canyon del Rey Creek originate at an elevation of 500 feet near the Laguna Seca Raceway at the eastern end of the watershed (Balance Hydrologics 2014). The creek flows mostly

westerly along Highway 68 until the junction of Highway 68 with Highway 218. At the highway junction, the creek follows Highway 218 north and west to the Frog Pond Wetland Preserve, eventually draining into Laguna Grande, then Roberts Lake, and finally, the Monterey Bay.

The Frog Pond Wetland Preserve, located approximately 2.2 river miles (3.5 km) upstream of Monterey Bay, is within the Canyon del Rey sub-watershed. The entire preserve is 17 acres in size and sustains both a seasonal pond, wetland, and upland habitats. The pond/wetlands are an isolated remnant of a much larger freshwater ecosystem, but still retains important wetland structures and functions. The pond receives water from three general sources: 1) a tributary to Canyon del Rey (South Boundary Tributary); 2) springs at the northern edge of the pond; and 3) runoff from the residential neighborhoods along the northern border of the preserve. The pond typically dries in mid to late summer, and refills after the first significant rains in the fall. Canyon del Rey Creek maintains low flows throughout the summer, fed by runoff from residential and golf course irrigation.

Within 1.2 miles of Monterey Bay, the creek passes through a long culvert at Work Memorial Park and into Laguna Grande, a lake approximately 12 acres in size (Balance Hydrologics 2014). This freshwater lake and adjacent freshwater marsh at Laguna Grande Park are part of a complex hydrological system that also includes Roberts Lake and Monterey State Beach, both downstream of Laguna Grande. Water from Laguna Grande flows to Roberts Lake via the Laguna Del Rey outfall. Both lakes are shallow (approximately nine [9] feet at the deepest point), and the bottoms of the basins are generally flat with a few small islands. Water from the lakes eventually flows to Monterey Bay at Monterey State Beach via a box culvert outfall.

Other wetlands within the Canyon del Rey watershed including an adjacent wetland west of Angelus Way, behind a plant nursery and a vernal pool mapped on the USFWS National Wetlands Inventory (NWI). Historical photography indicates the vernal pool area has been highly disturbed from past from grading activities, and no vernal pool species (plant or wildlife) were identified in this area during the reconnaissance survey. Several detention basins were also identified during the reconnaissance survey, located along California Avenue and Estrella Del Mar Way in Marina and 9th Street in Seaside.

Salinas River

The watershed of the Salinas River and its tributaries covers approximately 4,600 square miles (approximately 3 million acres) and lies within San Luis Obispo and Monterey Counties (CCRWQCB 1999). The Salinas River originates in San Luis Obispo County, and flows 152 miles northward into Monterey County through the entire length of the Salinas Valley and empties into Monterey Bay near Marina. The Salinas River lies between the Gabilan range to the east and the Santa Lucia and Sierra de Salinas ranges to the west (RCDMC 2019). The drainages in these mountain ranges contribute water to the Salinas River via the main tributaries that include the Arroyo Seco, Nacimiento, San Antonio, and Estrella Rivers.

The upper watershed of the Salinas River begins in San Luis Obispo County at the headwaters in the La Panza Range (southeast of Santa Margarita Lake) and flows to the narrows area near Bradley, just inside Monterey County (RCDMC 2019). The BSA is located within the lower portion of the watershed, which is typically considered to include the Bradley narrows area and downstream to Monterey Bay (including the Arroyo Seco River). Two unnamed sub-watersheds of the Salinas River are identified within the BSA (CDWR 2019). The southern sub-watershed (HUC 12-180600150305) stretches from approximately the Fremont Boulevard exit off of Highway 1 north to, and including, the Marina Municipal Airport. A small section of the northern portion of the BSA is located within

the northern sub-watershed (HUC 12-180600051509), which encompasses a small area between the Marina Municipal Airport and the Salinas River.

3.1.2 Soils

The USDA-NRCS has mapped seven soil units within the BSA: Arnold loamy sand 9 to 20 percent slopes, Arnold loamy sand 15 to 50 percent slopes, Arnold- Santa Ynez Complex, Baywood sand, 2 to 15 percent slopes, Oceano loamy sand, 2 to 15 percent slopes, Rindge muck, 0 to 2 percent slopes, and Xerorthents, dissected (USDA-NRCS, 2010). Soils are depicted on

Figure 4 (Appendix A) Arnold loamy sand is somewhat excessively drained sandy soil that occurs on terraces. It is formed of residuum weathered from sandstone. This soil type is found exclusively along the Canyon Del Rey/SR 218 segment at the southern extent of the BSA. The Arnold- Santa Ynez Complex is comprised of two well drained soils; Arnold (40 percent) and Santa Ynez (25 percent), with 25 percent minor components. These soils are not considered hydric. Arnold soils are derived from Residuum weathered from sandstone and occur on hills and escarpments. The Arnold-Santa Ynez Complex underlays small portions of the National Monument Loop and Canyon Del Rey/SR 218 segments and the majority of the Ryan Ranch segment.

Baywood sand is somewhat excessively drained soils derived from stabilized sandy eolian, or windblown, sands. This soil map unit typically lacks hydric soils. Every Trail segment, with the exception of the Northern Marina segment, is made up in part by Baywood sand soils. Oceano loamy sand is found on rolling dune-like hills and is derived from stabilized eolian sands. A typical profile consists of loamy sand to 80 inches. This soil is somewhat excessively drained, with low available water storage, and is not considered hydric. Oceano loamy sand underlays most segments of the Trail except for the southern extent of the BSA including the Canyon Del Rey/SR 218 and Ryan Ranch segments.

Rindge muck is very poorly drained soil derived from plant residue with mixed alluvium. This soil map unit typically has a slope of 0 to 2 percent and approximately 90 percent hydric soils. Rindge muck soil is found exclusively along the Canyon Del Rey/SR 218 segment at the southern extent of the BSA. Xerorthents, dissected are steep to extremely steep soils on bluffs along major rivers, on steep escarpments of fans and terraces, and on the banks of deeply entrenched streams and gullies that have narrow bottoms. These soils consist mostly of unconsolidated or weakly consolidated alluvium with sandy loam or coarse sandy loam and are not considered hydric. This soil type is only found along the steep slopes running along the Northern Loop segment. Of these six soil types Baywood sand and Oceano loamy sand primarily represent make up the predominant soils of the BSA.

3.2 Vegetation and Other Land Cover

Twenty-eight (28) terrestrial vegetation communities or other land cover types were identified within the BSA during field surveys. In many cases one community grades into another and the boundaries demarking these communities can be indeterminate and subject to interpretation. The limits of these vegetation communities were approximately delineated and mapped based on estimates of the percept cover of the dominant species, and often adjacent communities have the same general species composition in differencing abundances. For example, non-native annual grassland may include a percentage of coyote brush (*Baccharis pilularis*), and adjacent coyote brush scrub may include a percentage of non-native grasses. Oak trees were common throughout much of the BSA, in some areas forming oak woodland communities, and in others, simply occurring as

scattered occurrences of oak trees in scrub, grassland or other communities. The mapping is presented in a land-cover map atlas (Appendix A,

Figure 5), and provides a reasonable approximation of the types and acreages of the various vegetation communities and land-cover types that occur within the BSA. The following vegetation communities were mapped within the BSA:

- Iceplant mat
- Agriculture
- Landscaped, includes:
  - Monterey cypress
  - Monterey pine
- Arroyo willow
- Bare ground/Disturbed
- Maritime Chaparral, composed of:
  - Manzanita chaparral
  - Sandmat manzanita chaparral
- Black sage scrub
- Chamise – black sage chaparral
- Chamise chaparral
- California sagebrush scrub
- Developed
- Dune scrub
- Eucalyptus
- Non-native annual grassland
- Mixed Monterey pine - oak woodland
- Coastal oak sage scrub
- Coast live oak woodland
- Ephemeral pond
- Riparian woodland
- Ruderal
- Emergent wetland
- Open water
- Burn succession
- Coyote brush scrub
- Detention basin

The vegetation community characterizations for this analysis were based on the classification systems presented in *A Manual of California Vegetation, Second Edition* ([MCV2] Sawyer et al. 2009) but have been modified slightly to most accurately reflect the existing site conditions. The *Preliminary Description of Terrestrial Natural Communities of California* (Holland 1986) has been superseded by the MCV2, but is included for consistency with previous descriptions of the former Fort Ord. Many of the vegetation communities discussed below represent large areas which may be geographically isolated from one another, therefore lesser species components and overall cover may be highly variable from one location to the next. Representative photographs of the BSA are included in Appendix C. Plant species nomenclature and taxonomy used for this BRA follows the treatments within the second edition of *The Jepson Manual* (Baldwin et al. 2012).

Non-Native Annual Grassland

The BSA contain approximately 151.6 acres of non-native annual grassland, with approximately 4.7 acres occurring within the current Trail corridor (not including options). This community is typically comprised of annual grasses and forbs introduced during and since the Spanish colonial period. This community most closely resembles the *Avena* (*barbara, fatua*) Semi-Natural Herbaceous Alliance described by Sawyer et al. (2009). Species composition in this community is highly variable an may contain occasional native or ornamental trees and shrubs, however non-native grasses are dominant, including wild oats (*Avena fatua* and *Avena barbata*), ripgut brome (*Bromus diandrus*), red brome (*Bromus madritensis* ssp. *rubens*), rattail fescue (*Festuca myuros*), Italian rye (*Festuca perennis*), and foxtail barley (*Hordeum murinum* var. *leporinum*). Some native plant species are also present and include common yarrow (*Achillea millefolium*), sky lupine (*Lupinus nanus*) tarweeds (*Deinandra* spp.), golden stars (*Bloomeria crocea*), golden Brodiaea (*Triteleia ixioides*), soap plant (*Chlorogalum pomeridianum*), purple clarkia (*Clarkia purpurea*), purple owl's clover (*Castilleja*

exserta ssp. *exserta*), and shooting star (*Primula clevelandii*). Patches of native perennial grasses are intermixed in some areas at low cover, and include blue wildrye (*Elymus glaucus*), valley wild rye (*Leymus triticoides*), , and pine bluegrass (*Poa secunda*).

As described above, the dominant components of this vegetation type are not native to California. While some invasive plants may have been first introduced during the 16th century as Spanish explorers came to California's coast, it is likely that the majority of invasive plants were introduced after people of Old-World descent began to settle in California. Rapid land use change during the mid- to late-1800s, along with other interacting factors, accelerated the invasion of California's native grassland by species of European origin. The intensification of livestock grazing both brought in new species for livestock forage and prompted the spread of invasive species in California grasslands (Caziarc 2012). Within the BSA this community is widely distributed and was observed in all Trail segments.

Landscaped

The BSA contain approximately 35.6 acres of landscape, with approximately 1.8 acres occurring within the current Trail corridor (not including options). This land cover type is not naturally occurring and is not described in either the Holland (1986) or Sawyer et al. (2009) classification systems. It consists of primarily non-native species in ornamental plantings. Tree species found in this community are highly variable, and typically consist of either non-native (ornamental) species or native species that were planted, and not part of a natural community. The most commonly occurring tree species within this community include Monterey cypress (*Hesperocyparis macrocarpa*), eucalyptus (*Eucalyptus* spp.), Monterey pine (*Pinus radiata*), redbud (*Cercis* sp.), California sycamore (*Platanus 18acemose*), and American sweetgum (*Liquidambar styraciflua*). Bushes and shrubs in this community are variable by occurrence and include oleander (*Nerium oleander*), lantanas (*Lantana* spp.), and juniper (*Juniperus* spp.) among other ornamental species. Landscape grass species typically include turf grasses and nonnative species such as kikuyu grass (*Pennisetum clandestinum*), hairy crabgrass (*Digitaria sanguinalis*), and English daisy (*Bellis perennis*).

Monterey pine and Monterey cypress are native species considered sensitive when occurring in natural stands or woodlands; however, there are few naturally occurring stands of these species in Seaside. Most individuals present within the BSA are ornamental plantings or offspring established or recruited from ornamental plantings. This community is primarily associated with development on the western side of the BSA, and was mainly observed along the Canyon Del Rey/SR 218, CSUMB Loop North, CSUMB Loop South, and the Northern Marina Trail segments. Some isolated stands that may be remnants of natural woodland, but the history of those stands couldn't be determined, and they no longer function as a natural woodland. One such stand of Monterey cypress is present along Divarty Street between 1st and 2nd Avenues. The canopy consists of mature Monterey Cypress that appear to be the results of recruitment from a windrow planted decades ago or potentially remnants of a naturally occurring stand and no longer functions as a natural woodland.

Iceplant Mat

The BSA contain approximately 51 acres of iceplant mat, with approximately 3.5 acres occurring within the current Trail corridor (not including options). This community most closely resembles the *Carpobrotus edulis* or Other Iceplant Semi-Natural Herbaceous Stand Alliance described by Sawyer et al. (2009). Iceplant (*Carpobrotus edulis*) is non-native invasive species, originally planted in the

1940s and 50s for landscaping and dune stabilization (USACE 1992). These perennial ground-hugging succulents form large monospecific mats (Sawyer et al. 2009). Iceplant has a Cal ICP rating of "High" for its invasive tendencies. This hardy species spreads readily from landscaped areas into dune and scrub habitats, out competing native species for space, nutrients, and moisture.

This vegetation type is strongly dominated by iceplant, and often consists of dense matted tangle many inches thick. Due to this aggressive growth form, not many other species are present in most instances. In some locations iceplant is the dominate species in the understory growing in gaps between trees or shrubs. At other locations within the BSA some native species, ornamental plantings, and bare patches were observed in this community. Within the BSA this community is widely distributed and was observed in all Trail segments, and often occurs in smaller patches within other community types. Where it occurred as the dominant species over a substantial area, it was mapped as a community of its own.

Agriculture

The BSA contain approximately 4.5 acres of agricultural lands, with approximately 0.4 acre occurring within the current Trail corridor (not including options). This land cover type is not naturally occurring and is not described in either the Holland (1986) or Sawyer et al. (2009) classification systems. This land cover type includes planted crop lands and actively farmed land. Within the BSA this land cover type was comprised of strawberry fields along the Northern Marina Trail segment. This community provides foraging opportunities for some wildlife such as songbirds and bats but provides very little habitat value in terms of shelter.

Coast Live Oak Woodland

The BSA contain approximately 142 acres of coast live oak woodland, with approximately 10.8 acres occurring within the current Trail corridor (not including options). The oak woodland habitat is characterized by coast live oak trees found in monotypic stands and most closely corresponds with the *Quercus agrifolia* Woodland Alliance in the Manual of California Vegetation system (Sawyer et al. 2009). Within the BSA this community is highly variable, but is generally dominated by coast live oak (*Quercus agrifolia*) with an understory that ranged from dense scrub to open and underdeveloped. Typical scrub understory constituents include scrub or chaparral species such as black sage (*Salvia mellifera*), chamise (*Adenostoma fasciculatum*), coyote brush, woolly leaf manzanita (*Arctostaphylos tomentosa*), and California sagebrush (*Artemisia californica*). In other areas, the understory was dominated by a tangle of viny herbs such as poison oak (*Toxicodendron diversilobum*) and purple fiestaflower (*Pholistoma auritum*), or annual grasses. Oak woodlands and savannas support the greatest species richness of any vegetation type in the state and are considered important habitats (Barbour et al. 2007). This community is widely distributed and was observed within the BSA along the Northern Loop, National Monument Loop, CSUMB Loop North, CSUMB Loop South, and Canyon Del Rey/218 segments.

Riparian Woodland

The BSA contain approximately 6.5 acres of riparian woodland, with approximately 0.4 acre occurring within the current Trail corridor (not including options). This vegetation community most closely corresponds with the *Quercus agrifolia* Woodland Alliance and *Alnus rhombifolia* Forest Alliance in the Manual of California Vegetation system (Sawyer et al. 2009). It primarily occurs along Canyon Del Rey Creek and consists of a canopy dominated by several riparian tree species including

coast live oak, arroyo willow (*Salix lasiolepis*), and white alder (*Alnus rhombifolia*). The understory varies with location within the BSA, but typically contains common riparian understory species such as stinging nettle (*Urtica dioica*) and poison oak. The riparian woodland habitat along Angelus Way includes coast redwood (*Sequoia sempervirens*) in the canopy and contains an understory dominated by English ivy (*Hedera helix*), and invasive French broom (*Genista monspessulana*) with occasional native understory herbs and ferns such as wood fern (*Dryopteris arguta*). Infestations of Himalayan blackberry (*Rubus armeniacus*), English ivy, cape ivy (*Delairea odorata*) and garden nasturtium (*Tropaeolum majus*) are also present in a patchy distribution within the understory.

Chamise Chaparral

The BSA contain approximately 13.6 acres of chamise chaparral, with approximately 0.7 acre occurring within the current Trail corridor (not including options). This vegetation community most closely resembles the *Adenostoma fasciculatum* Shrubland Alliance described by Sawyer et al. (2009). It consists of a dense, woody shrub layer with few trees and an open canopy. Chamise (*Adenostoma fasciculatum*) is dominant, with Eastwood's manzanita (*Arctostaphylos glandulosa*), brittleleaf manzanita (*Arctostaphylos crustacea*), , sticky monkey flower (*Mimulus aurantiacus*), California buckwheat (*Eriogonum fasciculatum*), oaks (*Quercus* spp.), toyon (*Heteromeles arbutifolia*), black sage (*Salvia* mellifera), and poison oak intermixed in locally varying abundances. This community was observed along the National Monument Loop and Ryan Ranch segments.

Maritime Chaparral

Maritime chaparral classification as defined by Holland (1986) consist of sclerophyllous scrub species in sandy soils dominated by manzanita. As with other chaparral and scrub habitats within the BSA, maritime chaparral was highly variable and mapped as two separate vegetation subtypes: manzanita chaparral and sandmat manzanita chaparral. The BSA contain approximately 35.6 acres of manzanita chaparral, with approximately 1.8 acres occurring within the current Trail corridor (not including options). The BSA also contains approximately 1.9 acres of sandmat manzanita chaparral, with approximately 0.1 acre occurring within the current Trail corridor. The

Much of the maritime chaparral was mapped as a manzanita chaparral subtype and most closely resembles the *Arctostaphylos* (*crustacea, tomentosa*) Shrubland Alliance described by Sawyer et al. (2009). Within the BSA, this community is primarily found on former Fort Ord lands. Maritime chaparral is a fairly open fire dependent community, and within the BSA was typically dominated by woollyleaf manzanita (*Arctostaphylos tomentosa*), with black sage, coyote brush, brittleleaf manzanita (*Arctostaphylos crustacea*), toyon, and ceanothus (*Ceanothus* spp.) While similar to the chamise chaparral vegetation community, this chaparral community is distinguished by a manzanita-dominant composition. Special status plant species sandmat manzanita (*Arctostaphylos pumila;* California Rare Plant Rank [CRPR] List 1B.2) was also present in varying concentrations within the maritime chaparral mapped within the BSA.

In some areas, sandmat manzanita was dominant in the shrub canopy. These areas were mapped as a sandmat manzanita chaparral subtype and most closely resembles the *Arctostaphylos* pumila Provisional Shrubland Alliance described by Sawyer et al. (2009). In this community, the shrub canopy was dense and low, dominated by sandmat manzanita with lesser components of black sage, chamise, ceanothus and coyote brush. Sandmat manzanita typically occurred in locally concentrated patches compared to the more widespread manzanita chaparral subtype. Maritime chaparral

community occurs primarily on the former Fort Ord and were observed in the BSA along the National Monument Loop segment.

Black Sage Scrub

The BSA contain approximately 55.2 acres of black sage scrub, with approximately 3.3 acres occurring within the current Trail corridor (not including options). This vegetation community most closely resembles the *Salvia mellifera* Shrubland Alliance described by Sawyer et al. (2009). Black sage scrub within the BSA is dominated by black sage, with lesser components of chamise, California sagebrush, manzanita, and coyote brush. This vegetation community is similar to chamise chaparral, with black sage as the dominant component the shrub canopy. Black sage scrub was generally quite dense and mature, within the BSA with the shrub canopy standing over five feet in height in many places. In many places this habitat type transitioned to intergrade between similar vegetation communities including chamise chaparral, California sagebrush scrub, and coyote brush scrub. This community was only observed at the southern end of the National Monument Loop segment and the Ryan Ranch segment; however, the same primary constituents of this community were present in varying concentrations throughout much of the BSA.

Chamise – Black Sage Chaparral

The BSA contain approximately 24.5 acres of chamise - black sage chaparral, with approximately 1.3 acres occurring within the current Trail corridor (not including options). This vegetation community is primarily present within the BSA in areas where the black sage scrub community interfaces with the chamise chaparral community. This vegetation community most closely resembles the *Adenostoma fasciculatum - Salvia mellifera* Shrubland Alliance described by Sawyer et al. (2009). Chamise – black sage chaparral is characterized by chamise and black sage as co-dominant in the shrub canopy with lesser components of ceanothus, California sagebrush, manzanita, and coyote brush throughout. This community was only observed at the southern end of the National Monument Loop segment.

California Sagebrush Scrub

The BSA contain approximately 12.4 acres of California sagebrush scrub, with approximately 0.9 acre occurring within the current Trail corridor (not including options). This vegetation community most closely resembles the *Artemisia californica* Shrubland Alliance described by Sawyer et al. (2009). It is dominated by California sagebrush, and generally includes smaller shrub species such as coyote brush, monkey flower, and deer weed (*Acmispon glaber*), with annual grasses or herbs in the opening between shrubs. Although it contains constituents of the chaparral communities, this vegetation type is typically more open and low-lying than the chaparral observed in the BSA. This community is typically located in openings within the coast live oak woodland and along the existing foot paths within the BSA along the Northern Loop and Northern Marina Trail segments.

Coyote Brush Scrub

The BSA contain approximately 27 acres of coyote brush scrub, with approximately 1.9 acres occurring within the current Trail corridor (not including options). This vegetation community most closely resembles the *Baccharis pilularis* Shrubland Alliance described by Sawyer et al. (2009). The shrub canopy is dominated by coyote brush but in many places within the BSA contains other shrubs

such as deer weed, and California sagebrush, and occasional coast live oak trees. The shrub canopy is generally relatively open with a scattered distribution of shrubs with annual grasses such as wild oats and bromes, and annual herbs such as filaree (*Erodium cicutatium*) and in gaps between shrubs. This community was observed within the BSA along the Northern Loop and Northern Marina segments.

Dune Scrub

The BSA contain approximately 42.7 acres of dune scrub, with approximately 1.6 acres occurring within the current Trail corridor (not including options). This vegetation community most closely resembles the *Lupinus albifrons* Shrubland Alliance described by Sawyer et al. (2009). It consists primarily of relatively low-lying shrub species such as California buckwheat, mock heather (*Ericameria ericoides*), silver dune lupine (*Lupinus albifrons*) and sandmat manzanita in a generally open distribution with grasses such as veldt grass (*Ehrharta calycina*), iceplant, and herbs such as beach evening primrose (*Camissoniopsis cheiranthifolia*) and sand mat (*Cardionema ramosissimum*), and bare sandy soil between shrubs. Special status plants species sandmat manzanita was observed as common within most of the dune scrub mapped within the BSA. Within some localized areas, sandmat manzanita was the dominant species, but patches were too small or localized to map as sandmat manzanita scrub. Dune scrub vegetation community was primarily mapped along the National Monument Loop segment.

Coastal Oak Sage Scrub

The BSA contain approximately 4.3 acres of coastal oak sage scrub, with approximately 0.3 acre occurring within the current Trail corridor (not including options). This community is not described by Holland (1986) or Sawyer et. al. (2009), but is comprised of coast live oak, California sagebrush, and coyote brush in equal dominance. The vegetation community generally formed an intergrade between coast live oak woodland and California sagebrush scrub or coyote brush scrub communities. Coast live trees were present within the tree canopy, but not at a dense enough distribution to function as a woodland. This community was observed within the BSA along the Northern Loop segment.

Mixed Monterey Pine - Oak Woodland

The BSA contain approximately 2.8 acres of mixed Monterey pine - oak woodland, with approximately 0.1 acre occurring within the current Trail corridor (not including options). This community is not described by Holland (1986) or Sawyer et al. (2009); however, this vegetation community is best described by the *Quercus agrifolia – Toxicodendron diversilobum* Alliance by Sawyer et al. This vegetation community includes a wooded portion of the BSA containing a canopy with coast live oak and Monterey pine occurring as codominant. The understory is fairly underdeveloped consisting mostly of bare soil and scattered shrubs such as deer weed and coyote brush, non-native grasses, and mats of iceplant. The special status plant species Monterey spineflower (*Chorizanthe pungens* var. *pungens*; federally threatened) was present in localized patches within the opening between shrubs. This vegetation community is located near the eastern terminus of Plumas Street within the Canyon Del Rey/SR 218 segment of the BSA.

Eucalyptus

The BSA contain approximately 0.4 acre of eucalyptus stands, with none occurring within the current Trail corridor. This community is not described by Holland (1986) or Sawyer et al. (2009) but is best described by the *Eucalyptus globulus* Semi-Natural Woodland Stands by Sawyer et al. This community occurs where there are large stands of eucalyptus trees, typically blue gum eucalyptus (*Eucalyptus globulus*). Generally, these have been planted as wind brakes and have become established as monotypic stands. They function much like landscaped vegetation communities; however due their monotypic condition are herein described and mapped as a separate community type. This community was observed sporadically throughout the BSA.

Open Water

The BSA contain approximately 0.9 acre of open water, with none occurring within the current Trail corridor. Fresh open water habitats occur at Roberts Lake and Laguna Grande. Originally a seasonal estuarine body of water, the Laguna Grande and Roberts Lake complex is now a freshwater marsh and two lakes. This community is not described by Holland (1986) or Sawyer et al. (2009) as it does not contain dominant vegetation. It is a portion of the Canyon Del Rey Creek that drains the 13.5 square mile Canyon Del Rey Creek watershed to the southeast. The creek flows through Laguna Grande, then into Roberts Lake, and finally into Monterey Bay. Despite the past disturbance to these lakes, wetlands, and associated communities, these habitats continue to support a variety of vegetation and wildlife. Because of this unusual setting, these coastal zone habitats are biologically and physically significant in that they represent a unique example of coastal zone plant and wildlife communities. Both coastal water bodies are frequent foraging and resting sites for resident and migrating water fowl.

Freshwater Emergent Wetlands

The BSA contain approximately 1.8 acres of freshwater emergent wetland, with approximately 0.1 acre occurring within the current Trail corridor (not including options). This vegetation community most closely resembles the *Schoenoplectus californicus* Herbaceous Alliance described by Sawyer et al. (2009). Freshwater emergent wetlands are generally dominated by hydrophytic perennial monocots. Soils within this vegetation community are typically saturated or inundated for many weeks each year. Freshwater emergent wetlands are only found along the Canyon Del Rey/SR 218 segment; at Laguna Grande and Roberts Lake, and Work Memorial Park adjacent to Canyon Del Rey Creek. At Laguna Grande and Roberts Lake freshwater marshes consist of large emergent herbaceous wetland species, including tule (*Schoenoplectus californicus*) and cattails (*Typha* spp.), which grow in a discontinuous band along the margins of both lakes in shallow waters. Soils are saturated or inundated for many weeks each year. This community also includes patches of other emergent herbaceous wetland vegetation, in which other, smaller emergent species such as rushes (*Juncus* spp.), pennywort (*Hydrocotyle ranunculoides*), spikerush (*Eleocharis macrostachya*), loosestrife (*Lythrum hyssopifolia*), rabbitsfoot grass (*Polypogon monspeliensis*), and brass buttons (*Cotula coronopifolia*) are intermixed in saturated soils at the edges of the lakes and stream. At Work Memorial Park vegetation observed in the emergent wetland was dominanted by salt grass (*Distichlis spicata*), with patches of cattails (*Typha* spp.), and pampas grass (*Cortaderia selloana*) and may better fit the *Typha* (*angustifolia, domingensis, latifolia*) Herbaceous Alliance described Sawyer et al. (2009).

Ephemeral Pond

The BSA contain less than 0.1 acre of ephemeral pond, with none occurring within the current Trail corridor (not including options). This land cover type is not described by Holland (1986) or Sawyer et al. (2009) as it does not contain dominant vegetation other than duckweed (*Lemna* spp.) or mosquito fern (*Azolla* spp.). The only portion of the BSA with ephemeral pond is Frog Pond in the Canyon Del Rey/SR 218 segment. Frog Pond is ephemeral and spring fed and generally consists of aquatic and submerged habitat for portions of the year. Vegetation along the margins of the open water pond habitat consists primarily of arroyo willow thicket, described separately below.

Developed

The BSA contain approximately 103.9 acres of developed lands, with approximately 17.9 acres occurring within the current Trail corridor (not including options). This land cover type is not naturally occurring and is not described in either the Holland (1986) or Sawyer et al. (2009) classification systems. This community consists of areas that have been modified such that most or all vegetation has been removed or only small areas of landscape vegetation are present. Parking lots, roads, sidewalks, structures, paved and unpaved pathways are included within this community. In some cases vegetation from adjacent areas may overhang. Playgrounds, picnic areas, gravel areas, roadside pullouts, and areas of urban-related bare soil are included in this land cover type.

Ruderal

The BSA contain approximately 20.3 acres of ruderal lands, with approximately 0.9 acre occurring within the current Trail corridor (not including options). Habitats that have been heavily disturbed or altered such that natural vegetation has largely been removed are mapped as ruderal areas. These sites do not correspond well with either the Holland (1986) or Sawyer et al. (2009) classification systems. Ruderal areas have had visible disturbance of soil or vegetation and are mostly bare and colonized by weeds and disturbance-tolerant natives, such as fiddleneck (*Amsinckia* sp.), wild radish (*Raphanus sativa*), field mustards (*Hirschfeldia* spp., *Brassica* spp.), cheeseweed (*Malva parviflora*), annual grasses and filaree. The ruderal habitat is found in all segments of the BSA and typically occurs along roadsides and the margins of buildings.

Arroyo Willow

The BSA contain approximately 3.4 acres of arroyo willow, with approximately 0.5 acre occurring within the current Trail corridor (not including options). This vegetation community most closely resembles the *Salix lasiolepis* Shrubland Alliance described by Sawyer et al. (2009). It occurs primarily along the margins of Frog Pond and is a dense riparian community dominated by a canopy of mature arroyo willow (*Salix lasiolepis*) trees. The mid-story canopy of this community consists of immature arroyo willow, ocean spray (*Holodiscus discolor*) and dogwood (*Cornus* sp.). The understory is generally quite developed, consisting of dense tangles of California blackberry (*Rubus ursinus*) and poison oak, cinquefoil (*Potentilla anserina*), horsetails (*Equisetum* spp.), and rushes (*Juncus* spp.).

Bare Ground/Disturbed

The BSA contain approximately 7.7 acres of bare ground/disturbed lands, with approximately 0.6 acre occurring within the current Trail corridor (not including options). This land cover type is not

naturally occurring and is not described in either the Holland (1986) or Sawyer et al. (2009) classification systems. This land cover type occurs where no vegetation is present includes bare soil or sand. This land cover type was mapped where bare soils were likely the results of disturbance such as development or construction activities. This land cover type was observed sporadically throughout the BSA.

Burn Succession

The Study area contains 4.75 acers of Burn succession, with approximately 0.12 acre occurring within the project corridor (not including options). This area was recently burned and dominated by deer weed (*Acmispon glaber*) and annual grasses. This community is limited to the Ryan Ranch Trail segment.

Summary of Vegetation Communities and land Cover Types

Due to the location of development and urbanization focused along the coast, many of the segments along the western side of the BSA contain less natural habitats and vegetation communities. These segments are largely developed, including the CSUMB campus and Cities of Seaside, Del Rey Oaks, and Marina. Conversely, the segments along the eastern side of the BSA contain more natural chaparral habitats and less development. A summary of the total acreage of each vegetation community and land cover type occurring within the Trail corridor for each segment is presented below Table 1. The proposed Trail options are included in Table 2.

Table 1. Acreage of Vegetation Communities and Land Cover Types in The FORTAG Corridor (Not Including Options)

	Northern Marina	Northern Loop	CSUMB Loop North	CSUMB Loop South	National Monument Loop	Ryan Ranch	Canyon Del Rey/SR 218
Vegetation Community*							
Non-Native Annual Grassland	0.55	3.33	0.41	0.14	0.52	0.03	
Iceplant Mat		0.05	0.20	2.03	1.07		0.15
Coast Live Oak Woodland		5.07	0.58	0.76	3.27		1.80
Riparian Woodland							0.36
Chamise Chaparral					0.54	0.28	
Maritime Chaparral			1.27		0.62		0.01
Black Sage Scrub					1.17	1.77	0.36

	Northern Marina	Northern Loop	CSUMB Loop North	CSUMB Loop South	National Monument Loop	Ryan Ranch	Canyon Del Rey/SR 218
Chamise – Black Sage Chaparral					1.27		
California Sagebrush Scrub		0.88					
Coyote Brush Scrub	0.03	1.16					
Dune Scrub			1.63	<0.01			
Coastal Oak Sage Scrub		0.44					
Mixed Monterey Pine - Oak Woodland				0.06		<0.01	0.01
Freshwater Emergent Wetlands							0.16
Ruderal	0.62		0.08	0.01	0.02		0.12
Arroyo Willow							0.26
Burn Succession						0.12	
Land Cover Type							
Landscaped	0.08		0.71	0.43	0.02		1.06
Agriculture	0.41						
Open Water							0.02
Detention Basin			0.03				
Developed	2.75	2.00	2.49	1.80	5.80	0.37	3.12
Bare Ground			0.40	0.04	0.08	0.02	0.06
Ephemeral Pond							<0.01

*Eucalyptus and Ephemeral Pond do not occur in the Trail corridor.

Table 2. Acreage of Vegetation Communities and Land Cover Types in The FORTAG Corridor (Including Options)

	Northern Marina	Northern Loop	CSUMB Loop North	CSUMB Loop South	National Monument Loop	Ryan Ranch	Canyon Del Rey/SR 218
Vegetation Community*							
Non-Native Annual Grassland	8.00	3.23	0.49	0.14	0.52	0.03	
Iceplant Mat		0.05	0.21	2.11	1.07		0.15
Coast Live Oak Woodland	0.07	5.04	0.43	0.72	3.27		1.80
Riparian Woodland							0.29
Chamise Chaparral					0.54		
Maritime Chaparral			1.66		0.62		0.01
Black Sage Scrub					1.17	1.77	0.36
Chamise – Black Sage Chaparral					1.27		
California Sagebrush Scrub		0.88					
Coyote Brush Scrub	1.03	0.86					
Dune Scrub				<0.01	1.63		
Coastal Oak Sage Scrub		0.44					
Mixed Monterey Pine - Oak Woodland				0.06		<0.01	0.01
Freshwater Emergent Wetlands							0.19
Ruderal	0.05		0.31	0.01	0.02		0.10
Arroyo Willow	0.26						

	Northern Marina	Northern Loop	CSUMB Loop North	CSUMB Loop South	National Monument Loop	Ryan Ranch	Canyon Del Rey/SR 218
Burn Succession						0.12	
Land Cover Type							
Landscaped	2.55		0.71	0.38	0.02		1.14
Agriculture							
Open Water							<0.01
Detention Basin			0.03				
Developed	4.11	2.06	2.23	1.78	5.80	0.37	3.33
Bare Ground			0.40	0.04	0.08	0.02	0.06
Ephemeral Pond							<0.01

*Eucalyptus and Ephemeral Pond do not occur in the Trail corridor.

3.3 General Wildlife

Wildlife observed in the BSA varies based on habitat type and availability. The portion of the alignment that runs along General Jim Moore Boulevard at the southern end of the BSA, consists of coastal dunes and open scrub habitat and provides habitat for species common to these xeric habitats. Avian species observed/detected in these areas of the BSA include California thrasher (*Toxostoma redivivum*), California quail (*Callipepla californica*), California scrub jay (*Aphelocoma californica*), California towhee (*Melozone crissalis*), American bushtit (*Psaltriparus minimus*), and turkey vulture (*Cathartes aura*). Reptile species observed include western fence lizard (*Sceloporus occidentalis*), Blainville's horned lizard (*Phrynosoma coronatum*), and northern Pacific rattlesnake (*Crotalus oreganus*).

The segment of alignment that extends from the CSUMB campus east along Inter-Garrison Road consists of oak woodland and chaparral habitats. Avian species observed/detected in these areas of the BSA include red-tailed hawk (*Buteo jamaicensis*), white-tailed kite (*Elanus leucurus*), California quail, California scrub jay and turkey vulture. Mammalian species observed include California ground squirrel (*Otospermophilus beecheyi*) and bobcat (*Lynx rufus*).

Open annual grassland located in the northern portion of the BSA near the Marina Municipal Airport provides habitat for species observed including northern harrier (*Circus hudsonius*), red-tailed hawk, California ground squirrel, and western fence lizard.

Freshwater habitats at Roberts Lake, Laguna Grande, and Canyon Del Rey Creek support aquatic wildlife species including Sierran tree frog (*Pseudacris sierra*). Ponds provide habitat for other tree frogs and garter snakes, although additional species where not observed. Avian species observed in these freshwater habitats include American coot (*Fulica Americana*), Canada goose (*Branta*

canadensis), and Great blue heron (*Ardea herodias*). These aquatic features along with Frog Pond support riparian areas where avian species including red-tailed hawk, red-shouldered hawk (*Buteo lineatus*), and red-winged blackbird (*Agelaius phoeniceus*) occur.

The portions of the BSA running through the CSUMB campus and from the Marina Municipal Airport west to the coast present urban and developed habitat. Wildlife observed in these areas is consistent with urban disturbance tolerant species, including American crow (*Corvus brachyrhynchos*), anna's hummingbird (*Calypte anna*), black phoebe (*Sayornis nigricans*), California scrub jay, red-shouldered hawk, and red-tailed hawk. Parks and landscaped trees also provide habitat for native birds such as California towhee, bushtit, California scrub-jay, and chestnut-backed chickadee (*Poecile rufescens*).

4 Sensitive Biological Resources

Local, state, and federal agencies regulate special status species and other sensitive biological resources and require an assessment of their presence or potential presence to be conducted on-site prior to the approval of proposed development on a property. This section discusses sensitive biological resources observed on the project site, and evaluates the potential for the project site to support additional sensitive biological resources. Assessments for the potential occurrence of special status species are based upon known ranges, habitat preferences for the species, species occurrence records from the CNDDB, species occurrence records from other sites in the vicinity of the survey area, previous reports for the project site, and the results of surveys of the project site. The potential for each special status species to occur in the BSA was evaluated according to the following criteria:

- **No Potential.** Habitat on and adjacent to the site is clearly unsuitable for the species requirements (foraging, breeding, cover, substrate, elevation, hydrology, plant community, site history, disturbance regime), and species would have been identifiable on-site if present (e.g., oak trees). Protocol surveys (if conducted) did not detect species.
- **Low Potential.** 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. Protocol surveys (if conducted) did not detect species.
- **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 (e.g., CNDDB, other reports) on the site recently (within the last five years).

4.1 Special Status Species

4.1.1 Special Status Plant Species

Fifty-six (56) special status plant species known to occur in the region were evaluated for their potential to occur in the BSA (Appendix E). Based on the length of the proposed Trail alignment and size of the BSA, and the types and quality of natural vegetation communities within the BSA, only 12 special status plant species could be excluded based on the lack of species-specific habitat features within the BSA. Six special status species were observed during the reconnaissance survey. A total of 38 special status plant species have potential to occur within the BSA (Table 3). Those plants that are federally and/or state listed as endangered or threatened are discussed in detail in the following sections.

Table 3 Special Status Plant Species with Potential to Occur in the BSA

Common Name	Scientific Name	Status
Low Potential to Occur		
Hutchinson's larkspur	*Delphinium hutchinsoniae*	CRPR 1B. 2
Umbrella larkspur	*Delphinium umbraculorum*	CRPR 1B. 3
Pinnacles buckwheat	*Eriogonum nortonii*	CRPR 1B. 3
Beach layia	*Layia carnosa*	Federal and state endangered
Tidestrom's lupine	*Lupinus tidestromii*	Federal and state endangered
Carmel Valley bush-mallow	*Malacothamnus palmeri* var. *involucratus*	CRPR 1B. 2
Carmel Valley malacothrix	*Malacothrix saxatilis* var. *arachnoidea*	CRPR 1B. 2
Monterey clover	*Trifolium trichocalyx*	Federal and state endangered
Moderate Potential to Occur		
Vernal pool bent grass	*Agrostis lacuna-vernalis*	CRPR 1B.1
Jolon clarkia	*Clarkia jolonensis*	CRPR 1B. 2
San Francisco collinsia	*Collinsia multicolor*	CRPR 1B. 2
Hospital Canyon larkspur	*Delphinium californicum* ssp. *interius*	CRPR 1B. 2
Menzies' wallflower	*Erysimum menziesii*	Federal and state endangered
Point Reyes horkelia	*Horkelia marinensis*	CRPR 1B. 2
Contra Costa goldfields	*Lasthenia conjugens*	CRPR 1B. 1
Oregon meconella	*Meconella oregana*	CRPR 1B. 1
Marsh microseris	*Microseris paludosa*	CRPR 1B. 2
Choris' popcornflower	*Plagiobothrys chorisianus* var. *chorisianus*	CRPR 1B. 2
Hickman's cinquefoil	*Potentilla hickmanii*	Federal and state endangered
Angel's hair lichen	*Ramalina thrausta*	CRPR 2B. 1
Pine rose	*Rosa pinetorum*	CRPR 1B. 2
Santa Cruz microseris	*Stebbinsoseris decipiens*	CRPR 1B. 2
Santa Cruz clover	*Trifolium buckwestiorum*	CRPR 1B. 1
Saline clover	*Trifolium hydrophilum*	CRPR 1B. 2
Pacific Grove clover	*Trifolium polyodon*	CRPR 1B. 1
High Potential to Occur		
Hooker's manzanita	*Arctostaphylos hookeri* ssp. *hookeri*	CRPR 1B. 2
Toro manzanita	*Arctostaphylos montereyensis*	CRPR 1B. 2
Pajaro manzanita	*Arctostaphylos pajaroensis*	CRPR 1B. 1
Pink Johnny-nip	*Castilleja ambigua* var. *insalutata*	CRPR 1B. 1
Congdon's tarplant	*Centromadia parryi* ssp. *congdonii*	CRPR 1B. 1
Fort Ord spineflower	*Chorizanthe minutiflora*	CRPR 1B. 2
Robust spineflower	*Chorizanthe robusta* var. *robusta*	Federally endangered

Common Name	Scientific Name	Status
Seaside bird's-beak	*Cordylanthus rigidus* ssp. *littoralis*	State endangered
Eastwood's goldenbush	*Ericameria fasciculata*	CRPR 1B. 1
Sand-loving wallflower	*Erysimum ammophilum*	CRPR 1B. 2
Kellogg's horkelia	*Horkelia cuneata* var. *sericea*	CRPR 1B. 1
Northern curly-leaved monardella	*Monardella sinuata* ssp. *nigrescens*	CRPR 1B. 2
Yadon's rein orchid	*Piperia yadonii*	Federally endangered
Present		
Monterey spineflower	*Chorizanthe pungens* var. *pungens*	Federally threatened
Monterey gilia	*Gilia tenuiflora* ssp. *arenaria*	Federally endangered and state threatened
Hickman's onion	*Allium hickmanii*	CRPR 1B.2
Sandmat manzanita	*Arctostaphylos pumila*	CRPR 1B. 2
Monterey cypress (Landscaped)	*Hesperocyparis macrocarpa*	CRPR 1B. 2
Monterey pine (Landscaped)	*Pinus radiata*	CRPR 1B. 1

CRPR (CNPS California Rare Plant Rank)

1A=Presumed Extinct in California

1B=Rare, Threatened, or Endangered in California and elsewhere

2A=Plants presumed extirpated in California, but more common elsewhere

2B=Plants Rare, Threatened, or Endangered in California, but more common elsewhere

CRPR Threat Code Extension

.1=Seriously endangered in California (over 80% of occurrences threatened/high degree and immediacy of threat)

.2=Fairly endangered in California (20-80% occurrences threatened)

.3=Not very endangered in California (<20% of occurrences threatened)

Beach Layia

Beach layia (*Layia carnosa*) is a succulent annual herb belonging to the sunflower family (Asteraceae). As a winter annual, Layia carnosa germinates during the rainy season between fall and mid-winter, blooms in spring (April to June), and completes its life cycle before the dry season. Beach layia is restricted to coastal openings in coastal sand dunes ranging in elevation from 0 to over 100 feet, where it colonizes sparsely vegetated, semi-stabilized dunes and blowouts. The species often occurs in narrow bands of moderately disturbed habitat along the edges of Trails and roads.

Suitable sandy soils and coastal sand dunes habitat is present within the BSA. There are two known occurrences, at Point Pinos and Asilomar recorded in the CNDDB. This species is most likely to occur in the coastal dunes along the National Monument Loop segment on the former Fort Ord or the western terminus of the CSUMB Loop South segment.

Tidestrom's Lupine

Tidestrom's lupine (*Lupinus tidestromii*) is a creeping perennial herb and belongs to the pea family (Fabaceae). Tidestrom's lupine is found in the coastal dune communities of California and thrives in areas of moderate disturbance and shifting dune dynamics. It occurs in the mild maritime climate of the central California coast on partially stabilized dune communities. It is found in three disjunct areas: throughout the northern portion of the Monterey Peninsula in Monterey County, near Half Moon Bay, and from the northwest portion of Marin County at Point Reyes National Seashore to the Russian River, Sonoma County.

Marginal dune habitat is present within the dune scrub community within BSA. There are five known occurrences within five miles of the BSA distributed among three locations: Pt. Pinos, Asilomar, and Spanish Bay. This species is most likely to occur in the dune scrub along the National Monument Loop segment on the former Fort Ord or the western terminus of the CSUMB Loop South segment.

Monterey Clover

Monterey clover (*Trifolium trichocalyx*) is a many-branched prostrate annual herb of the pea family (Fabacea). It is a classic fire follower, taking advantage of reduced forest cover that allows a significantly higher proportion of light to reach the herbaceous ground cover for the first few years after a fire. This species is mostly found in closed-cone coniferous forests and in openings and recently burned areas or along roadsides. Monterey clover tends to occur in sandy soils and blooms from April through June.

Suitable coniferous forest habitat is present but limited within the BSA. Additionally, the burn success community in the southern extent of the Ryan Ranch segment of the BRA could provide suitable habitat. There are eight known occurrences within five miles of the BSA, all of which occur in the Del Monte Forest.

Menzies' Wallflower

Menzies' wallflower (*Erysimum menziesii*) is a member of the mustard family (Brassicaceae). Its life history is that of a semelparous (monocarpic) perennial, meaning that it flowers and produces fruit only once during its lifespan, after which it dies. Blooming typically occurs from March through April, although it may begin as early as late February. Menzies' wallflower occurs in the dune mat community, on the flanks or crests of dunes, in open sandy areas, on sparsely vegetated dunes, and in the borders of lupine scrub (Botanica Northwest Associates 1992 as cited in USFWS 2008).

Limited coastal dune or coastal strand habitat is present in some areas of the BSA. There are eight known occurrences within five miles of the BSA. This species is most likely to occur in dune scrub habitat along the National Monument Loop segment or near the coast on the CSUMB North Loop and CSUMB South Loop segments.

Hickman's Cinquefoil

Hickman's cinquefoil (*Potentilla hickmanii*) is a small, long-lived, herbaceous perennial in the rose family (Rosaceae). The species is currently known from two native populations. On a broad scale, habitat for Hickman's cinquefoil has been described as coastal terrace prairie (Holland 1986, Stromberg et al. 2001) and valley grassland (Holland and Keil 1990). On a finer scale, these grasslands would be described as belonging to various vegetation series including the California

oatgrass series (Sawyer and Keeler-Wolf 2009). In Monterey County, Hickman's cinquefoil is found within a degraded meadow in an opening within a Monterey pine forest.

Marginal Monterey pine forest habitat is present but limited within the BSA; however, Monterey pine habitat typically occurs within a landscape vegetation community context, and suitable meadow habitat within such is limited to absent. There are two known occurrences within five miles, both of which occur in Pacific Grove. This species has a low potential for occurrence, but is most likely to occur along the National Monument Loop, CSUMB Loop South, CSUMB North, and Northern Loop Trail segments where landscaped Monterey pine forest and mixed oak and Monterey pine woodland is present.

Robust Spineflower

Robust spineflower (*Chorizanthe robusta* var. *robusta*) is a prostrate winter-spring annual herb in the buckwheat family (Polygonaceae). It is found in open sandy areas away from dense competitive plants in active dunes and stabilized ancient dune areas, primarily north of the former Fort Ord in Santa Cruz County. This species grows in sandy soils associated with active coastal dunes and inland sites with sandy soils. Plant communities that support this species include coastal dune, coastal scrub, grassland maritime chaparral, and oak woodland communities. Robust spineflower tends to be located in the openings between dominant elements in these communities (e.g., scrub, shrub, oak trees, clumps of herbaceous vegetation).

No occurrences have been reported to the CNDDB within five miles of the BSA; however, several individuals were observed in dune habitat on the former Fort Ord and this species was included in the HMP and BO but has not been seen since and may have been misidentified (USACE 2018). This species is most likely to occur within dune scrub habitat along the National Monument Loop and Northern Loop segments on the former Fort Ord.

Seaside Bird's-Beak

Seaside bird's beak (*Cordylanthus rigidus* ssp. *littoralis*) is a bushy annual herb in the figwort family (Scrophulariaceae). It flowers in the summer and insect pollinated to produce small seeds that are dropped or shaken by wind from their capsule. This species grows in sandy soils of stabilized dunes covered by closed-cone pine forest, cismontane woodland, maritime chaparral, coastal scrub, and grasslands. Seaside bird's-beak thrives in areas of recent surface soil disturbance or in areas with reduced levels of competition from shrubs and herbaceous plants.

Suitable habitat is present throughout the BSA in the sandy soils of the coastal scrub and dunes. According to the CNDDB, there are 13 known or historic occurrences within five miles of the BSA. This species is most likely to occur along the National Monument Loop and Northern Marina segments.

Yadon's Rein Orchid

Yadon's rein orchid (*Piperia yadonii*) is a slender perennial herb in the orchid family (Orchidaceae), that grows from an underground caudex/corm from the early spring through summer and recedes into dormancy during the late summer through winter. Plants may produce only vegetative growth for several years before first producing flowers (Rasmussen 1995). The blooming season is fairly short, with the first flowers opening mid- to late-June and blooming generally completed by early August. Recent data suggest that only a small percentage (typically 2 to 5 percent) of individuals in a population may flower in any year (Allen 1996).

The species is endemic to Monterey County and has been found in two primary habitat types, Monterey pine forest and chaparral, but is also found in coastal scrub and in grasslands mixed with planted Monterey pines. In Monterey pine forest habitat, the species appears to favor a predominantly herbaceous understory typically under the perimeter canopy of evergreen huckleberry (*Vaccinium ovatum*) and woollyleaf manzanita. In chaparral, the species is typically found on rocky outcroppings, in sandy areas or eroded ridgetops where the soil is shallow, growing beneath dwarfed Hooker's manzanita shrubs (Morgan and Ackerman 1990; Allen 1996). Overall, this species favors a well-drained sandy soil substrate that retains moisture during the rainy season but is not subject to inundation.

Critical habitat for this species was designated on October 24, 2007 and includes areas throughout the BSA. Suitable habitat is present in the Monterey pine forest and chaparral located throughout the BSA. There are 11 known occurrences within five miles of the BSA and this species is known to occur on the former Fort Ord. Two species of piperia were detected within the BSA during the reconnaissance surveys: Mountain piperia (*Pieria transversa*) and Mike's rein orchid (*Piperia michaelii*). Yadon's rein orchid is most likely to occur along the National Monument Loop and Northern Loop segments that run through the former Fort Ord.

Monterey Spineflower

Monterey spineflower (*Chorizanthe pungens* var. *pungens*) is a prostrate annual species in the buckwheat family (Polygonaceae). Seeds typically germinate after the onset of winter rains and plants can be found above ground as early as December (Fox et al. 2006). Flowering occurs from late March to June, depending on weather patterns, and seed is dispersed in mid-summer. The species colonizes open sandy sites and tends to invade roadsides and firebreaks. It is found in maritime chaparral, coast live oak woodland, coastal scrub, grassland, and coastal dune habitats. Monterey spineflower occurs along the coast of southern Santa Cruz and Monterey counties and inland to the coastal plain of the Salinas Valley.

Critical habitat was designated for this species on May 29, 2002 and revised on January 9, 2008 and includes area on the former Fort Ord within the BSA. There are known occurrences of Monterey spineflower that cover most of the former Fort Ord, the Marina Airport, and dunes west of SR 1. These occurrences extend across the Trail alignments for most of the reach within the former Fort Ord. This species was observed in many locations during the reconnaissance surveys, primarily in open and disturbed habitats.

Monterey Gilia

Monterey gilia (*Gilia tenuiflora* ssp. *arenaria*) is a small, erect annual plant in the phlox family (Polemoniaceae), endemic to the Monterey Bay area of Monterey County, California. Monterey gilia typically germinates from December to February. It can self-pollinate as well as outcross, and fruit is set from the end of April to the end of May. The plant occurs along Trails and roadsides, on the cut banks of sandy ephemeral drainages, in recently burned chaparral, and in other disturbed patches. It appears to do well on sites that have undergone recent substrate disturbance. Most populations are small and localized.

Monterey gilia is generally found in the fog belt area but extends to inland areas as well. Along the coast Monterey gilia is found on rear dunes, near the dune summit in level areas, and on depressions or slopes in wind-sheltered openings in low-growing dune scrub vegetation. It does not occur in areas exposed to strong winds and salt spray. On ancient dune soils, which extend inland, it

occurs in openings among maritime chaparral, coastal sage scrub, oak woodlands, grasslands, and where other vegetative cover is low.

This species is known from 28 occurrences within five miles of the BSA and one large population (over 1,700 individuals) is mapped within the Trail alignment just north of Watkins Gate Road. This species was observed within the CSUMB Loop North segment during reconnaissance surveys.

4.1.2 Special Status Animal Species

Thirty-seven (37) special status animal species known to occur in the region were evaluated for their potential to occur on the project site (Appendix E). Based on the length of the proposed Trail alignment and size of the BSA, and the types and quality of natural vegetation communities within the BSA, only 16 special status animal species could be excluded based on the lack of species-specific habitat features present within the BSA. These species generally occur in marine habitats or the BSA is outside of the species known range. Twenty (20) special status animal species have some potential to occur in the BSA (Table 4). These species are discussed in further detail in the following sections.

Table 4 Federal and State Listed Animals with Potential to Occur in the Plan Area

Common Name	Scientific Name	Status
Low Potential to Occur		
Pallid bat	*Antrozous pallidus*	SSC
Townsend's big-eared bat	*Corynorhinus townsendii*	SSC
Moderate Potential to Occur		
Smith's blue butterfly	*Euphilotes enoptes smithi*	FE
California red-legged frog	*Rana draytonii*	FT
Coast Range newt	*Taricha torosa*	SSC
Tricolored blackbird	*Agelaius tricolor*	ST
Golden eagle	*Aquila chrysaetos*	FP, WL
High Potential to Occur		
Northern California legless lizard	*Anniella pulchra*	SSC
Western pond turtle	*Emys marmorata*	SSC
Two-striped gartersnake	*Thamnophis hammondii*	SSC
California tiger salamander	*Ambystoma californiense*	FT/ST
Cooper's hawk	*Accipiter cooperii*	WL
Burrowing owl	*Athene cunicularia*	SSC
Ferruginous hawk	*Buteo regalis*	WL
White-tailed kite	*Elanus leucurus*	FP
California horned lark	*Eremophila alpestris actia*	WL
American badger	*Taxidea taxus*	SSC
Monterey dusky-footed woodrat	*Neotoma fuscipes luciana*	SSC
Present		
Coast horned lizard	*Phrynosoma blainvillii*	SSC
Northern harrier (foraging)	*Circus cyaneus*	SSC

SSC = CDFW Species of Special Concern; FP = State Fully Protected; WL = State Watch List
FT = Federal Threatened; FE = Federal Endangered; ST = State Threatened

Smith's Blue Butterfly

Smith's blue butterfly (*Euphilotes enoptes smithi*) occur in scattered populations in association with coastal dune, coastal scrub, chaparral, and grassland habitats (Scott 1986). They spend their entire lives in association with two host buckwheat plants: cliff buckwheat (*Erigonum parviflorum*) and seaside buckwheat (*E. latifolium*). Both buckwheat host plants are utilized as larval and adult food plants.

There are six known occurrences of this species within five miles of the BSA. Four of these occurrences are recorded along the beaches and dunes west of the BSA. The coastal dunes and coastal scrub habitats in the former Fort Ord provide suitable sandy soils and vegetation. The majority of suitable habitat for this species is present along the National Monument Loop, Northern Loop, and Northern Marina segments, and the potential for this species to occur is limited to those areas of the BSA where suitable habitat including seaside buckwheat and cliff buckwheat occur.

California Tiger Salamander

California tiger salamander (CTS) is a federally and state threatened species found primarily in grasslands and low foothill and oak woodland habitats located within approximately 2,200 feet (671 meters [m]) of breeding pools (Trenham and Shaffer 2005). CTS breed in long-lasting rain pools (e.g., seasonal ponds, vernal pools, slow-moving streams) that are often turbid, and occasionally in permanent ponds lacking fish predators. Adults spend 90 percent of their lives underground. Potential and known breeding habitat includes wetland and open water habitats. During the non-breeding season, adults occur in upland habitats and occupy small mammal burrows (ground squirrel, pocket gopher, etc.) and other subterranean cover (e.g., cracks, root hollows, etc.). They migrate nocturnally to aquatic sites to breed during relatively warm winter or spring rains. Juveniles emigrate at night from the drying pools to upland refuge sites, such as rodent burrows and cracks in the soil.

There are 29 known occurrences of this species within five miles of the BSA. Most of these occur west of the National Monument Loop and Northern Loop segments. The nearest CNDDB record for this species overlaps the BSA at the intersection of Inter-Garrison Road and Reservation Road, where breeding was observed at detention basin. Suitable marginal breeding habitat is present within the BSA where detention basins are located, however the basins are generally surrounded by development which would be a significant barrier for movement. During aquatic sampling at the Armstrong Ranch agricultural basin CTS larva and eggs were observed in 2007 (Marina 2008). The Armstrong ranch Ag basin is located just west of the Northern Marina segment. At the request of USFWS genetic testing was performed and the CTS were determined to be 99% non-native. USFWS concurred that the CTS in the basin and surrounding uplands were not protected under the Endangered Species Act(Marina 2008). Most of the BSA does not provide suitable breeding habitat; however, the species could occur in suitable upland habitat within 1.3 miles of potential CTS breeding habitat. Potential breeding habitat within 1.3 miles of the BSA is generally limited to a handful of detention basins within Seaside, and known or potential breeding ponds, mostly located on FORA lands to the east (Appendix A, Figure 6). Upland grassland habitat within 1.3 miles of these sites has potential to support CTS, and the species is most likely to occur in these habitats along the National Monument Loop and Northern Loop segments where they are within dispersal distance from known or potential breeding sites.

California Red-legged Frog

California red-legged frog (CRLF) is a federally threatened species that occurs in lowlands and foothills in or near permanent sources of deep water with dense, shrubby or emergent riparian vegetation. It typically inhabits quiet pools of streams, marshes, and ponds. All life history stages are most likely to be encountered in and around breeding sites, which include coastal lagoons, marshes, springs, permanent and semi-permanent natural ponds, and ponded and backwater portions of streams, as well as artificial impoundments such as stock ponds, irrigation ponds, and siltation ponds. Eggs are typically deposited in permanent pools, attached to emergent vegetation. This species typically requires 11 to 20 weeks of permanent water for larval development and must have access to estivation habitat. Suitable upland habitat must provide sufficient moisture to prevent desiccation and sufficient cover to provide protection from predators. Typical upland habitat consists of downed woody vegetation, leaf litter, and small mammal burrows, densely vegetated areas, and even, man-made structures (i.e., culverts, livestock troughs, spring-boxes, abandoned sheds) (USFWS 2002a).

There are 29 known occurrences of this species within five miles. Most of these occur along the Carmel River, which is more than three miles south of the BSA, at a distance too far to disperse into the BSA. One occurrence was reported from the Salinas River, north of the Northern Marina segment. Suitable habitat is present at Roberts Lake, Laguna Grande and the Frog Pond Wetland Preserve where ponded water and emergent aquatic vegetation are perennially present. Suitable upland habitat is present immediately adjacent to the Roberts Lake, Laguna Grande, and the Frog Pond in willow riparian habitat.

Upland habitat within the remainder of the BSA is generally marginal or unsuitable for long term usage: ephemeral or intermittent drainages are dry for most of the year, and surrounding lands, including those near potential CTS breeding sites (Appendix A, Figure 6), are too xeric to provide suitable upland habitat. Urban development in the western part of the BSA inhibits the dispersal of CRLF from one site to another.

Coast Range Newt

Coast range newt is a CDFW species of special concern that inhabits terrestrial habitats such as oak woodlands, annual grassland, and chaparral where sufficient moisture is present. As adults they will migrate over 0.62 mile (1 km) to breed in ponds, reservoirs and slow-moving streams. There are currently no CNDDB records for the coast range newt within five miles of the BSA. However, the BSA is within the known range of the species and suitable terrestrial and ponded habitats are present within the Roberts Lake, Laguna Grande and the Frog Pond areas of the BSA.

Western Pond Turtle

Western pond turtle is a CDFW species of special concern that is found in ponds, lakes, rivers, creeks, marshes, and irrigation ditches, with abundant vegetation. It requires basking sites of logs, rocks, cattail mats, or exposed banks. Western pond turtle is active from approximately February to November. It will estivate during summer droughts by burying itself in soft bottom mud. When creeks and ponds dry up in summer, some turtles will travel along the creek until they find an isolated deep pool, others stay within moist mats of algae in shallow pools, and many turtles move to woodlands above the creek or pond and bury themselves in loose soil. Pond turtle will overwinter underground until temperatures warm up and the heavy winter flows of the creek subside. They return to the creek in the spring.

Suitable habitat for this species is present at Laguna Grande and the Frog Pond, and Canyon Del Rey Creek may provide a corridor for movement between the two. This species is also known to occur on the former Fort Ord and other ponds within five miles of the BSA. This species is most likely to occur along the Canyon Del Rey/SR 218 segment.

Northern California Legless Lizard

The northern California legless lizard is CDFW species of special concern that is typically found in coastal dune, valley-foothill chaparral, and coastal scrub vegetation communities, and areas with sandy or loose organic soils or high amounts of leaf litter. The species prefers moist warm loose soil with plant cover, and moisture is an essential component of their habitat requirements (California Herps 2019). Occurs in sparsely vegetated areas of beach dunes, chaparral, pine-oak woodlands.

California legless lizards have been documented within five miles of the BSA. Most of the 39 occurrences recorded are along the beaches west of the BSA. Suitable soils and shrubby habitat are present in open coast scrub and dunes at the former Fort Ord; however, these areas may lack sufficient moisture for the species.

Coast Horned Lizard

Coast horned lizard is a CDFW species of special concern that is found in grasslands, coniferous forests, woodlands, and chaparral, in open areas of sandy or loose soil. Horned lizards are active above-ground between April and October, with most activity concentrated between April and June. During the remainder of the year they aestivate underground in mammal burrows or rock crevices or beneath objects such as boulders and logs. Horned lizard diets are specialized and almost exclusively consist of native ants (>94 percent by prey item [Suarez et al. 2000]). There are currently no CNDDB records for the coast horned lizard within five miles of the BSA. However, the BSA is within the known range of the species and suitable grassland and woodland habitats and sandy soils are present within the BSA. The species was observed in the National Monument Loop segment during the reconnaissance survey. The species has potential to occur anywhere in the BSA with suitable sandy open areas but is unlikely to occur in the more developed segments where dispersal barriers (roads, commercial and residential development, etc.) reduce the ability for the species to access isolated patches of suitable habitat.

Two-striped Garter Snake

The two-striped garter snake is a CDFW species of special concern that occurs from Monterey County south along the coast, mostly west of the South Coast Ranges, into San Diego County west of the Peninsular Ranges. It is primarily an aquatic species that occurs near ponds, pools, creeks, cattle tanks, and other sources of water within oak woodland, chaparral, scrub communities, and coniferous forest habitats. It is often found in rocky areas also. Depending upon weather conditions, two-striped garter snake can be active during January through November and typically breeds March through April.

Suitable habitat is present in the BSA at Laguna Grande and the Frog Pond, and there are five known occurrences within five miles of the BSA. The nearest CNDDB record occurs just west of the Northern Marina Trail segment. The BSA is within the known range of the species and aquatic and woodland habitats are present within the BSA. Due to the presence of standing fresh water at Laguna Grand and the Frog Pond, two-striped garter snake has a high potential to occur within the BSA.

Cooper's Hawk

Cooper's hawk is a state watch list species. A small raptor that breeds in oak woodlands and deciduous riparian areas, its nests are often constructed near water, and the species forages in a variety of woodland and edge habitats. An agile flier, the species is known to pursue small birds and mammals through thickets and woodlands, and generally occurs in wooded areas. During the winter months, the Cooper's hawks utilize a wider variety of habitats for foraging including open fields and grasslands.

This species was observed during surveys of the Del Rey Oaks Trail segment. CNDDB contained no records for this species; however, this species is not often reported to CNDDB, and the species is known to occur in the region, with an abundance of observations on eBird. Suitable nesting habitat in the BSA consists of oak woodland canopy and riparian areas. The BSA contains suitable foraging habitat, including all woodland and annual grassland areas.

Golden Eagle

Golden eagle is a CDFW fully protected species that inhabits semi-open habitats where there is easy access to their primary prey of small to medium-sized mammals. Grasslands, deserts, savannahs, and early successional stages of forest and shrub habitats provide necessary foraging habitats. Nests are placed on cliffs or large trees and are maintained from year to year. Breeding occurs from January through August, and breeding territories range from eight to 21 square miles, or three to five miles surrounding the nest, but activity is often concentrated in a smaller core area. Although only one nest is used each year, a territory may contain multiple alternate nests.

There are no occurrence records on the CNDDB within five miles of the BSA. The species is known to occur in the region, and there are numerous eBird reports documented within five miles of the BSA. Marginally suitable nest trees occur within 0.25-mile of the Trail alignment, but the BSA and immediate vicinity do not provide suitable nesting habitat for this species. This species is most likely to forage along the Northern Loop and Northern Marina segments in the open grassland and forested areas near the Trails.

Burrowing Owl

Burrowing owl is a CDFW Species of Special Concern that occupies open, treeless areas within grassland, low density scrub, and desert biomes. This species generally inhabits gently-sloping areas, characterized by low, sparse vegetation, and is often associated with high densities of burrowing mammals (Poulin et al. 2011). Burrowing owl often uses relatively disturbed areas such as agricultural fields, golf courses, cemeteries, and vacant urban lots in addition to natural breeding habitats. Nests are most often in fossorial animal burrows, such as California ground squirrel or American badger, but atypical nests such as culverts or rubble piles may also be used. Nest sites are typically selected in an area with a high density of burrows.

There are five known occurrences within five miles of the BSA, and the specie is known to occur in the region. The nearest CNDDB records for this species include two occurrences that overlap the BSA in the Northern Marina and CSUMB Loop North segments. Suitable habitat is present in annual grassland, low density scrub, and open spaces throughout the BSA.

Ferruginous Hawk

The ferruginous hawk is a CDFW watch list species. A large raptor that inhabits open habitats during the breeding season and arid to semi-arid areas of California in the winter. They prefer open

grasslands for foraging and have also been observed utilizing agricultural areas. The primary prey of ferruginous hawks are mammals, including rabbits, ground squirrels, and prairie dogs, although birds and reptiles are also eaten (Bechard and Schmutz 1995). Ferruginous hawks often perch on the ground, using sit and-wait tactics to capture prey. They arrive in California between September and October and depart between February and April. They typically congregate in grasslands and deserts where mammalian prey is abundant.

The nearest CNDDB record for this species overlaps the Northern Marina Trail segment. There are a number of regional observations documented in eBird; however, the species is not regularly observed within Seaside or the western portion of the former Fort Ord. The majority of observations on eBird are from north of the BSA at the western end of the Salinas Valley. Suitable foraging habitat is present in annual grassland, low scrub/woodlands, and open spaces.

Northern Harrier

The northern harrier is CDFW species of special concern. A ground-nesting raptor that feeds voles and other small mammals, waterfowl, other small birds, small reptiles, crustaceans and insects. They breed typically from April to September, with peak activity in June and July. Various sources differ on the breeding and non-breeding ranges of northern harriers; however, breeding in California is well documented (Larsen 1987). The BSA is not within the reported breeding range for this species (Shuford and Gardali 2008), but a breeding pair was observed adjacent to the Northern Loop and Northern Marina segments in 2016 during surveys for the Marina Municipal Airport Master Plan Initial Study Mitigated Negative Declaration (ISMND) (Marina 2018). The potential for breeding within the BSA cannot be excluded. Breeding is typical in large, undisturbed tracts of wetlands and grasslands with low, thick vegetation. Foraging and breeding habitat is essentially identical and includes a variety of open habitats that provide an abundance of suitable prey and lookout perches such as shrubs or fence posts. In California this includes freshwater marshes, brackish and saltwater marshes, wet meadows, weedy borders of lakes, rivers and streams, annual and perennial grasslands (Shuford and Gardali 2008). Western populations tend to breed in dry upland habitats. During winter they use a range of habitats with low vegetation, including deserts, coastal sand dunes, pasturelands, croplands, dry plains, grasslands, old fields, estuaries, open floodplains, and marshes. round and usually in a dense clump of vegetation such as willows, grasses, sedges, reeds, bulrushes, and cattails.

Most of the BSA consists of scrub and woodland habitat too dense for typical northern harrier foraging. Developed areas are also unlikely to support this species. Suitable habitat is present in the agricultural fields and larger areas of annual grasslands within, especially along the Northern Marina segment. This species was observed foraging over fields north of the Marina Airport during the reconnaissance survey.

White-Tailed Kite

White-tailed kite is a CDFW fully protected species. A yearlong resident in coastal and valley lowlands, the species inhabits a wide range of habitats, mostly in cismontane California. The species prefers trees with dense canopies for cover. Their diet consists mostly of voles and other small, diurnal mammals, but the species occasionally feeds on birds, insects, reptiles, and amphibians. Typical foraging habitat is undisturbed, open grasslands, meadows, farmlands and emergent wetlands. Nesting is typically near top of dense oak, willow, or other tree stands, located near foraging areas. Preferentially selects herbaceous lowlands with a range of woodland structure, and

high density of voles (Zeiner et al. 1990), and substantial groves of dense, broad-leafed deciduous trees for nesting and roosting (Zeiner et. al. 1990).

The CNDDB contains no occurrence records for white-tailed kite within five miles of the BSA; however, eBird has an abundance of reports documented throughout the Monterey Bay region. The species is generally common along the coast and wooded inland areas; however, there are few records of the species in Seaside or on FORA lands. The species was observed foraging north of the Northern Loop and Northern Marina Trail segments (outside of the BSA) during the reconnaissance survey. The grassland and agricultural areas within the BSA provide foraging habitat, and suitable nesting habitat is present in in areas of dense woodland and riparian areas of the BSA.

California Horned Lark

California horned lark is CDFW watch list species. A ground-dwelling bird common in open, sparsely vegetated areas such as grasslands, deserts, and agricultural areas. They congregate in moderately sized flocks, feeding mostly on insects and other small invertebrates. The species is a ground-nester, building a small grass-lined cup in slight depressions in the open. They are year-round residents in much of California, breeding in open areas throughout their range (Zeiner et al 1990).

Two CNDDB records for this species overlap the BSA in the Northern Marina and Northern Loop segments. Records from eBird are predominantly form north and east of the BSA. Annual grassland, low scrub/woodlands, and open spaces throughout the BSA provide suitable breeding and foraging habitat for the species.

Tri-Colored Blackbird

Tri-colored blackbird is a state endangered species. A colonial species that is largely endemic to, and a year-round resident in California. It requires open water, protected nesting substrate, and foraging areas with insect prey within a few kilometers of the colony. The species preferentially selects breeding sites that include open accessible water with protected areas for nesting. Site generally need to support flooded nesting vegetation and suitable foraging sites within a few kilometers (Shuford and Gardali 2008).

There are nine documented occurrences recorded in the CNDDB within five miles of the BSA. There are a number of observations of the species on eBird, generally restricted to south and west of the BSA. A single report of the species from Laguna Grande in in December 2018 has accompanying notes about a small flock (roughly 20 individuals) known to frequents the area around Roberts Lake, Laguna Grande and El Estero. Marginal nesting habitat is present within the emergent wetland vegetation occurring along the margins of Roberts Lake and Laguna Grande. Foraging habitat for tricolored blackbird is present at open sites near potential nesting habitat. This species has low potential to occur in nest colonies, and a moderate potential to occur foraging in the BSA throughout the year.

Pallid Bat

Pallid bats are a CDFW species of special concern. They are known to inhabit deserts, grasslands, shrublands, woodlands and forests. Most commonly occur in open, dry habitats with rocky areas for roosting (caves, mines, etc.). Day roosts are in caves, crevices, mines, and occasionally in hollow trees and buildings. Day roosts need deep cover to protect bats from high temperatures. Maternity colonies are established by early April and can vary in size from dozen to over 100 individuals (Zeiner et al. 1990).

There are no CNDDB records for this species within five miles of the BSA, but the species is known to occur throughout all of California's lower elevations. Suitable grassland and scrubland habitats are present throughout the BSA. Old buildings and hollow trees throughout the BSA provide suitable roosting habitat, and much of the BSA provides suitable foraging habitat.

Townsend's Big-Eared Bat

Townsend's big-eared bat is a CDFW species of special concern found throughout California in a wide variety of habitats, most commonly in mesic sites. This species is found in all but subalpine and alpine habitats, and may be found at any season throughout its range (Zeiner et al. 1990). Day and night roosts for these species can include open buildings with deep cover to protect bats from high temperatures. There are no CNDDB records for this species within five miles of the BSA. Marginally suitable roost habitat, and suitable foraging habitat is present throughout the BSA.

Monterey Dusky-Footed Woodrat

Monterey dusky-footed woodrat is a subspecies of the dusky-footed wood rat (*Neotoma fuscipes*) and a CDFW species of special concern. The Monterey dusky-footed woodrat occurs throughout Monterey and northern San Luis Obispo counties where appropriate habitat is available. Dusky-footed woodrats can be found in chaparral, streamside thickets, and deciduous or mixed woodland habitats (Burt and Grossenheider 1980). In forest habitats, they are generally found where there is moderate canopy with a dense to moderate understory. Dusky-footed woodrats construct nests (middens) out of sticks, grass, leaves, and other debris and the availability of these nest building items may limit the abundance of woodrats (Zeiner et al. 1990).

Signs of this species and middens were observed along the National Monument Loop Trail segment, and the species commonly occurs in the region. Suitable habitat is present throughout the BSA in all woodland and dense scrub habitats. These habitats are most abundant along the National Monument Loop segment and in forested and woodland areas along the Northern Loop segment.

American Badger

American badger is a CDFW species of special concern that is found in dry, open habitats including grassland and open woodland. It is a highly specialized, semi-fossorial mustelid (Quinn 2008). Suitable burrowing habitat requires dry, sandy soil. The species is most abundant in drier open stages of most shrub, forest, and herbaceous habitats with suitable soils to support burrows (Zeiner et al. 1990). Breeding occurs in summer and early fall, with young being born from March to April.

There are no occurrences recorded on the CNDDB within five miles of the BSA, however this species is known to occur on the former Fort Ord (Quinn 2008) and evidence of potential badger excavations was observed during the reconnaissance survey. The sandy soils in the coastal dunes and scrub most of the natural vegetation communities within the BSA provides suitable habitat for this species.

4.1.3 Other Protected Species

Nesting Birds

Non-game migratory birds protected under the California Fish and Game Code (CFGC) Section 3503 have the potential to breed throughout all of the BSA. Native avian species common to oak woodland, riparian and coastal scrub, grasslands, landscaping, developed and ruderal areas have the

potential to breed and forage throughout the BSA. Species of birds common to the area that typically occur in the region, such as red-tailed hawk, California quail, California scrub jay, black phoebe (*Sayornis nigricans*), Anna's hummingbird (*Calypte anna*), house finch (*Haemorhous mexicanus*), American crow (*Corvus brachyrhynchos*), Brewer's blackbird (*Euphagus cyanocephalus*), American bushtit and turkey vulture, were detected during the reconnaissance survey and other project-related site visits. Nesting by a variety of common birds protected by CFGC Section 3503 could occur in virtually any location throughout the BSA.

4.2 Sensitive Plant Communities and Critical Habitats

4.2.1 Sensitive Natural Communities

Plant communities are considered sensitive biological resources if they have limited distributions, have high wildlife value, include sensitive species, or are particularly susceptible to disturbance. CDFW ranks sensitive communities as "threatened" or "very threatened" and keeps records of their occurrences in CNDDB. Sensitive natural communities included in the CNDDB follow the original methodology according to "Preliminary Descriptions of the Terrestrial Natural Communities of California" (Holland 1986). The methodology for determining sensitivity continues to be revised and is now based on "the Manual of California Vegetation" (Sawyer et al. 2009). Communities considered sensitive by CDFW are published in the California Sensitive Natural Communities List (CDFW 2018). Vegetation alliances are ranked 1 through 5 based on NatureServe's (2010) methodology, with those alliances ranked globally (G) or statewide (S) as 1 through 3 considered sensitive. Some alliances with the rank of 4 and 5 have also been included in the 2018 sensitive natural communities list under CDFW's revised ranking methodology (CDFW 2018c).

Ten sensitive natural communities are known to occur within the 12-quad search area (Table 5), three of which were observed in the BSA; central dune scrub, central maritime chaparral, and coastal and valley freshwater marsh. These classifications use the old methodology, two additional natural vegetation communities found in the BSA are considered sensitive (ranked 3 or below) under CDFW's revised ranking methodology, including a variety of vegetation alliances for each of the following communities: Sandmat manzanita chaparral and Brittleleaf – woolly leaf manzanita chaparral.

Table 5 Sensitive Natural Communities Known to Occur or with Potential to Occur within the Vicinity of the Plan Area

Sensitive Natural Communities	Status	Present or Absent
Brittleleaf – woolly leaf manzanita chaparral	G3/S3	Present
Central Dune Scrub	G2/S2.2	Present
Central Maritime Chaparral	G2/S2.2	Present
Coastal and Valley Freshwater Marsh	G3/S2.1	Present
Coastal Brackish Marsh	G2/S2.1	Absent
Monterey Cypress Forest	G1/S1.2	Absent
Monterey Pine Forest	G1/S1.1	Absent
Monterey Pygmy Cypress Forest	G1/S1.1	Absent
Northern Bishop Pine Forest	G2/S2.2	Absent

Sensitive Natural Communities	Status	Present or Absent
Sandmat manzanita chaparral	G1/S1	Present
Northern Coastal Salt Marsh	G3/S3.2	Absent
Valley Needlegrass Grassland	G3/S3.1	Absent

G-Rank/S-Rank = Global Rank and State Rank as per NatureServe and CDFW's CNDDB RareFind 5.

Sources: CNDDB (CDFW 2019a)

Because of transitioning vegetation community nomenclature, some of the communities Rincon has described are equivalent to the sensitive communities listed above. The brittleleaf – woolly leaf manzanita chaparral and the sandmat mazanitas chaparral both fall under the broader category of central maritime chaparral, and all are considered sensitive natural communities. Our mapped dune scrub is equivalent to central dune scrub and is considered a sensitive community. Our mapped freshwater emergent wetland is equivalent to Coastal and Valley Freshwater Marsh and is considered a sensitive community.

4.2.2 Critical Habitats

Six federally designated critical habitats occur with five miles of the BSA:

- Tidewater goby (Eucyclogobius newberryi)
- steelhead - south-central California coast DPS (Oncorhynchus mykiss irideus, pop. 9)
- Western snowy plover
- Monterey spineflower
- California red-legged frog
- Yadon's rein orchid

Critical habitat for only a single species overlaps the BSA (Appendix A, Figure 6): Federally designated critical habitat for Monterey spineflower occurs on the former Fort Ord, in areas designated for preservation under the HMP. Critical habitat unit 8 encompasses 9,432 acres, containing grasslands, maritime chaparral, coastal scrub, and oak woodlands. This critical habitat unit was designated due to the large population of Monterey spineflower and extent of dry interior maritime chaparral, to allow for population expansion. The National Monument Loop segment boarders the edge of this unit west of an existing access road. The Northern Loop and Northern Marina segments cross the northern end of unit 8. The Northern Loop segment crosses between the Jerry Smith Access Corridor south of Inter-Garrison Road to south of the intersection with Reservation Road. The Northern Marina segment crosses north east of the intersection of Quebrada Del Mar Road and Tallmon Street, along an existing access road.

4.3 Jurisdictional Waters and Wetlands

Potentially Jurisdictional areas in the BSA are generally limited to the Canyon Del Rey/218 segment, which includes Laguna Grande, Canyon Del Rey Creek, and the Frog Pond; however, isolated potential jurisdictional features such as detention basins are present at various locations within BSA (Appendix A,

Figure 8).

Aquatic resources present in the BSA at Laguna Grande include freshwater emergent wetlands, riparian woodlands, riverine and lake areas. Originally a seasonal estuarine body of water, the Laguna Grande and Roberts Lake complex is now a freshwater marsh and two lakes. Canyon Del Rey Creek flows approximately 1,300 feet through Laguna Grande Park before entering the lake. A section of Canyon Del Rey Creek flows underground through culverts just south west of the park, under Fremont Boulevard and a shopping center. South east of the shopping center Canyon Del Rey Creek is a channelized stream which flows through Work Memorial Park. Adjacent to the stream within the park is a wetland area, likely fed by culverts under SR 218 which appear to flow year-round and may be fed by a seep/spring. The creek then flows along the south side of Angelus Way where there are several driveway bridges over the stream and escaped ornamental vegetation. At the end of Angelus Way the creek flows along the south side of Del Rey Park before flowing under SR 218 from the Frog Pond Wetland Preserve. In its upper reaches the creek is ephemeral. On the east side of SR 218 the creek is channelized along the edge of the road.

Frog Pond is fed by the above described channelized reach of Canyon Del Rey Creek, a tributary to Canyon Del Rey Creek, and springs and runoff from the surrounding neighborhoods (CSUMB 2014). The pond typically dries up in late summer. The tributary to Canyon Del Rey Creek flows into the pond through a culvert under General Jim Moore Boulevard. This tributary drains a small canyon south of South Boundary Road. The BSA and Canyon Del Rey/218 segment run along the northern side of the canyon.

Several stormwater detention basins were observed in the BSA; west of General Jim Moore Boulevard, south of 9th Street east of SR 1, on the northwest side of California Avenue, and northeast of Estrella Del Mar Way. All of these detention basins are constructed and regularly maintained. No wetland vegetation was observed at any of the basins during the reconnaissance survey. A formal jurisdictional delineation would be required to assess the jurisdictional limits and regulatory oversight of these features.

The above described features are potentially subject to USACE, RWQCB, CDFW, and CCC oversight. The lakes and many of the wetlands are permanently wet and have a direct hydrologic connection to the Pacific Ocean (a traditional navigable water as defined by USACE). The USACE is expected to assert jurisdiction under Section 404 of the Clean Water Act (CWA) over stream, lake, and wetland features to the “ordinary high water mark” (OHWM), and to the edge of those wetlands with all three criteria that define federal wetlands: hydric soils, hydrophytic vegetation, and wetland hydrology. The RWQCB also has jurisdiction over waters of the U.S. under Section 401 of the CWA. The RWQCB may also assert jurisdiction over waters of the State under the Porter-Cologne Water Quality Control Act.

The CDFW has jurisdiction over lakes, streams, and associated riparian areas under the California Fish and Game Code Section 1600 et seq. The CDFW has traditionally regulated activities within the bed and bank of lakes and streams, extending to the top of bank or edge of the riparian dripline, under its Lake and Streambed Alteration Program. The CDFW may also regulate activities conducted adjacent to but outside these areas, if the activity results in a substantial alteration of the stream or lakebed downslope of the activity, such as through placement of materials that wash into a water body.

4.4 Wildlife Movement

Wildlife movement corridors, or habitat linkages, are generally defined as connections between habitat patches that allow for physical and genetic exchange between otherwise isolated animal

populations. Such linkages may serve a local purpose, such as providing a linkage between foraging and denning areas, or they may be regional in nature. Some habitat linkages may serve as migration corridors, wherein animals periodically move away from an area and then subsequently return. Others may be important as dispersal corridors for young animals. A group of habitat linkages in an area can form a wildlife corridor network. The California Essential Habitat Connectivity Project commissioned by the California Department of Transportation (Caltrans) and CDFW; identifies "Natural Landscape Blocks" which support native biodiversity and the "Essential Connectivity Areas" which link them (Spencer et al. 2010).

Wildlife movement corridors can be both large and small in scale. Riparian corridors and waterways including the Salinas River, Laguna Grande, Roberts Lake, and Canyon Del Rey Creek watersheds provide local scale opportunities for wildlife movement throughout the BSA. Existing Trails and roads within the BSA also act as corridors for wildlife movement, particularly for relatively disturbance tolerant species such as red fox, coyote, raccoon, skunk, deer, and bobcat. On a larger scale, both Natural Landscape Blocks and Essential Connectivity Areas are mapped within portions of the Canyon Del Rey/ SR 218, Ryan Ranch, National Monument Loop, and Northern Loop segment in BIOS (CDFW 2019b). These landscape blocks and linkages connect Fort Ord National Monument at the northern extent to the Carmel Valley and the Santa Lucia Mountain Range along the coastline. The eastern portion of the BSA represents a large area of relatively undisturbed natural habitat within a broader area of similar natural habitat that extends relatively undisrupted from San Luis Obispo to the Monterey peninsula. Overall, this area represents important natural habitat for a wide range of species and supports genetic connectivity and movement along much of the central coast of California. A portion of the BSA along the Northern Loop segment extending east from the CSUMB campus and following Inter-Garrison Road is within a mapped Natural Landscape Block. This landscape block extends to the east of the BSA and connects to another distinct natural area just south of the BSA and the Ryan Ranch segment of the alignment. The Canyon Del Rey/ SR 218, Ryan Ranch, National Monument Loop, and Northern Loop segments are generally located along the edges of existing development within the cities of Monterey, Del Rey Oaks, Seaside, and Marina. There is less potential for wildlife movement in these areas due to the proximity to developed areas.

There is also some open space along the CSUMB Loop North and CSUMB Loop South segments on the CSUMB campus. These open spaces occur in patches within existing development, such as the CSUMB stadium complex, residential development, and SR 1. Movement between these areas can occur within undeveloped areas and coast live oak woodland patches scattered throughout the CSUMB Loop North and CSUMB Loop South segments on the CSUMB campus. However, these areas are not considered essential connectivity areas and most wildlife species that would utilize such connections are likely to be urban, disturbance tolerant species such as raccoon, skunk, opossum, and black tailed deer. The Monterey dusky-footed woodrat is also likely to use these areas as a small local corridor for movement.

Along the Northern Loop and Northern Marina segments there is potential for movement from the Salinas River. The riparian corridor of the Salinas River is a significant corridor for wildlife movement between the coast and inland areas of the Salinas Valley, and was identified as one of six key habitat linkages in Monterey County (Monterey County 2008). The Trail alignment in this area runs along the top of the bluff just above the riparian corridor.

Developed areas of the BSA where the alignment would run through urban areas do not function as essential connectivity areas or as important wildlife corridors due to previous use and disturbance.

4.5 Resources Protected By Local Policies and Ordinances

Protected Trees

Areas of the BSA fall within the jurisdiction of the City of Monterey, City of Del Rel Oaks, City of Seaside, City of Marina, Monterey County, and CSUMB. The General Plans and Municipal codes of these governing agencies include goals, policies, and ordinances intended to protect, preserve and enhance natural habitats and biological resources to varying degrees. The Municipal Codes for the City of Monterey, City of Del Rel Oaks, City of Seaside, City of Marina, and Monterey County all require permitting for tree removal, and some provide additional protection for landmark or heritage trees. The City of Monterey has designated 15 landmark trees, none of which occur in the BSA. Additionally, the City of Monterey, City of Del Rel Oaks, City of Seaside, City of Marina, Monterey County, and CSUMB include specific protections for oak woodlands.

Trees of sufficient size and species to require agency permitting were observed throughout the BSA, including oak woodlands. Additionally, a row of Eucalyptus trees along Beach Road within the Marina Trail segment BSA have been designated by the City of Marina as landmark trees.

CNPS plant reserves

A series of small protection areas (9 in total) were established by the US Army In the late 1960s at the encouragement of a local member of the CNPS (Griffin 1976). Through the 1970s and 1980s these protection areas continued to be included on the Fort Ord master plans and were afforded administrative protection to preserve examples of the natural habitats on Fort Ord, particularly maritime chaparral. A map from 1980 depicts 10 preservation areas (US Army 1980). The 1993 Final Environmental Impact Report (EIR) for the disposal and reuse of Fort Ord identifies 11 native plant reserves and one butterfly reserve.

4.6 Habitat Conservation Plans

The Fort Ord Habitat Conservation Plan (HCP) has been under development for a number of years. When and if that HCP will be adopted is currently unknown. The draft HCP has included and addressed potential impacts from the FORTAG project; when and if the FORA HCP is adopted, the FORTAG project would not be in conflict with the conditions of that HCP. Currently, there are no other HCPs, NCCPs or other State, regional or local conservation plans in place. The HCP is largely based on the Fort Ord Habitat Management Plan (HMP), which was developed for the disposal and reuse of the former Fort Ord. The HMP provides the framework for special status species and habitat conservation on the former Fort Ord, and the HCP will facilitate the issuance of incidental take permits under Section 10(a)(1)(B) of the FESA and Section 2081 of the CESA to non-Federal land recipients. Adherence to the conditions within the HMP and corresponding 1993 USFWS Biological Opinion (BO) in the interim has generally been considered appropriate for addressing potential impacts to species covered under the HCP when and if finalized and adopted. The HMP itself is not a Conservation Plan however, and any lack of adherence to the HMP would not strictly be a conflict under CEQA. The HMP identifies habitat management requirements for the disposal and reuse of former Fort Ord lands. Reserve parcels identified by the BRP and HMP are largely contained within the Fort Ord National Monument, on undeveloped lands east of the BSA. Parcels covered under the HMP within the BSA are:

- Designated for Development
- Designated for Development with Reserve or Restrictions
- Designated as a Habitat Reserve
- Designated as a Habitat Corridor

Development

Parcels designated for development under the HMP have no management restrictions under the HMP. Most of the parcels in the BSA that are covered by the HMP are designated for development (Figure 9). Biological resources within these parcels are "not considered essential to the long-term preservation of sensitive species at former Ford Ord." The USFWS BO, however, still requires the identification of sensitive species and resources that may be salvaged for restoration efforts due to remedial activities on the former Fort Ord (e.g., unexploded ordnance removal, clean-up of contamination) on the reserve parcels (USFWS 1993). Additionally, the BO assumes that no parcels occupied by the Smith's blue butterfly would be developed and impacts to Federally listed species would require agency consultation and permitting.

development with Reserve or Restrictions

Parcels designated for development with reserve or restrictions contain reserve holdings or have some restrictions to protect biological resources. Within the BSA, parcels designated for development with reserve or restrictions in the North Marina Trail segment include the North Fritzsche Habitat Reserve near the Marina Airport. Development on the parcel is restricted to airport support facilities (utilities, etc.) and a six-lane road.

On the North Loop and CSUMB Loop North Trail segments, a landfill parcel is designated for development with reserve or restrictions which allows for development of 81 acres, with the remaining 227 acres managed as a preserve.

The Canyon Del Rey/218 Trail segment also includes a parcel designated for development with reserve or restrictions. This parcel is located east of the Frog Pond and contains the headwaters of the ephemeral tributary to Canyon Del Rey Creek that drains into the Frog Pond. The Management restrictions on this parcel require that no stormwater runoff from development of the parcel be allowed to enter the Habitat Reserve Parcel adjacent to the Frog Pond. Additionally, development of the proposed trail would be required to comply with the development restrictions identified in the 2005 USFWS MOA for development on the Del Rey Oaks parcels (borderland parcels surrounding the Habitat Reserve Parcel.

The western ends of the CSUMB Loop North and CSUMB Loop South cross parcels designated with reserve restrictions. Parcels along the Highway 1 corridor are managed by Caltrans, development within these parcels includes transportation facilities and improvements. On the west side of Highway 1 parcels are within the State Parks Reserve along the coast. Development within these parcels is limited to 186 acres of development for recreational use, including trails.

Habitat Reserves

Development within parcels designated as habitat reserves is not allowed unless specified under the HMP; however, development of these parcels would not necessarily be considered an impact under CEQA. The goals of the HMP are to manage these lands for conservation and enhancement of

habitat for threatened and endangered species. Within the BSA parcels designated as habitat reserves include;

- The Monterey Peninsula Regional Parks Natural Expansion Area parcel on the west side of General Jim Moore Boulevard and the frog pond,
- The eastern side of the Northern Loop segment East Garrison parcel,
- The Salinas River Habitat Management Area east of the North Loop Trail segment,
- And the UC/NRS Fort Ord Natural Reserve on the North Marina Trail segment east of Tallmon Street.

Habitat Corridors

Parcels designated as habitat corridors are lands between habitat reserves that are intended to promote connectivity between reserve areas. One parcel designated as a habitat corridor occurs in the BSA on the south side of Inter Garrison Road west of the Jerry Smith Trail. The North Loop Trail segment runs across the northern end of this parcel, more or less parallel with Inter Garrison Road. Under the HMP some development will be allowed on this parcel for recreational use, including development around an existing camp ground, youth nature programs and Trails. Much of the National Monument Loop parcels are considered Borderland Development Areas Along NRMA Interface.

4.7 Coastal Zone

The California Coastal Commission (CCC) has jurisdiction over wetlands in the coastal zone. The CCC definition of wetlands differs somewhat from other agencies and includes lands within the coastal zone that are covered periodically or permanently with shallow water, and includes saltwater marshes, freshwater marshes, open or closed brackish water marshes, swamps, mudflats, and fens (Coastal Act Section 30121). Coastal wetlands include “land where the water table is at, near, or above the land surface long enough to promote the formation of hydric soils or to support the growth of hydrophytes, and shall also include those types of wetlands where vegetation is lacking and soil is poorly developed or absent as a result of frequent and drastic fluctuations of surface water levels, wave action, water flow, turbidity or high concentrations of salts or other substances in the substrate” (CCR Section 13577(b)). The western ends of the CSUMB Loop North and South segments fall within the City of Marina’ coastal zone, and the Canyon Del Rey/218 segment falls within the City of Seaside and City of Monterey’s coastal zones at Laguna Grande. Within the coastal zone at Laguna Grande, lakes, streams, wetlands, and riparian areas in which hydrophytes such as willows are present all meet the CCC definition of wetlands. The CCC also identifies other environmentally sensitive habitat areas (ESHAs) as any area within the coastal zone 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. The cities of Monterey and Seaside each have an adopted Local Coastal Program that identifies the lakes, streams, wetlands and riparian areas in the BSA at Laguna Grande as ESHA. In addition, oak woodlands and dunes such as those in the Northern Marina Trail segment may also meet criteria to be considered ESHA. Definitions of ESHA in neighboring jurisdictions are similar.

Potentially jurisdictional aquatic resources are mapped in Appendix A, Figure 8. The agencies that typically assert jurisdiction are also noted for each type. It should be noted that the Figure was

generated through aerial interpretation, vegetation mapping, review of topographic data, and reconnaissance-level site visits; a jurisdictional delineation was beyond the scope of this BRA.

The agencies make the final determination regarding limits of jurisdiction, typically at the time permits are requested for activities within these areas. Additional wetlands or waters, if discovered within the Plan Area would require evaluation as potentially subject to CCC, CDFW, RWQCB, and/or USACE jurisdiction(s). This analysis serves as the basis for indicating whether additional permits or approvals will be required from USACE, RWQCB, CDFW, and CCC.

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5 Impact Analysis and Mitigation Measures

5.1 Overview

This impact analysis is based on a review of existing biological conditions within a BSA that represents a significantly larger area than that of the project's impact footprint. The BSA was designed to support design modifications, and adjustments to the Trail corridor throughout the final design stages. Identification of sensitive resources at this early stage can support avoidance and/or minimization of potential impacts to sensitive biological resources by providing baseline information that would support minor adjustments to the Trail alignment. We have reported on the acreages of vegetation communities and special status species habitats within the BSA; however, the actual impacts from project development would be significantly less than the acres herein reported for the BSA. The final Trail is anticipated to be not more than a 16-foot wide Trail (inclusive of Trail and shoulder) in most areas. Actual impacts to vegetation communities and potential impacts to special status species would be a result of the development of this corridor and any adjacent staging/mobilization areas. Impacts to sensitive biological resource are analyzed accordingly and are not considered as permanent or temporary impacts to the entire BSA. Much of the proposed alignment is within previously disturbed or developed areas, or areas designated by the HMP for development. However, the proposed Trail alignment crosses, and is adjacent to several natural vegetation communities. Potential for the proposed project to result in significant impacts to special status biological resources is therefore addressed in detail below.

5.2 Special Status Species

The proposed project would have a significant effect on biological resources if it would:

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.*

5.2.1 Special Status Plants

Four special status plant species are present within the BSA: Monterey spineflower, Monterey gilia, Hickman's onion, and sandmat manzanita. Monterey cypress and Monterey pine also occur in the BSA; however, not in natural stands, and as such these individuals are not considered special status. An additional 38 special status species have potential to occur within the BSA based upon known ranges, habitat preferences, species occurrence records from the vicinity of the BSA, and presence of suitable habitat. Many of these species typically bloom in the spring/early summer and were not identifiable during the time of the mid-summer reconnaissance survey, nor were they expected to be. The assessment for potential impacts to special status plants is based on a habitat assessment and known occurrence records. Seasonally-timed, protocol-level plant surveys would identify the actual impacts to specific species, and the aerial extent and number of individuals being impacted, based on the final Trail design, prior to the various construction phases.

Construction of FORTAG would require clearing of vegetation up to a 16-foot swath for most of the alignment proposed in undeveloped areas. Side paths proposed in some areas would expand path

width by approximately 10 feet. Vegetation clearing would include chaparral and oak woodland habitats on the former Fort Ord, and potential wetland habitats at Laguna Grande, Frog Pond, and Work Memorial Park. The Canyon Del Rey/SR 218 segment running through the Frog Pond Wetland Preserve would be reduced to an 8-foot width, and wetland or other jurisdictional areas would be avoided to the maximum extent feasible. Undercrossings at Reservation Road, General Jim Moore Boulevard, and SR 218 would also require ground disturbance and removal of vegetation. Additionally, access for equipment and construction is also likely to create disturbance to existing vegetation communities; this would be limited as much as practical to a 20-foot corridor. It is highly likely that development of the final project footprint would require removal of some federally and state listed plants; specifically, Monterey spineflower and Monterey gilia. Impacts to listed species would require consultation with CDFW and USFWS It is highly likely that development of the final project footprint would require removal of some federally and state listed plants; specifically, Monterey spineflower and Monterey gilia. Impacts to listed species would require consultation with CDFW and USFWS regarding incidental “take” authorizations.

Impacts to CRPR 1B.1 or 1B.2 plant species would only be considered significant if the loss of individuals represented a population-level impact that would jeopardize the viability of a local or regional population. Many of the non-listed species have a wider distribution beyond the Monterey Bay area. Impacts to a small number of individuals of these species from project development would not jeopardize the viability of regional populations. Several of the non-listed species are restricted to a more local distribution, including Toro manzanita, sandmat manzanita, Pajaro manzanita, Fort Ord spineflower, Eastwood's goldenbush and Hickman's cinquefoil. The Fort Ord National Monument and parcels designated as habitat reserves, as well as the larger expanse of natural lands south and east of the BSA include an abundance of suitable habitat and support known populations for these species. The loss of undisturbed vegetation communities that would result from the Trail development is small, and unlikely to impact more than a few individuals of these species, if any. As such, there is low potential for impacts to non-listed species to result in jeopardy to any local or regional populations. Protocol-level plant surveys would be designed to identify any non-listed special status plant populations that would experience a significant impact under CEQA. Where possible, micro-siting within the BSA to avoid rare and listed plants would avoid those impacts; however, design of project elements to avoid and minimize such impacts to special status plants and sensitive vegetation communities would be insufficient to fully mitigate potential impacts to rare and listed species. Impacts to individuals of state and federally listed species, or population-level adverse effects to non-listed species, would be considered significant but can be reduced to a less than significant level through the design of project elements to avoid and minimize such impacts to special status plants and sensitive vegetation communities or through compensatory mitigation as outlined in proposed Mitigation Measures BIO-1(a) through BIO-1(c).

Recommended Mitigation

BIO-1(a) Conduct Special Status Plant Species Surveys

Prior to issuance of grading permits for each individual segment, surveys for special status plants should be completed in all natural vegetation communities and in undeveloped areas (including ruderal, and non-native habitats). The surveys should be floristic in nature and should be seasonally timed to coincide with the target species identified in the project-specific biological analysis. All plant surveys should be conducted by a qualified biologist during the blooming season prior to any ground disturbance. All special status plant species identified should be mapped onto a site-specific aerial photograph or topographic map with the use of Global Positioning System (GPS) unit. Surveys

should be conducted in accordance with the most current protocols established by the CDFW, USFWS, and the local jurisdictions if said protocols exist. A plant survey report should be prepared that: 1) outlines the methodology of surveys and qualifications of surveying biologists; 2) presents the results of the surveys; 3) presents an analysis of potential impacts to non-listed species and a determination of whether or not those impacts could result in jeopardy of a local or regional population; 4) presents a summary of listed species that would be impacted including numbers of individuals and/or acres of occupied habitat; 5) presents the required compensatory mitigation; and 6) recommends any additional tasks that would be required to meet the conditions of Mitigation Measures BIO-1(b) and BIO-1(c). A report of the survey results should be submitted to the implementing entity. The CDFW and/or USFWS may also require documentation of surveys for consultation purposes. If special status plants are identified within or adjacent to proposed disturbance areas, Mitigation Measures BIO-1(b) and/or BIO-1(c) should be implemented. The first of the focused protocol rare plant surveys were completed for the Canyon Del Rey/SR 218 segment, the CSUMB Loop South segment and the CSUMB Loop North segment in the 2019 blooming period. Completed rare plant surveys need not be repeated if construction of a segment occurs within three years of the survey's completion.

BIO-1(b) Implement Special Status Plant Species Avoidance, Minimization, and Mitigation

If federally and/or state listed or CRPR List 1B or 2 species are found during special status plant surveys [pursuant to Mitigation Measure BIO-1(a)], and listed species would be directly and/or indirectly impacted, or there would be a population-level impact to non-listed species, then the Trail should be re-aligned within the BSA to avoid impacting those plant species where and if feasible. Listed and other special status plant occurrences that are not within the immediate disturbance footprint but are located within 50 feet of disturbance limits should be demarcated as an Environmentally Sensitive Area (ESA), and should have bright orange protective fencing installed a minimum of 30 feet beyond their extent prior to and during construction activities. Reduction of avoidance buffer distance must be approved by a qualified biologist. No construction activity should be allowed within these avoidance areas. To avoid encroachment within ESAs, the limits of work should be clearly shown on all project plans and demarcated on site with high visibility fencing. Work in the vicinity of such ESAs should be monitored by a qualified biologist to ensure no encroachment. If significant impacts to special status plants cannot be avoided, Mitigation Measure BIO-1(c) should be implemented.

BIO-1(c) Prepare Habitat Mitigation and Monitoring Plan

If federally and/or state listed plants or non-listed special status plant populations [or sensitive natural communities or waters of the U.S. and/or State; see Mitigation Measures BIO-2(b) and BIO-3(b), respectively] cannot be avoided and will be impacted by development of the proposed project, all impacts should be mitigated by the implementing entity at a minimum ratio of 1:1 for occupied habitat area as a component of habitat restoration or through compensatory mitigation. A habitat mitigation and monitoring plan (HMMP) should be prepared by a qualified biologist and submitted to implementing entity for review and approval. (Note: if a federally and/or state listed plant species will be impacted, USFWS and/or CDFW will likely require a restoration plan to be submitted for their review in support of federal and/or state incidental take authorization[s]). The HMMP should include, at a minimum, the following components:

- Description of the project/impact site (i.e., location, responsible parties, areas to be impacted by habitat type)

- Goal(s) of the compensatory mitigation project [type(s) and area(s) of habitat to be established, restored, enhanced, and/or preserved; specific functions and values of habitat type(s) to be established, restored, enhanced, and/or preserved]
- Description of the proposed compensatory mitigation site (location and size, ownership status, existing functions and values)
- Implementation plan for the compensatory mitigation site (rationale for expecting implementation success, responsible parties, schedule, site preparation, planting plan)
- Maintenance activities during the monitoring period, including weed removal as appropriate (activities, responsible parties, schedule)
- Monitoring plan for the compensatory mitigation site, including no less than quarterly monitoring for the first year (performance standards, target functions and values, target acreages to be established, restored, enhanced, and/or preserved, annual monitoring reports)
- Success criteria based on the goals and measurable objectives; said criteria to be, at a minimum, at least 80 percent survival of container plants and 30 percent relative cover by vegetation type
- An adaptive management program and remedial measures to address any shortcomings in meeting success criteria and/or to address catastrophic events such as wildfires
- Notification of completion of compensatory mitigation and agency confirmation
- Contingency measures (initiating procedures, alternative locations for contingency compensatory mitigation, funding mechanism)

5.2.2 Special Status Wildlife

Eighteen special status wildlife species have potential to occur within the BSA based upon known ranges, habitat preferences, species occurrence records in the vicinity of the BSA, and presence of suitable habitat. All have some potential to occur within the impact footprint of the project corridor. Four of these were observed in or near the BSA during surveys; Cooper's hawk, white-tailed kite, northern harrier, and coast horned lizard. Additionally, sign of American badger was observed and host plants for the Smith's blue butterfly were also observed. Nesting special status bird species and/or nesting migratory birds protected under CFGC may occur throughout the BSA and along the entire proposed impact footprint of the Trail corridor. A potentially beneficial impact of the project for terrestrial special status wildlife would be the development of wildlife movement corridors under General Jim Moore Boulevard and Reservation Road, where undercrossings are proposed. Undercrossings are expected to improve wildlife movement between the former Fort Ord and Frog Pond Wetland Preserve and would reduce the potential for roadkill that could occur when crossing General Jim Moore Boulevard, Canyon Del Rey Boulevard/SR 218, or Reservation Road.

Smith's Blue Butterfly

Smith's blue butterfly is dependent on it's host plant for foraging and breeding. If individuals of the host plants [seacliff buckwheat (*Eriogonum parvifolium*) and seaside buckwheat (*Eriogonum latifolium*)] are present within or immediately adjacent to the project corridor, any impacts (damage or removal) to host plants, whether containing eggs and/or larva or not, would be considered a significant impact under CEQA. Trail design has the flexibility to prioritize avoidance of impacts to Smith's blue butterfly host plants to the greatest extent possible within the BSA. Where direct impacts to host plants cannot be avoided, or where dispersing indeviduals would be reduced to a less than significant level through implementation of Mitigation Measures BIO-1(d)iii and viii, BIO-1(f), BIO-1(h), BIO-1(i), and BIO-1(j).

California Red-legged Frog

Suitable aquatic breeding habitat for CRLF is present within the BSA at the Frog Pond (Canyon Del Rey/SR 218 segment); however, annual monitoring of this pond for special status amphibians has been negative for CRLF (Anderson 2017). Laguna Grande is not considered suitable habitat based on the presence of predatory fish. The species has a low potential to occur within the BSA and is unlikely to be directly impacted by project activity except in the unlikely event that individuals are dispersing through the project area during construction activity. No impacts to breeding habitat or upland refugia are expected. Impacts to dispersing CRLFs would be reduced to a less than significant level through implementation of Mitigation Measures BIO-1(d)v and viii and BIO-1(f), BIO-1(h), BIO-1(i), and BIO-1(j).

California Tiger Salamander

Suitable aquatic breeding habitat for CTS is present within the BSA at the Frog Pond; however, annual monitoring of this pond for special status amphibians has been negative for CTS (Anderson 2017). Laguna Grande is not considered suitable habitat based on the presence of predatory fish and the perennial hydroperiod of this aquatic feature. CTS is known to breed in vernal pools on the Fort Ord National Monument within dispersal distance of the National Monument Loop and Northern Loop segments, and CTS is known to occur south of the BSA near Jack's Peak. CTS near the Northern Marina and Northern Loop segments may be hybridized with non-native barred salamanders however. CTS may also occur in upland areas of the BSA; however, the extent of upland occupancy by CTS within the BSA is not known. Therefore, all upland CTS habitat is considered potential habitat (i.e., it could provide suitable small mammal burrows for aestivation during the dry season). Loss of CTS upland habitat would be considered a significant impact under CEQA. The BSA includes approximately 497 acres of upland CTS habitat within 1.3 miles (2.2 kilometers) of potential breeding ponds (Table 6; Figure 6) in the vicinity of the BSA. Table 6 presents the acreage of potential CTS upland habitat in the BSA and the approximate acreage of impacts to potential CTS upland habitat within the preferred and optional Trail segments, assuming a 16-foot Trail width over most of the 28-mile corridor, with some expanded side Trail areas having to 26-foot width. The actual impacts to CTS upland habitat would be determined at the time the final design is completed; however, the numbers presented below are close approximations of the actual loss of potential CTS upland habitat from Trail development. Impacts are presented for four categories related to the distance from known or potential breeding sites.

The potential number of CTS individuals occurring in upland habitat is typically correlated to distance from breeding sites. Mitigation for impacts to upland habitat should thus be based on the distance of impacts from known or potential breeding sites. As summarized by CDFW (2010b), the percentage of individuals expected to occur at various distances from a breeding site has been estimated. Accordingly, acreages of upland habitat have been assigned to four impact categories:

- 0.23 mile (380 meters): Greater than 50 percent of adults, and approximately 50 percent of subadult CTS dispersal from breeding sites
- 0.38 mile (620 meters): 95 percent of CTS dispersal from breeding sites
- 0.62 mile (1.0 kilometer): CTS routine dispersal from breeding sites
- 1.3 miles (2.2 kilometers): Distance adults have been found to disperse from breeding site

Impacts to potential CTS upland habitat is relatively small compared to the total habitat within the BSA. This is in part because the Trail corridor is a small percentage of the BSA, and because much of the proposed Trail alignment is on existing developed areas (i.e., existing Trails and tracks). The total

impact area of potential CTS upland habitat in all four categories is approximately 55.18 acres, based on the current alignment (excluding alignment options). The total impact area of potential CTS upland habitat, including alignment options, in all four categories is approximately 66.67 acres.

Table 6 Potential CTS Habitat in BSA, and Trail Corridor Impacts to Potential Upland CTS Habitat

Impact Type	CTS habitat in BSA	Trail Corridor Impacts (acres)	Trail Option Impacts (acres)
Category 1: 0.23 miles	167.46	10.84	12.90
Category 2: 0.38 miles	147.10	9.53	13.55
Category 3: 0.62 miles	257.85	18.15	20.72
Category 4: 1.3 miles	212.3	16.66	19.50

Trail development would not result in direct impacts to known or potential CTS breeding habitat. The species has a moderate potential to occur within the BSA and could be directly impacted (injury or mortality of individuals) by project activity if individuals are dispersing through the BSA during construction activity, or if construction disturbed occupied upland habitat. Impacts to CTS would be reduced to a less than significant level through implementation of Mitigation Measures BIO-1(d)iv and viii, BIO-1(f) and BIO-1(g), BIO-1(f), BIO-1(h), BIO-1(i), and BIO-1(j).

Coast Range Newt

Suitable aquatic breeding habitat for Coast Range newt is present within the BSA at the Frog Pond Wetland Preserve (Canyon Del Rey/SR 218 segment); however, annual monitoring of this pond for special status amphibians has been negative for Coast Range newt (Andersen 2017). Laguna Grande is not considered suitable habitat based on the presence of predatory fish. There is low potential for this species to occur within the BSA, and no impacts to breeding habitat are expected from project development. Direct impacts in the form of injury or mortality could occur if individuals are present during construction activity. Impacts to dispersing Coast Range newt would be reduced to a less than significant level through implementation of Mitigation Measures BIO-1(d)i and viii, BIO-1(f), BIO-1(h), BIO-1(i), and BIO-1(j).

Two-striped Garter Snake

Two-striped garter snake has potential to occur in mesic portions of the BSA including Laguna Grande, Canyon Del Rey Creek, and the Frog Pond (Canyon Del Rey/SR 218 segment). The species may be directly adversely affected by the proposed project if individuals are present in the work areas during Trail construction. Injury or mortality of individuals that may result from construction activity may be considered a significant impact under CEQA. The presence of pedestrians, bicyclists, dogs, and equestrians may affect these species as well, if individuals are harmed or harassed by Trail activity. Injury or mortality from pedestrian and bicycle use is expected to be an unusual occurrence, as wildlife would generally avoid the paved Trail, and can generally be avoided a low travel speeds. Impacts to this species from construction activity would be reduced to less than significant with the implementation of Mitigation Measures BIO-1(d)i and viii, BIO-1(f), BIO-1(h), BIO-1(i), and BIO-1(j).

Northern California Legless Lizard

Northern California legless lizard has potential to occur in a wide range of habitats across the BSA but is most likely to occur in areas with sufficient moist leaf litter or other ground-cover to support their habitat requirements. They are most likely to occur in the western extent of the BSA but may also occur east of General Jim Moore Boulevard in areas with higher moisture (all Trail segments). The species may be directly affected (injury or mortality) by the Trail construction activities if individuals are present in the work area during construction. The presence of pedestrians, bicyclists, dogs, and equestrians may affect these species as well, if individuals are harmed or harassed by Trail activity. Injury or mortality from pedestrian and bicycle use is expected to be an unusual occurrence, as wildlife would generally avoid the paved Trail, and can generally be avoided a low travel speeds. Impacts to this species from construction activity would be reduced to less than significant with the implementation of Mitigation Measures BIO-1(d)i and viii, BIO-1(f), BIO-1(h), BIO-1(i), and BIO-1(j).

Western Pond Turtle

Western pond turtle has potential to occur in less mesic portions of the BSA including Laguna Grande, Canyon Del Rey Creek, and the Frog Pond (Canyon Del Rey/SR 218 segment). The species may be directly adversely affected by the proposed project if individuals are present in the work areas during Trail construction. Injury or mortality of individuals that may result from construction activity may be considered a significant impact under CEQA. The presence of pedestrians, bicyclists, dogs, and equestrians may affect these species as well, if individuals are harmed or harassed by Trail activity. Injury or mortality from pedestrian and bicycle use is expected to be an unusual occurrence, as wildlife would generally avoid the paved Trail, and can generally be avoided a low travel-speeds. Impacts to this species from construction activity would be reduced to less than significant with the implementation of Mitigation Measures BIO-1(d)i and viii, BIO-1(f), BIO-1(h), BIO-1(i), and BIO-1(j).

Coast Horned Lizard

Coast horned lizard has potential to occur in a wide range of habitats across the BSA where loose and sandy soils occur in generally open areas. They are most likely to occur east of General Jim Moore Boulevard (National Monument Loop segment), along the section south of Inter-Garrison Road (Northern Loop segment), and in the Northern Loop segment south of the Salinas River, but could also occur in any open sandy area within the BSA. The species may be directly affected (injury or mortality) by the Trail construction activities if individuals are present in the work area during construction. The presence of pedestrians, bicyclists, dogs, and equestrians may affect these species as well, if individuals are harmed or harassed by Trail activity. Injury or mortality from pedestrian and bicycle use is expected to be an unusual occurrence, as wildlife would generally avoid the paved Trail, and can generally be avoided a low travel speeds. Impacts to this species from construction activity would be reduced to less than significant with the implementation of Mitigation Measures BIO-2(a1(d)i and viii, BIO-2(c), BIO-21(f), BIO-2(g)1(h), BIO-1(i), and BIO-2(h1(j) would reduce potential impacts to less than significant.

Burrowing Owl

Suitable burrowing habitat is present in annual grassland, low density scrub, and open spaces throughout the BSA. The species is known to occur in the region but does not occur in the abundance seen at inland locations, and thus the species is considered to have a moderate potential

to occur within the BSA. Impacts to burrowing owls would be limited to project activity that would directly affect an occupied burrow (temporarily or permanently damage or destroy the burrow), or project activity that would disrupt active breeding or wintering owls within 500 feet of construction activity. Because of the narrow width of the disturbance footprint, direct impacts to active burrows are unlikely; however, owls can be disturbed by construction noise and human activity and may abandon active burrows, including during breeding. The presence of pedestrians, bicyclists, dogs, and equestrians may affect burrowing owls, if individuals are harmed or feel harassed by Trail activity. Injury or mortality from pedestrian and bicycle use is expected to be an unusual occurrence, as wildlife would generally avoid the paved Trail, and can generally be avoided a low travel-speeds. This species may occur in bare patches, ruderal, or grasslands in all Trail segments. Impacts to active burrowing owl burrows would be considered significant under CEQA. Implementation of Mitigation Measures BIO-1(d)ii and viii, BIO-1(f), BIO-1(h), BIO-1(i), and BIO-1(j) would reduce potential impacts to less than significant.

Nesting Raptors, Special Status Birds and Other Protected Birds

Nesting raptors such as white-tailed kite, golden eagle, and Cooper's hawk have the potential to nest in tall trees within or near the BSA (all Trail segments). Northern harrier and horned lark may nest in annual grasslands and open scrubby habitats within the BSA. Suitable habitat for tricolored blackbird is present at Laguna Grande, and to a lesser degree Frog Pond Wetland Preserve (Canyon Del Rey/SR 218 segment). In general, avian species can easily avoid direct impacts from construction activity. Because there are already informal Trails through much of the proposed alignment and project has been designed to occur along the edges of existing development, impacts due to increased human presence and recreational use is not likely to result in a significant impact to highly mobile (non-terrestrial) species such as birds; however, active nests of special status birds and/or raptors could be adversely affected by Trail construction activity. Construction activity around active nests present outside of the impact footprint but in the vicinity of construction could result in nest abandonment as a result of noise or human activity. Nest destruction or nest abandonment of active special status species and/or raptor nests would be considered a significant impact under CEQA. Implementation of Mitigation Measures BIO-1(e), BIO-1(f), BIO-1(h), BIO-1(i), and BIO-1(j) would reduce potential impacts to special status nesting birds to less than significant.

Trail development could result in direct impacts to nesting migratory birds protected under CFGC, during vegetation clearing, grading and other construction activity, through destruction or damage of active nests, or through disturbance to nesting birds from construction activity and noise. Impacts to non-special status migratory birds would generally not be considered significant under CEQA; however, loss of active migratory bird nests through nest destruction or nest abandonment would be a violation of CFGC. Implementation of Mitigation Measure BIO-2(b) would also prevent violations of CFGC. Implementation of Mitigation Measure BIO-1(e) would also prevent violations of CFGC.

American Badger

American badger could occur in any of the natural vegetation communities within the BSA and is most likely to occur in areas away from existing human development, on the eastern side of the Trail corridor (east side of all Trail segments). American badger typically has a home range of over 1,000 acres and the project has been designed to occur along the edges of existing development; therefore, the project is not expected to infringe significantly into a badger's home range. However, active natal burrows or other occupied burrows could be directly impacted if they are present

within the proposed disturbance area at the time of construction. This is a predominantly nocturnal species and impacts due to increased human presence and recreational use along the edges of developed areas are not expected to be a significant, because of the low use that would be expected during badger activity periods. Direct impacts to occupied badger dens could be considered a significant impact under CEQA. Implementation of Mitigation Measures BIO-2(a1(d)i and viii, BIO-2(c), BIO-21(f), BIO-2(g)1(h), BIO-1(i), and BIO-2(h1(j) would reduce potential impacts to less than significant.

Monterey Dusky-footed Woodrat

Monterey dusky-footed woodrat middens were observed in coast live oak habitats throughout the BSA (all Trail segments), and they have the potential to occur throughout any wooded or dense scrub habitat within the BSA. Direct impacts to this species are generally unlikely, as the specie is nocturnal and unlikely to remain in the vicinity of human activity; however, if middens are present in the proposed alignment and must be removed this could result in injury or mortality of individuals. Use of the Trail may cause disturbance if dogs are off leash or pedestrians or mountain bikers go off Trail. These impacts would be less than significant with implementation of Mitigation Measures BIO-1(d)vi and viii, BIO-1(f), BIO-1(h), BIO-1(i), and BIO-1(j).

Pallid and Townsend's Big-eared Bats

Pallid bat and Townsend's big-eared bat have low potential to roost in the BSA. Abandoned buildings were observed along California Avenue, at the west end of 8th and 9th streets (CSUMB Loop North segment) and on the north side of Divarty Street (CSUMB Loop South segment), and trees with appropriate structure for roosting may be present in wooded areas of the project corridor (all Trail segments). The proposed project does not include removal of buildings; however, trees large with appropriate structure to support roosting bats may be impacted by Trail development. Injury to, or mortality of roosting bats resulting from tree removal would be considered a significant impact under CEQA. These impacts would be less than significant with implementation of Mitigation Measures BIO-1(d) vii and viii, BIO-1(f), BIO-1(h), BIO-1(i), and BIO-1(j).

Recommended Mitigation Measures

BIO-1(d) Conduct Special Status Wildlife Pre-Construction Surveys

GENERAL WILDLIFE SURVEYS

Pre-construction clearance surveys for northern California legless lizard, coast horned lizard, two-striped garter snake, western pond turtle and American badger should be conducted within 14 days prior to the start of construction (including staging and mobilization) in areas of suitable habitat. For two-striped garter snake and western pond turtle, these areas are limited to the Canyon Del Rey/SR 218 segment. California legless lizard may be found in undeveloped areas throughout the project corridor. Coast horned lizard and American badger suitable habitats are limited to the Northern Marina, Northern Loop, National Monument Loop, Ryan Ranch, and Canyon Del Rey/SR 218 segments. The surveys should cover the entire disturbance footprint plus a minimum 200-foot buffer within suitable habitat, where permissible, and should identify all special status animal species that may occur on-site. California legless lizard, coast horned lizard, and two-striped garter snake should be relocated from the site to a safe location within suitable habitat as near to the project area as possible by a qualified biologist.

BURROWING OWL SURVEYS

A qualified biologist should conduct pre-construction clearance surveys prior to ground disturbance activities within suitable natural habitats and ruderal areas throughout the Trail segments to confirm the presence/absence of active burrowing owl burrows. The surveys should be consistent with the recommended survey methodology provided by CDFW (2012). Clearance surveys should be conducted within 30 days prior to construction and ground disturbance activities. If no burrowing owls are observed, no further actions are required. If burrowing owls are detected during the pre-construction clearance surveys, the following measures should apply:

- Avoidance buffers during the breeding and non-breeding season should be implemented in accordance with the CDFW (2012) and Burrowing Owl Consortium (1993) minimization mitigation measures.
- If avoidance of burrowing owls is not feasible, then additional measures such as passive relocation during the nonbreeding season and construction buffers of 200 feet during the breeding season should be implemented, in consultation with CDFW. In addition, a Burrowing Owl Exclusion Plan and Mitigation and Monitoring Plan should be developed by a qualified biologist in accordance with the CDFW (2012) and Burrowing Owl Consortium (1993).

SMITH'S BLUE BUTTERFLY HOST PLANT SURVEYS AND MITIGATION

Prior to grading and construction in undeveloped areas throughout the Trail alignment, an approved biologist should conduct surveys for seacliff buckwheat (*Eriogonum parvifolium*) and seaside buckwheat (*Eriogonum latifolium*), host plants of Smith's blue butterfly in areas of suitable habitat. These surveys can be completed as part of the rare plant surveys conducted under Mitigation Measure BIO-1(a).

If no Smith's blue butterfly host plants are located, no further action is required. If host plants are located within proposed disturbance areas, they should be avoided if feasible. If avoidance is not feasible, the plants should be buffered by a minimum of 25 feet and demarcated as an ESA with high-contrast construction flagging, and no construction activity should be allowed within the buffered avoidance area. If construction would be required within the buffer area, a biological monitor should be present for all work within the buffer avoidance area to ensure no direct impacts to host plants.

If avoidance is not feasible, focused surveys should be conducted to determine presence or absence of the butterfly species. This may include surveys during the adult flight period (mid-June through early September), and/or inspection of host plants for all life forms (egg, larva, pupa, and adult). If individuals of any life stage that may be impacted by the proposed project are detected during focused surveys, the plant cannot be disturbed without take authorization from USFWS. Only a USFWS permitted biologist would be allowed to relocate occupied host plants.

CALIFORNIA TIGER SALAMANDER

Prior to grading and construction in natural areas of all segments containing suitable upland habitat, a qualified biologist should conduct a preconstruction survey for CTS. The survey should include a transect survey over the entire project disturbance footprint (including access and staging areas), and mapping of burrows that are potentially suitable for salamander occupancy. If any CTS is detected, no work can be conducted until the individual leaves the site of their own accord, unless federal and state "take" authorization has been issued. Typical preconstruction survey procedures, such as burrow scoping and burrow collapse, cannot be conducted without federal and state

permits. If any life stage of CTS is found within the survey area, the USFWS and CDFW should be consulted to determine the appropriate course of action to comply with the FESA and CESA, if permits are not already in place at the time of construction.

California red-legged Frog

Within 24 hours prior to grading and construction in undeveloped areas of the Ryan Ranch, Canyon Del Rey/SR 218, National Monument Loop, Northern Loop, and Northern Marina segments, a clearance survey for CRLF should be conducted by a qualified biologist. If a CRLF is detected during the survey, the implementing entity should consult with the USFWS. Project activities should not occur until the individual has left the site on its own accord. If CRLFs are to be relocated, a formal take authorization issued by the USFWS must be obtained prior to relocation. No CRLFs should be relocated or handled without express permission from USFWS.

Monterey Dusky-footed Woodrat

A qualified biologist should conduct a pre-construction survey for woodrats no more than 14 days prior to construction. Middens within 50 feet of project activity that would not be directly impacted by project activity should be demarcated with a 10-foot avoidance buffer and left intact. If a midden(s) that cannot be avoided are found during the pre-construction survey, an approved biologist should monitor the dismantling of the midden by a construction contractor to assist with the goal of ensuring the individuals are allowed to leave the work areas unharmed before on site activities begin.

Special Status Bats

If trees of sufficient size and structure (i.e., mature trees with hollows and crevices) to support roosting bats are slated for removal during construction, a preconstruction bat emergence survey should be conducted by a qualified biologist to determine if the tree functions as a roost. Emergence times may vary dependent on species, weather conditions, and time of year and should occur when conditions are favorable (higher temperatures, high humidity, low wind, no precipitation), and timed to capture bat emergence (typically occurring between sunset and sunrise). Maternity season for bats ranges from May 1 through August 31. After September, bats begin to enter their hibernaculum stage in preparation for colder months and may not emerge from their roosts, and emergence surveys would not be conclusive.

The specific timelines for implementation of management of roosting bats within the project corridor would be determined based upon the results of the emergence surveys. Once the species has been determined, areas to relocate roosts to may also be identified (i.e. other areas away from tree removal area). Relocation sites away from the project impact area can be enhanced with additional bat boxes or structures depending on the species. Alternative bat roosting habitat should be installed as far in advance of the humane eviction/exclusion as possible to increase likelihood of their discovery and use by the bats being evicted. Therefore, the installation of alternative bat roosting structures should be initiated as soon as active roosts are identified. After alternative roost structures have been installed, eviction measures can be implemented. Install exclusion netting and socks (specific for bats to prevent re-entry) at roost openings to allow bats to exit but prevent their re-entry into the roost. Nets and socks would have to be regularly checked to prevent wildlife entrapment. Exclusion devices should be left in place and monitored daily for seven days to confirm the exclusion is successful prior to tree removal. Tree removal should be monitored by a qualified bat biologist in case any further individual relocation is necessary.

REPORTING

A report of all pre-construction survey results should be submitted to the implementing entity for its review prior to the start of demolition. The report should include a description of the survey methodology for each species, the environmental conditions at the time of the survey(s), the results of the survey, any requirements for addressing special status species identified during surveys, and the biological qualifications of the surveyors. The report should be accompanied by maps and figures showing the location of any special status species occurrences and associated avoidance buffers.

BIO-1(e) Conduct Nesting Bird Preconstruction Surveys

Ground disturbance and vegetation removal activities should be restricted to the non-breeding season (September 16 to January 31) for all segments when feasible. For ground disturbance and vegetation removal activities occurring in all project areas during the bird nesting season (February 1 to September 15), general pre-construction nesting bird surveys should be conducted by a qualified biologist for all migratory birds, including special status birds and raptors (i.e., northern harrier, Cooper's hawk, horned lark, tricolored blackbird and white-tailed kite) not more than 14 days prior to construction activities involving ground clearing, vegetation removal/trimming, or building demolition. The surveys should include the disturbance area plus a 200-foot buffer around the site if feasible, a 500-foot buffer for tricolored blackbird and white-tailed kite. If active nests are located, an appropriate avoidance buffer should be established within which no work activity will be allowed which would impact these nests. The avoidance buffer would be established by the qualified biologist on a case-by-case basis based on the species and site conditions. In no cases should the buffer be smaller than 50 feet for non-raptor bird species, 200 feet for raptor species, a 500-foot buffer for tricolored blackbird and white-tailed kite. Larger buffers may be required depending upon the status of the nest and the construction activities occurring in the vicinity of the nest. If fully protected White-tailed kites are documented nesting within 500 feet of construction activities, CDFW should be consulted on appropriate avoidance and minimization methods, which would likely include work restrictions within 500 feet of the nest, biological monitoring for activity within the nest' line-of-sight, etc. The buffer area(s) should be closed to all construction personnel and equipment until juveniles have fledged and the nest is inactive. The implementing entity-approved biologist should confirm that breeding/nesting is completed and young have fledged the nest prior to removal of the buffer.

BIO-1 (f) Implement Biological Resources Avoidance and Minimization

The following measures should be applied to all segments to avoid impacts to sensitive species and biological resources. The implementing entity should be responsible for implementing selected measures.

- Ground disturbance should be limited to the minimum necessary to complete the project. The limits of disturbance for each construction phase should be flagged. Areas of special biological concern within or adjacent to the limits of disturbance should have highly visible orange construction fencing installed between said area and the limits of disturbance.
- All construction occurring within or adjacent to natural habitats that may support Federally and/or State listed endangered/threatened species, State fully protected species, and/or special status species should have a qualified biological monitor present during all initial ground disturbing/vegetation clearing activities.

- No endangered/threatened species should be captured/handled, relocated, harmed, or harassed without express written permission from the CDFW and/or USFWS.
- If at any time during construction an endangered, threatened, or fully protected species enters the construction site or otherwise may be impacted, all construction activities should cease. A CDFW/USFWS-approved biologist should document the occurrence and consult with the CDFW and USFWS, as appropriate, to determine whether it was safe for project activities to resume.
- At the end of each workday, excavations should be secured with cover or a ramp provided to prevent wildlife entrapment.
- All trenches, pipes, culverts or similar structures should be inspected for animals prior to burying, capping, moving, or filling.
- If night work is required, all construction lighting should be pointed down and directed only on the work area.
- The implementing entity should approve one or more qualified biologists to oversee and monitor biological compliance for the project. At least one qualified biologist should be present during all initial ground disturbing activities, including vegetation removal to recover special status animal species unearthed by construction activities.

BIO-1(g) Implement California Tiger Salamander Compensatory Mitigation

If California tiger salamander habitat cannot be avoided, the implementing entity should preserve off-site suitable upland habitat and/or purchase credits at an approved conservation bank as compensatory mitigation to offset impacts to suitable California tiger salamander upland habitat. The compensatory mitigation should incorporate the conditions and compensatory mitigation requirements specified in the incidental take permit(s) and/or incidental take statement that could be issued by CDFW and USFWS for this project but should meet the minimum standards specified in this measure. Compensatory mitigation should be provided at a ratio of not less than 0.5:1 (area mitigated: area impacted) for Categories 3 and 4 upland habitat and 1:1 for Categories 1 and 2 habitat. Compensatory mitigation should occur off-site. Areas proposed for preservation must contain verified California tiger salamander habitat within 1.3 miles of a known breeding pond.

The compensatory mitigation area(s) should have a restrictive covenant (e.g., conservation easement) prohibiting future development/disturbance and should be managed in perpetuity to encourage persistence and enhancement of the preserved target species. Compensatory mitigation lands cannot be located on land that is currently held publicly for resource protection, unless a portion of such land is degraded/destroyed or otherwise not functioning as pre-disturbance, intact natural habitat (e.g., abandoned agricultural field) and could be restored. The compensatory mitigation areas should be managed by a conservation lands management entity or other qualified easement holder.

The CDFW and organizations approved by CDFW that meet the criteria below may be considered qualified easement holders for those species for which the CDFW has regulatory authority. To qualify as a “qualified easement holder” a private land trust must at a minimum have:

1. Substantial experience managing conservation easements that are created to meet mitigation requirements for impacts to special-status species;
2. Adopted the Land Trust Alliance’s Standards and Practices; and;
3. A stewardship endowment fund to pay for its perpetual stewardship obligations.

Other specific conditions for qualified easement holders may be outlined in incidental take permit(s) and/or incidental take statement that could be issued by CDFW and USFWS for this project.

The implementing entity should determine whether a proposed easement holder meets these requirements. The implementing entity should also be responsible for donating to the conservation easement holder fees sufficient to cover administrative costs incurred in the creation of the conservation easement (appraisal, documenting baseline conditions, etc.) and funds in the form of a non-wasting endowment to cover the cost of monitoring and enforcing the terms of the conservation easement in perpetuity. The amount of these administrative and stewardship fees should be determined by the conservation easement holder in consultation with the implementing entity.

Conservation easement(s) should be held in perpetuity by a qualified easement holder (as defined above), and be subject to a legally binding agreement that should: (1) be recorded with the County Recorder(s); and (2) contain a succession clause for a qualified easement holder if the original holder is dissolved.

The following factors should be considered in assessing the quality of potential mitigation habitat: (1) current land use, (2) location (e.g., habitat corridor, part of a large block of existing habitat, adjacency to source populations, proximity to potential sources of disturbance), (3) vegetation composition and structure, (4) slope, (5) soil composition and drainage, and (6) level of occupancy or use by all relevant species.

To meet the requirement that the mitigation habitat is of value equal to, or greater than, the habitat impacted on the project site, the mitigation habitat must be either “suitable habitat” or “enhanced habitat” as described below:

SUITABLE HABITAT

To meet the requirements for suitable habitat that provides equal or greater habitat value for listed animal species than the impacted habitat, the habitat must:

4. Provide habitat for special status animal species, such that special status animal species populations can regenerate naturally when disturbances are removed;
5. Not be characterized by (or adjacent to areas characterized by) high densities of invasive species, such as yellow star-thistle, or species that might jeopardize habitat recovery and restoration;
6. Not contain hazardous wastes that cannot be removed to the extent that the site could not provide suitable habitat; and
7. Not be located on land that is currently publicly held for resource protection.

ENHANCED HABITAT

If suitable habitat is unavailable, or in lieu of acquiring already suitable special status animal species habitat, the applicant may enhance potential habitat that:

8. Is within an area with potential to contribute to habitat connectivity and build linkages between populations;
9. Consists of actively farmed land or other land containing degraded habitat that will support enhancement;

10. Supports suitable soils, slope, and drainage patterns consistent with special status animal species requirements;
11. Cannot be located on land that is currently held publicly for resource protection; and
12. Does not contain hazardous wastes or structures that cannot be removed to the extent that the site could not provide suitable habitat.

ENHANCED HABITAT STANDARDS

For enhanced habitat conditions to equal or exceed habitat conditions on the project site, the enhanced habitat should meet the following habitat criteria: After five years, these sites must consist of suitable habitat or contain other habitat characteristics (e.g., small mammal burrows in upland habitat for California tiger salamander habitat , wetlands, ponds, etc.) that are consistent with the known ecology of the special status animal species to which compensatory mitigation is being applied and the habitat components for which the mitigation is compensating for.

BIO-1(h) Provide Worker Environmental Awareness Program (WEAP)

Prior to initiation of construction activities (including staging and mobilization) the implementing entity should arrange for all personnel associated with project construction to attend WEAP training, conducted by an approved biologist, to aid workers in recognizing special status resources that may occur in the construction area. The specifics of this program should include identification of the sensitive species and habitats, a description of the regulatory status and general ecological characteristics of sensitive resources, and review of the limits of construction and mitigation measures required to reduce impacts to biological resources within the work area. A fact sheet conveying this information should also be prepared for distribution to all contractors, their employers, and other personnel involved with construction. All employees should sign a form provided by the trainer indicating they have attended the WEAP and understand the information presented to them. The form should be submitted to the implementing entity to document compliance.

BIO-1(i) Perform Biological Monitoring

A qualified biological monitor should be present for all ground clearing and vegetation removal in areas of natural vegetation within all segments. Daily monitoring activity should include morning clearance sweeps for special status species prior to new ground disturbance or vegetation removal. In addition to general biological monitoring, a qualified CTS biologist should be present during all work in suitable habitat on the Ryan Ranch, Canyon Del Rey/SR 218, National Monument Loop, Northern Loop, and Northern Marina segments to monitor specifically for CTS. The monitor should have the authority to stop work if special status species are discovered on site or if special status species are at risk of harm as a result of project activity. A sufficient number of monitors should be available to directly monitor ground clearing and vegetation removal at all times and to clear areas in advance of grading and vegetation clearing activity. The number of monitors should be based on the type, location and extent of construction activity and the number of crews and crew locations working at any one time to ensure monitoring is effective in reducing impacts to special status species. The biological monitor should capture and relocate any non-listed special status species to the closet suitable habitat. Listed species cannot be handled without prior federal and state “take” authorizations. The monitor(s) should maintain daily monitoring logs and document all observations of special status species and all incidents of wildlife relocation. A final monitoring report should be

prepared to summarize the results of biological monitoring, including the total number of days of monitoring, all special status species observations, and the results of any wildlife relocations.

BIO-1(j) Implement Wildlife Avoidance and Minimization

The following measures are required to avoid or minimize impacts to special status species in all Trail segments:

- Activities onsite should be restricted to daylight hours to the maximum extent possible.
- All trenches, pipes, culverts or similar structures should be inspected for animals prior to burying, capping, moving, or filling.
- All construction occurring within/adjacent to the Northern Marina, Northern Loop, National Monument Loop, Ryan Ranch, and Canyon Del Rey/ SR 218 and segments (including riparian habitats and wetlands) should be completed between April 1 and October 31, if feasible, to avoid impacts to California tiger salamander.
- If federal or state listed species are detected during preconstruction surveys, the implementing entity should consult with CDFW and/or USFWS. Construction activities should not occur until the individual has left the site. If federal or state listed species are to be relocated to the nearest appropriate habitat, this can only occur if CDFW and/or USFWS have issued formal take authorization, and the relocation is conducted by a CDFW- and/or USFWS-approved biologist. No endangered/threatened species should be captured and relocated without express permission from the CDFW and/or USFWS.

If at any time during project activities an endangered/threatened species enters the work area or otherwise may be impacted by the project, all project activities should cease. A qualified biologist should document the occurrence and consult with CDFW and USFWS, as appropriate, to determine whether it was safe for project activities to resume.

5.3 Sensitive Plant Communities

The proposed project would have a significant effect on biological resources if it would:

b) Have a substantial adverse impact 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.

Sensitive natural communities known to occur within the BSA which may be impacted by the proposed project include central dune scrub, central maritime chaparral, coastal and valley freshwater marsh, Riparian woodlands, chamise chaparral, woolly-leaf manzanita, coyote brush scrub, sandmat manzanita chaparral, and chamise – black sage chaparral. Arroyo willow and riparian woodlands are also considered sensitive and were observed in the BSA (National Monument Loop, CUMB North Loop, Canyon Del Rey/SR 218, and Ryan Ranch segment). Other natural communities included in the California Sensitive Natural Communities List are also likely to be present in the BSA but have not been mapped on a broad scale. One federally designated critical habitat unit for Monterey spineflower occurs within the BSA at the Northern Loop segment and would be affected by construction of the Trail within this critical habitat unit. The 2002 BO addressing impacts to Monterey spineflower critical habitat for the disposal and reuse of Fort Ord also allows development of trails within the habitat corridor parcel, while maintaining a high habitat value (USFWS 2002b). No sensitive natural communities were observed in the Northern Marina segment or options. The lakes, streams, wetlands and riparian areas in the BSA at Laguna Grande are

identified as ESHA under the adopted Local Coastal Program. In addition, oak woodlands and dunes such as those in the Northern Marina segment may also meet criteria to be considered ESHA. Definitions of ESHA in neighboring jurisdictions are similar. Direct impacts to sensitive habitats, critical habitats, and ESHA could occur through ground disturbance or vegetation removal and conversion of habitats to development of a multi-purpose paved Trail. Indirect impacts could also occur through the trampling of vegetation (e.g., people or horses going off Trail), establishment of non-native invasive species, and the introduction of pathogens. Impacts would be less than significant with mitigation incorporated. Based on the project alignment, the project would potentially result in permanent impacts to approximately 4.55 acres of sensitive natural communities as presented in 7. The project would potentially result in approximately 0.79 acre of impacts to ESHA.

Table 7 Sensitive Vegetation Community Impacts

Sensitive Vegetation Community	Impacts in Proposed Alignment (acres)	Impacts in Optional Alignment (acres)
Dune Scrub	1.63	1.63
Freshwater Emergent Wetland	0.16	0.19
Manzanitas Chaparral	1.77	2.17
Sandmat Manzanita Chaparral	0.11	0.12
Arroyo Willow	0.51	0.51
Riparian Woodland	0.37	0.30
Total Impacts	**4.55**	**4.92**

The following

BIO-2(a) Implement Sensitive Natural Community Avoidance Measures

The following measures should be implemented for all Trail segments:

- To the extent feasible, all Trail construction activities, including access routes, staging areas, stockpile areas, and equipment maintenance are to be located outside of the limits of mapped sensitive habitats. Sensitive habitat areas should be mapped by a qualified biologist and clearly shown on construction plans. Temporary fencing (e.g., silt fencing) should be installed at the outermost edge sensitive habitats and should not be disturbed except as required for Trail construction. Vegetation removal should be limited to the minimum extent necessary to achieve project objectives. Mature trees should be retained wherever feasible and limbing of trees and shrubs in arroyo willow scrub and riparian forest, and coast live oak woodland should be favored in lieu of removal. When possible, during construction stumps and burls of native vegetation should be retained to allow for re-sprouting following project completion.
- Arroyo willow riparian forest impacted by slope stabilization activities should be minimized to the maximum extent feasible. Construction of retaining walls, slope contouring, and other

stabilization techniques should be limited to the footprint of the required work area. Silt fencing and other erosion control measures should be placed immediately downslope to prevent sediments and debris from entering stream courses and degrading water quality. Bioengineering techniques (e.g. low crib walls, vegetation planting) should be used as a slope stabilization approach, when feasible.

BIO-2(b) Develop and Implement a Biological Resources Mitigation and Management Plan for Impacts to Biological Resources Resulting from Trail Construction and Operation

A qualified (USFWS- and CDFW-approved) biologist should prepare a project-specific Biological Resources Mitigation and Management Plan (MMP) for each segment individually to compensate for direct and indirect impacts to sensitive habitats, and other sensitive biological resources resulting from Trail construction and operation. The MMP should compensate for permanent loss of sensitive habitats, through the creation, restoration, and enhancement of in-kind sensitive habitat, as close to impacted areas as feasible within the BSA, or on suitable preserve lands on the former Fort Ord.

To protect against the loss of ecological functions and values, compensatory mitigation should re-create the following features of existing sensitive habitat that would be impacted by the proposed project: habitat mosaic, edge habitats, and proximity to wetlands and other waters.

The Biological Resources MMP should include the following:

- Description of the Trail alignment including acreage of temporary and permanent impacts to central dune scrub, central maritime chaparral, coastal and valley freshwater marsh, Riparian woodlands, chamise chaparral, woolly-leaf manzanita, coyote brush scrub, sandmat manzanita chaparral, chamise – black sage chaparral, arroyo willow, and riparian woodlands, including the number and type of trees slated for removal.
- Acreage of temporary and permanent impacts to California tiger salamander upland, and dispersal habitat, smith's blue butterfly habitat, habitat for species of special concern, and listed plant species habitat.
- Ecological functions and values assessment of sensitive habitats, including California tiger salamander habitat to determine suitable mitigation ratios.
- Goals of compensatory mitigation, including types and areas of sensitive habitat to be created, restored, and/or enhanced; number and type of trees to be replaced, specific functions and values of mitigation habitat types, mitigation ratios (created/restored/enhanced: impacted), and performance criteria.
- Such compensatory mitigation to be prioritized to occur as close to impacted areas as feasible and offset impacts of sensitive habitat types, or their functions and values. Consultation with USFWS and/or CDFW, may result in different mitigation areas and ratios.
- Location and acreage of sensitive habitat, including California tiger salamander, smith's blue butterfly and listed plant species habitat, mitigation areas including ownership status, and existing functions and values of restored and/or enhanced sensitive habitats.
- Detailed sensitive habitat creation and/or restoration construction and planting techniques.
- Description and design of habitat requirements for sensitive wildlife known to occur in the BSA and immediate surroundings (including but not limited to: California tiger salamander, smith's

blue butterfly, listed plant species, potential roosting bat species, and Monterey dusky-footed woodrat).

- Maintenance activities during the monitoring period including replanting native vegetation found within similar habitats and weed removal that avoid take of California tiger salamander and other sensitive wildlife species.
- Strategies to protect remaining sensitive habitats along the Trail corridor and surroundings from direct and indirect impacts from Trail users such as:
  a. Interpretive signage including specific information about sensitive habitats and species and "leave no trace" content,
  b. Green fencing (dense vegetative buffers consisting of plant species that deter human passage such as poison oak, Pacific blackberry, and stinging nettle) where appropriate, and
- Long-term quantitative and qualitative monitoring and reporting, and documenting the ability to meet or surpass performance criteria.
- Adaptive management strategies to:
  c. identify shortcomings in meeting performance standards;
  d. ensure long-term viability of existing, enhanced, restored, and/or newly-created sensitive biological resources;
  e. enhance ecological functions and values of sensitive habitat mitigation areas, including California tiger salamander habitat, smith's blue butterfly and listed plant species;
  f. interpretive design features associated with the project to protect biological resources.

BIO-2(c) Implement Best Management Practices during Construction

The construction specifications for each Trail segment should include the following BMPs to protect water quality and biological resources during project construction activities.

- Minimize removal or disturbance of existing vegetation outside of the footprint of project construction activities [refer to Mitigation Measures BIO-2(a)].
- Limit site access and parking, equipment storage and stationary construction activities to the designated staging areas to the maximum extent feasible.
- Prior to staging equipment on-site, clean all equipment caked with mud, soils, or debris from off-site sources or previous project sites to avoid introducing or spreading invasive exotic plant species. When feasible, remove invasive exotic plants from the Project area. All equipment used on the premises should be cleaned prior to leaving the site for other projects.
- Position all stationary equipment such as motors, pumps, generators, and/or compressors over drip pans. At the end of each day, move vehicles and equipment as far away as possible from any water body adjacent to the project site in a level staging area. Position parked equipment also over drip pans or absorbent material.
- If security fencing is installed around the construction site, allow for passage of wildlife to maintain a link between inland and coastal habitats including stream corridors during construction activities. Prohibit the use of plastic mesh safety fencing to prevent wildlife entrapment.
- Refuel and perform all vehicle and/or equipment maintenance off-site at a facility approved for such activities.

- To the greatest extent feasible, stabilize all exposed or disturbed areas in the project area. Install erosion control measures as necessary such as silt fences, jute matting, weed-free straw bales, plywood, straw wattles, and water check bars, and broadcasting weed-free straw wherever silt-laden water has the potential to leave the work site and enter the nearby streams. Prohibit the use of monofilament erosion control matting to prevent wildlife entanglement. Modify, repair, and/or replace erosion control measures as needed.
- All nursery plants used in restoration should be inspected for sudden oak death. Vegetation debris should be disposed of properly and vehicles and equipment should be free of soil and vegetation debris before entering natural habitats. Pruning tools should be sanitized.

BIO-2(d) Implement Invasive Weed Prevention and Management Program

For activity that would occur within or adjacent to sensitive habitats, prior to start of construction an Invasive Weed Prevention and Management Program should be developed by a qualified biologist to prevent invasion of native habitat by non-native plant species. A list of target species should be included, along with measures for early detection and eradication. All disturbed areas should be hydroseeded with a mix of locally native species upon completion of work in those areas. In areas where construction is ongoing, hydroseeding should occur where no construction activities have occurred within six (6) weeks since ground disturbing activities ceased. If exotic species invade these areas prior to hydroseeding, weed removal should occur in consultation with a qualified biologist and in accordance with the restoration plan. Landscape species should not include noxious, invasive, and/or non-native plant species that are recognized on the Federal Noxious Weed List, California Noxious Weeds List, and/or California Invasive Plant Council Lists 1, 2, and 4. These requirements should be included in all project plans and specifications.

5.4 Jurisdictional Waters and Wetlands

The proposed project would have a significant effect on biological resources if it would:

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

Wetlands and waters are located in the BSA along the Canyon Del Rey/SR 218 segment and may be affected by implementation of the proposed project. Construction of a paved Trail at Laguna Grande will likely require widening of the existing Trail within jurisdictional areas. This section of the alignment falls within the Coastal Zone. Under the California Coastal Act (CCA) and the City of Monterey's Local Coastal Program, coastal wetlands receive protection from degradation or destruction caused by coastal development projects. An optional Trail alignment on the north side of Laguna Grande would be within the City of Seaside's Local Coastal Program. The project corridor along Canyon Del Rey Creek is primarily on previously developed areas (existing Trails, walkways), and no impacts to the creek are expected between Fremont Boulevard and SR 218; however, the project corridor runs through the middle of the emergent wetland between Canyon Del Rey Creek and SR 218 at Work Memorial Park. This wetland is likely to be USACE and CDFW jurisdictional since it is adjacent to Canyon Del Rey Creek. East of SR 218 at the Frog Pond Wetland Preserve, the proposed Trail width would be limited to eight feet, and a stable, permeable surface in lieu of pavement to minimize impacts. This would reduce potential impacts within the Frog Pond Wetland preserve; however, impacts would not be entirely avoided. Direct impacts are expected to include

fill (i.e., materials such as soil, gravel, or pavement placed into a wetland feature) resulting from new Trail development. Direct impacts may also occur if spills or leaks occur during construction. Alteration of the stormwater detention basins (in all segments where detention basins occur in the Northern Marina and CSUMB Loop North segments) would require compliance with the governing municipalities NPDES permits; therefore, impacts to these features would be less than significant. Mitigation Measures BIO-3(a) and BIO-3(b) should be implemented to ensure no net loss of wetlands and to ensure impacts to jurisdictional features (other than storm detention basins) are less than significant. Impacts are less than significant with mitigation incorporated.

BIO-3(a) Conduct Jurisdictional Delineation for Canyon Del Rey/SR 218 Segment

A qualified biologist should complete a jurisdictional delineation of all features along the Canyon Del Rey/SR 218 segment. The jurisdictional delineation should determine the extent of the jurisdiction for CDFW, USACE, RWQCB, and/or CCC, and should be conducted in accordance with the requirement set forth by each agency. The result should be a preliminary jurisdictional delineation report that should be submitted to the implementing agency, USACE, RWQCB, CCC, and CDFW, as appropriate, for review and approval. Jurisdictional areas should be avoided to the maximum extent possible. If jurisdictional areas are expected to be impacted, then the RWQCB would require a Waste Discharge Requirements (WDRs) permit and/or Section 401 Water Quality Certification (depending upon whether or not the feature falls under federal jurisdiction). If CDFW asserts its jurisdictional authority, then a Streambed Alteration Agreement pursuant to Section 1600 et seq. of the CFGC would also be required prior to construction within the areas of CDFW jurisdiction. If the USACE asserts its authority, then a permit pursuant to Section 404 of the CWA would likely be required.

BIO-3(b) Perform Restoration for Impacts to Waters and Wetlands

Impacts to waters and wetlands should be mitigated through one or more options to meet the required amount of mitigation as required based on direct impacts form project development under the mitigation ratios outlined below. Mitigation for impacts to waters and wetlands can be achieved through the acquisition and in-perpetuity management of similar habitat or through the in-lieu funding of such through an existing mitigation bank. If the RCIS is adopted at the time of project implementation, mitigation may be facilitated through the RCIS program. Funding and management of internal mitigation areas can be managed internally. Funding and management of off-site mitigation lands should be provided through purchase of credits from an existing, approved mitigation bank or land purchased by implementing entity and placed into a conservation easement or other covenant restricting development (e.g., deed restriction). Internal mitigation lands, or in lieu funding sufficient to acquire lands should provide habitat at a 1:1 ratio for impacted lands, comparable to habitat to be impacted by individual project activity. Compensatory mitigation for sensitive vegetation communities can be combined with other compensatory mitigation (e.g., sensitive vegetation communities) as applicable.

RESTORATION AND MONITORING

If waters and/or wetlands cannot be avoided and will be impacted by construction of the Trail, a compensatory mitigation program should be implemented in accordance with Mitigation Measure BIO-1(c) and the measures set forth by the regulatory agencies during the permitting process. All temporary impacts to waters and wetlands should be fully restored to natural condition.

BIO-3(c) General Avoidance and Minimization

Potential jurisdictional features identified in jurisdictional delineation reports should be avoided. Identified jurisdictional features should be documented in a report detailing how all identified jurisdictional features should be avoided.

- Any material/spoils generated from project activities should be located away from jurisdictional areas or special-status habitat and protected from storm water run-off using temporary perimeter sediment barriers such as berms, silt fences, fiber rolls (non- monofilament), covers, sand/gravel bags, and straw bale barriers, as appropriate.
- Materials should be stored on impervious surfaces or plastic ground covers to prevent any spills or leakage from contaminating the ground and generally at least 50 feet from the top of bank (Canyon Del Rey/SR 218 segment).
- Any spillage of material should be stopped if it can be done safely. The contaminated area will be cleaned and any contaminated materials properly disposed. For all spills, the project foreman or designated environmental representative will be notified.

5.5 Wildlife Movement

The proposed project would have a significant effect on biological resources if it would:

d) Interfere substantially with the movement of any resident or migratory fish or wildlife species or with established resident or migratory wildlife corridors, or impede the use of wildlife nursery sites.

The Northern Loop, National Monument Loop, Ryan Ranch, and Canyon Del Rey/SR 218 segments within the BSA contain a natural landscape block and linkage connecting the former Fort Ord with undeveloped lands to the south, in the northern extent to the Carmel Valley and the Santa Lucia Mountain Range along the coastline. A key habitat linkage also occurs adjacent to the Northern Loop segment along the Salinas River Riparian Corridor.

The development of a paved Trail within or near developed areas is not likely to significantly disrupt the movement of large mammals and birds because it would not present a substantial geographic barrier. In addition, the location of the Trail would not disrupt a critical wildlife movement corridor, as described in Section 4.4, *Wildlife Movement.* Additional reasons why impacts to wildlife movement would not be significant include:

1. Wildlife can cross a Trail with relative ease, and the level and speed of Trail use is not a substantial overall deterrent to wildlife moving across the proposed Trail.
2. The Northern Loop and Northern Marina segments are above the riparian corridor of the Salinas River and would not interfere with movement within this corridor.
3. The Trail does not represent a significant physical barrier to wildlife movement.
4. Trail usage and speeds would not be expected to deter overall wildlife movement across the Trail.
5. The Trail is not located between two or more critical habitat areas or within a linkage connecting two or more critical habitat areas.

For these reasons, Trail development is not expected to result in significant changes to the genetic connectivity among local populations of wildlife, or within a broader regional context, and is not expected to prevent local wildlife movement. Impacts would be less than significant.

Creation of undercrossings at General Jim Moore Boulevard and Reservation Road may create connectivity between open spaces at the Frog Pond and undeveloped areas to the north and south of Reservation Road, respectively; a potentially beneficial impact of the project.

5.6 Local Policies and Ordinances

The proposed project would have a significant effect on biological resources if it would:

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

Areas of the BSA fall within the jurisdiction of Monterey County, City of Monterey, City of Del Rel Oaks, City of Seaside and City of Marina. Portions of the project corridor are within or adjacent to areas manged by CSUMB, the Fort Ord Reuse Authority (FORA), the Army, the California Department of Transportation (Caltrans), the University of California Santa Cruz, Pacific Gas & Electirc (PG&E), and the Monterey Peninsula Regional Park District. Some of these governing agencies provide protection for biological resources through the implementation of general plans, municipal codes, master plans, and local coastal programs

The Monterey County General Plan includes a Conservation and Open Space Element for the long-term preservation of open space and natural resources. Goal OS-1.10 recognizes the value of Trails, and promotes the creation of new Trails on public lands. Goals OS-5.1 through 5.25 address the conservation of listed species, critical habitats, and the avoidance of significant impacts to biological resources. These goals require compliance with the FESA and CESA and consultation with USFWS and CDFW if listed species or critical habitats will be affected by new development. The County also requires that migratory bird nests be protected during the nesting season (February 1 to September 15), including preconstruction surveys and non-disturbance buffers. Policy CVS-5.1 prohibits development from encroaching on the main channels of the Salinas River and Policy CVS-5.2 requires that new recreational uses avoid encroaching on the main channel of the Salinas River in order to preserve riparian habitats. The County's municipal code provides for the preservation of oaks and other protected trees such as landmark trees (Section 21.64.260). Development of the proposed project on County lands would require permitting and compliance with the County General Plan and municipal code for areas under its jurisdiction.

The City of Monterey General Plan goals and policies designed to direct conservation, development, and utilization of natural resources. Goal d, *Flora and Fauna and Marine Resources*, aims to "protect the character and composition of existing native vegetative communities. Conserve, manage, and restore habitats for endangered species, and protect biological diversity represented by special status plant and wildlife species." This is supported by policies such as Policy d.5, which states "reduce biotic impacts to a less-than-significant level on project sites by ensuring that mitigation measures identified in biotic reports are incorporated as conditions of approval for development projects.

The City of Seaside's 2004 General Plan Conservation and Open Space Element includes a policy (COS-4.3) to encourage the preservation of oak woodlands. The implementation plan (COS-4.3.1) for this policy requires project developers to "retain coast live oak trees within the planning area, including oaks within new development areas." Trail development may impact individual trees, but would not result in a significant impact to oak woodland, and thus would not be in conflict with the City of Seaside's 2004 General Plan.

The Draft Seaside 2040 General Plan includes a policy for the development of an ordinance specifically for the preservation of oak trees; however, this ordinance has not yet been developed.

Additionally, the Draft 2040 General Plan requires consistency with the Fort Ord BRP. The BRP Conservation Element contains policies and programs developed for each recipient of former Fort Ord lands. Programs specific to the City of Seaside require that the City will encourage project applicants to incorporate small pockets of habitat containing HMP species where feasible. Programs specific to the preservation of oak woodlands include:

- The City shall adopt an ordinance to address the preservation of oak trees. This ordinance shall include restrictions on the removal of oak trees of a certain size, tree permit requirements, and requirements for relocation or replacement of oaks removed (C-2.1).
- The City shall require project applicants to submit project plans showing: 1) the location of all existing trees (including: species, health, age and diameter), 2) which trees will be removed and which trees will remain, which will be removed, and which will be relocated, and 3) the location, size, and species of replacement trees (C-2.4).
- The City shall require the use of oaks and other native plant species for landscaping, and recommend collection and propagation of acorns and other plant material from former Fort Ord oak woodlands to be used for restoration and landscaping (C-2.4).
- The City shall require standards for plantings under oak trees; plantings within the dripline of mature trees must be at least five feet from the trunk, and plantings under and around oaks should be comprised of species approved by the California Oak Foundation (C-2.5).
- The City shall require that paving within the dripline of preserved oak trees be avoided wherever possible, and where unavoidable, permeable paving should be used and root zone excavation should be avoided (C-2.6).

The City of Marina General Plan includes policies to provide “Habitat Reserves and Other Open Space for the protection of important habitat areas, scenic areas, and other areas of natural open space.” Under the General Plan areas designated as “Habitat Reserve and Other Open Space” will be permanently maintained to “protect significant plants and wildlife inhabiting these areas.” These areas include:

- Riparian habitats and vegetation along the Salinas River
- Coastal Strand and Dunes
- 1,160 acres of maritime chaparral, coastal scrub, and coast live oak woodland designated for protection within the University of California Natural Reserve System, a 124 acre reserve site and adjacent land on Armstrong Ranch, 160 acres within the East Garrison Reserve, a 227 acre reserve south of Imjin Road, and a 50 acre reserve located along the east side of Highway 1 near the planned extension of Del Monte Boulevard.
- Wetlands, including habitat at the Armstrong Ranch to preserve vernal pools. The GP also requires a biological field survey to determine if additional vernal ponds exist prior to development on the Armstrong Ranch. If vernal pools are present, development must preserve vernal pools or provide either for the replacement of habitat. Several ponds in the developed areas of the City are also protected as open space.

The City of Del Rey Oaks General Plan contains goals and policies to provide a framework for the growth and development of the City while protecting the City’s natural resources, such as Canyon Del Rey Creek and the Frog Pond Wetland Preserve. Specific policies include but are not limited to:

the preservation of wildlife corridors, the protection of the Canyon Del Rey drainage and water quality, and the protection of habit on former Fort Ord lands.

The Cities of Monterey, Del Rey Oaks, Seaside, and Marina municipal codes also include tree removal permits and replacement requirements. Removal of trees under the proposed project would require approval and permitting from the applicable governing agency. Pursuant to issuance of permits, the project would not conflict with any local policy or ordinance. This impact would be less than significant.

Under CSUMB's current Master Plan includes a development framework to maintain the natural habitats and habitat connections on campus. The Draft 2017 Master Plan includes policies to protect and enhance the natural environment as well as preserve and protect native habitats and trees. This policy requires that development avoid or minimize impacts to native habitats, mature trees, special status species. The Policy for Goal OS 1.6 also requires two replacement trees for every one tree that dies, is damaged, or is removed from the campus. The Policy for Goal OS 1.12 requires the protection of open space at the Southern Oak Woodlands and East Campus Open Space, but allows for minimally intrusive Trail development. The Policy for Goal OS 1.15 includes continued participation in development and implementation of the Fort Ord HCP as well as the Monterey County Oak Woodland Stewardship Guidelines. The Draft CSUMB master plan also incorporates the FORTAG alignment in the mobility section (Section 7).

Trees to be removed have not yet been identified because the alignment has not yet been finalized; however, the development of Trails will potentially require some tree removal. The most likely locations for tree removal would be in the riparian areas along the Salinas River in the Northern Loop Trail segment, in riparian areas in the Del Ray Oaks/SR 218 segment, and in oak woodland areas west of General Jim Moore Boulevard and in the CSUMB North and South Trail segments. Additionally, some loss of habitat and biological resources is expected. Development of Trails under the proposed project would be required to comply with these goals policies and measures, including via the application for tree removal permits and compliance with associated requirement (e.g., tree replacement) where applicable. Pursuant to compliance with these regulations, impacts would be less than significant.

5.7 Adopted or Approved Conservation Plans

The proposed project would have a significant effect on biological resources if it would:

f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Conservation Community Plan, or other approved local, regional, or state habitat conservation plan.

The project does not occur within the plan area for an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan. However, the Fort Ord HCP is in a draft form, and could potentially be adopted prior to, or after various segments of the project are developed. The HCP would only be applicable to FORA lands. Until the Fort Ord HCP has been finalized, the Fort Ord HMP is the accepted governing document, along with the subsequent BOs as applicable. The HMP identifies habitat management requirements for the disposal and reuse of former Fort Ord lands. Parcels covered under the HMP within the BSA are:

- Designated for Development
- Designated for Development with Reserve or Restrictions

- Designated as a Habitat Reserve
- Designated as a Habitat Corridor

Parcels designated for development under the HMP have no management restrictions under the HMP; therefore, no conflict is expected from the development of Trails on these parcels.

Parcels designated for development with reserve or restrictions in the Northern Marina segment include the North Fritzsche Habitat Reserve near the Marina Municipal Airport, within the Northern Loop segment. Development on the parcel is restricted to airport support facilities (utilities, etc.) and a six-lane road. The proposed alignment on this parcel crosses grassland and scrub habitats. Alignment options in this segment follow an existing dirt access road. Monterey spineflower was observed elsewhere on the reserve along the edges of access roads (see Appendix C), and the species may occur along road margins in Northern Marina segment but are unlikely to occur in grassland and scrub habitat with no open sandy areas along the options. Paving of this section of road on Northern Marina segment would likely reduce spineflower habitat and may result in take of a listed species.

The landfill parcel designated under the HMP for "development with reserve or restrictions," overlapping the Northern Loop and CSUMB Loop North segments, allows for development of 81 acres. This development was unspecified and therefore there would be no conflict with the HMP if the paved Trail were less than 81 acres of the parcel.

The restriction on the parcel designated for development with reserve or restrictions east of the Frog Pond require that no stormwater runoff from development of the parcel be allowed to enter the Habitat Reserve Parcel adjacent to the Frog Pond. Additionally, development of the proposed trail would be required to comply with the development restrictions identified in the 2005 USFWS MOA for development on the Del Rey Oaks parcels (borderland parcels surrounding the Habitat Reserve Parcel. Development of FORTAG would not conflict with this requirement if to were designed to channel runoff away from the upper reaches of the tributary.

Development within parcels designated as habitat reserves is not allowed under the HMP. The goals of the HMP are to manage these lands for conservation and enhancement of habitat for threatened and endangered species. Within the BSA parcels designated as habitat reserves include the Monterey Peninsula Regional Parks Natural Area Expansion parcel on the west side of General Jim Moore Boulevard and the Frog Pond Natural Reserve, the Salinas River Habitat Management Area east of the Northern Loop segment, and the University of California Natural Reserve System Fort Ord Natural Reserve on the Northern Marina segment east of Tallmon Street. The project corridor would directly cross these parcels.

One other parcel designated as habitat reserve within the BSA is the eastern side of the National Monument Loop segment, where our survey buffer captures the edge of the NRMA. No Trail segments are proposed on this parcel; therefore, no conflict would occur.

The parcel designated as a habitat corridor occurs in the BSA on the south side of Inter-Garrison Road west of the Jerry Smith Trail. The Northern Loop segment runs across the northern end of this parcel, approximately parallel with Inter-Garrison Road. Under the HMP some development will be allowed on this parcel for recreational use, including Trails. Therefore, no conflicts are expected.

Much of the BSA along the National Monument Loop segment falls within parcels designated as Borderland Development Areas Along the NRMA Interface, requiring best management practices to ensure no effects to NRMA.

Until the HCP is adopted, consultation with USFWS and CDFW is require on a project by project basis. The HCP would supersede the HMP, and although it is not out for public review, the HCP includes FORTAG as a "covered activity." Therefore, no conflict with an adopted HCP or NCCP would occur. Impacts would be less than significant.

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6 Limitations, Assumptions, and Use Reliance

This Biological Resources Assessment has been performed in accordance with professionally accepted biological investigation practices conducted at this time and in this geographic area. The biological investigation is limited by the scope of work performed. Reconnaissance biological surveys for certain taxa may have been conducted as part of this assessment but were not performed during a particular blooming period, nesting period, or particular portion of the season when positive identification would be expected if present, and therefore, cannot be considered definitive. The biological surveys are limited also by the environmental conditions present at the time of the surveys. In addition, general biological (or protocol) surveys do not guarantee that the organisms are not present and will not be discovered in the future within the site. In particular, mobile wildlife species could occupy the site on a transient basis, or re-establish populations in the future. Our field studies were based on current industry practices, which change over time and may not be applicable in the future. No other guarantees or warranties, expressed or implied, are provided. The findings and opinions conveyed in this report are based on findings derived from site reconnaissance, jurisdictional areas, review of CNDDB RareFind5, and specified historical and literature sources. Standard data sources relied upon during the completion of this report, such as the CNDDB, may vary with regard to accuracy and completeness. In particular, the CNDDB is compiled from research and observations reported to CDFW that may or may not have been the result of comprehensive or site-specific field surveys. Although Rincon believes the data sources are reasonably reliable, Rincon cannot and does not guarantee the authenticity or reliability of the data sources it has used. Additionally, pursuant to our contract, the data sources reviewed included only those that are practically reviewable without the need for extraordinary research and analysis.

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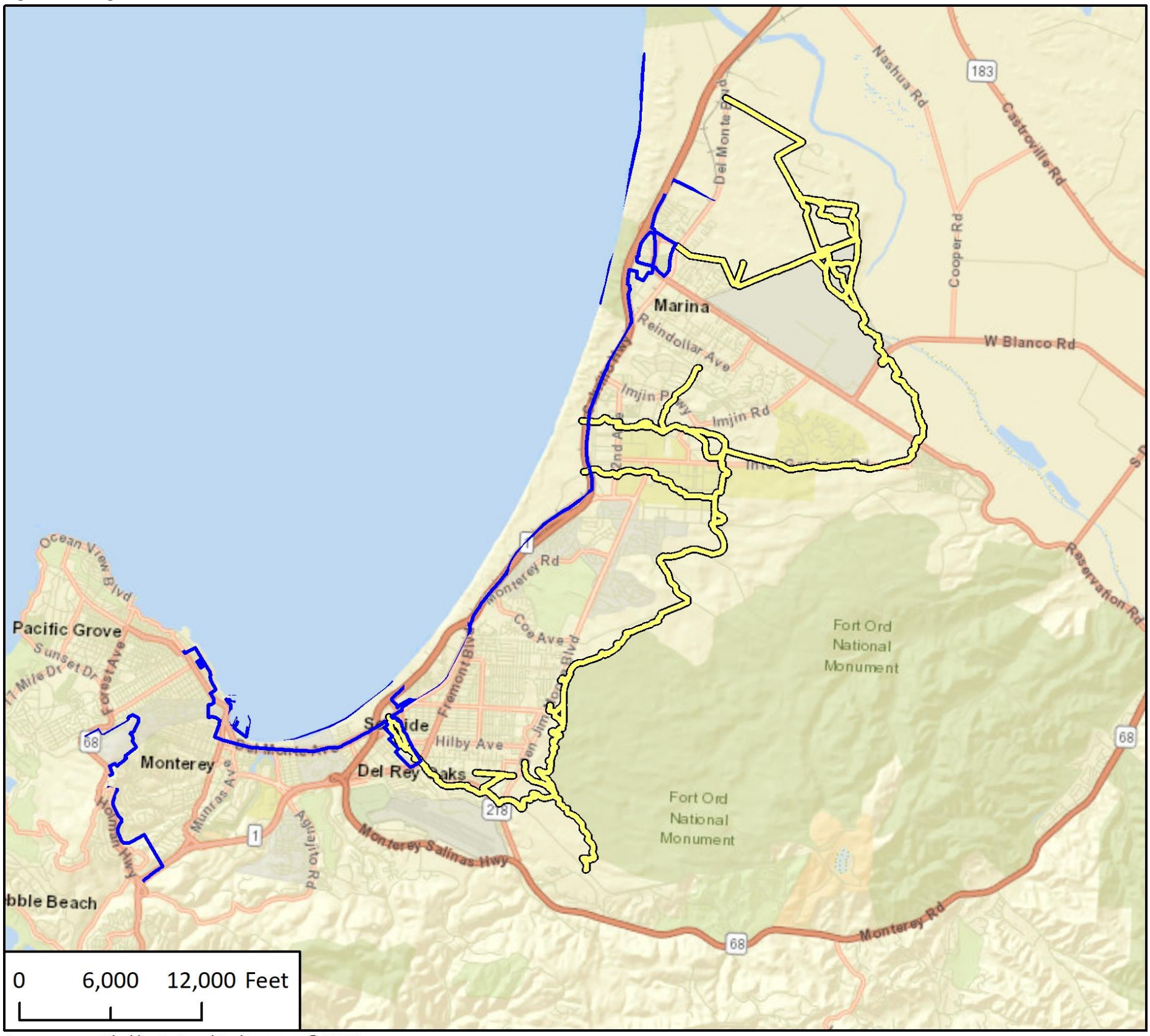
Appendix A

Figures

Figure 1 Regional Location



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FORTAG Alignment

Coastal Zone

N

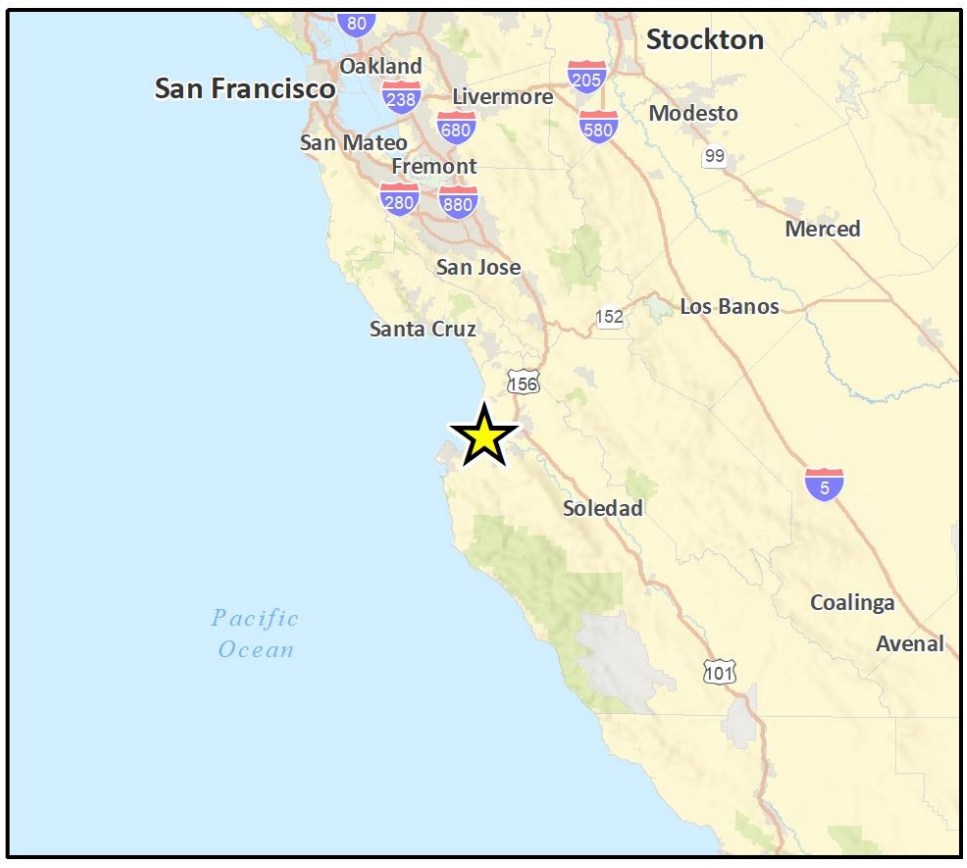

Fig X Regional Location

Figure 2 Project Alignment

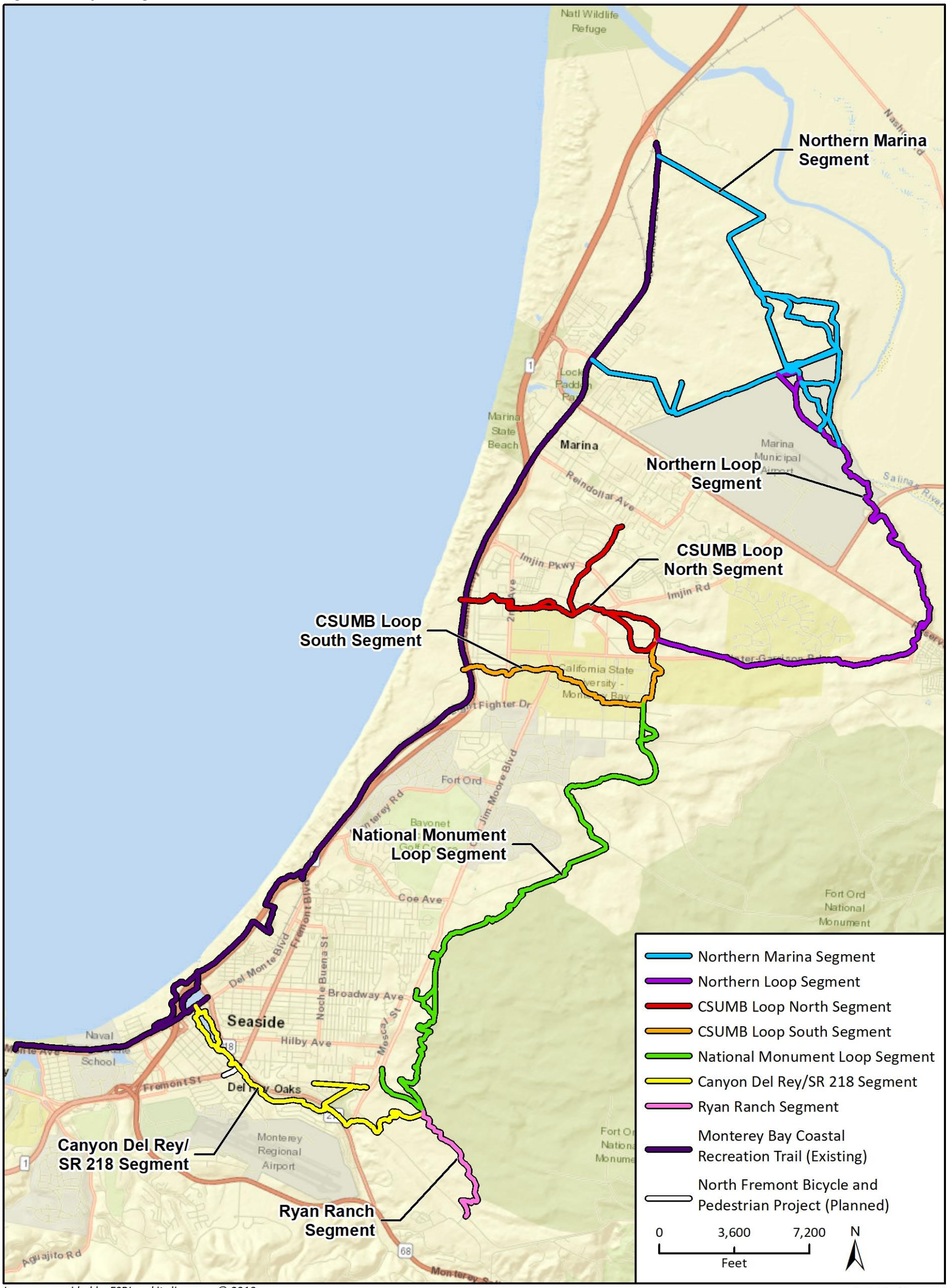

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Fig 2-6 Trail Segments

Figure 3 Biological Study Area

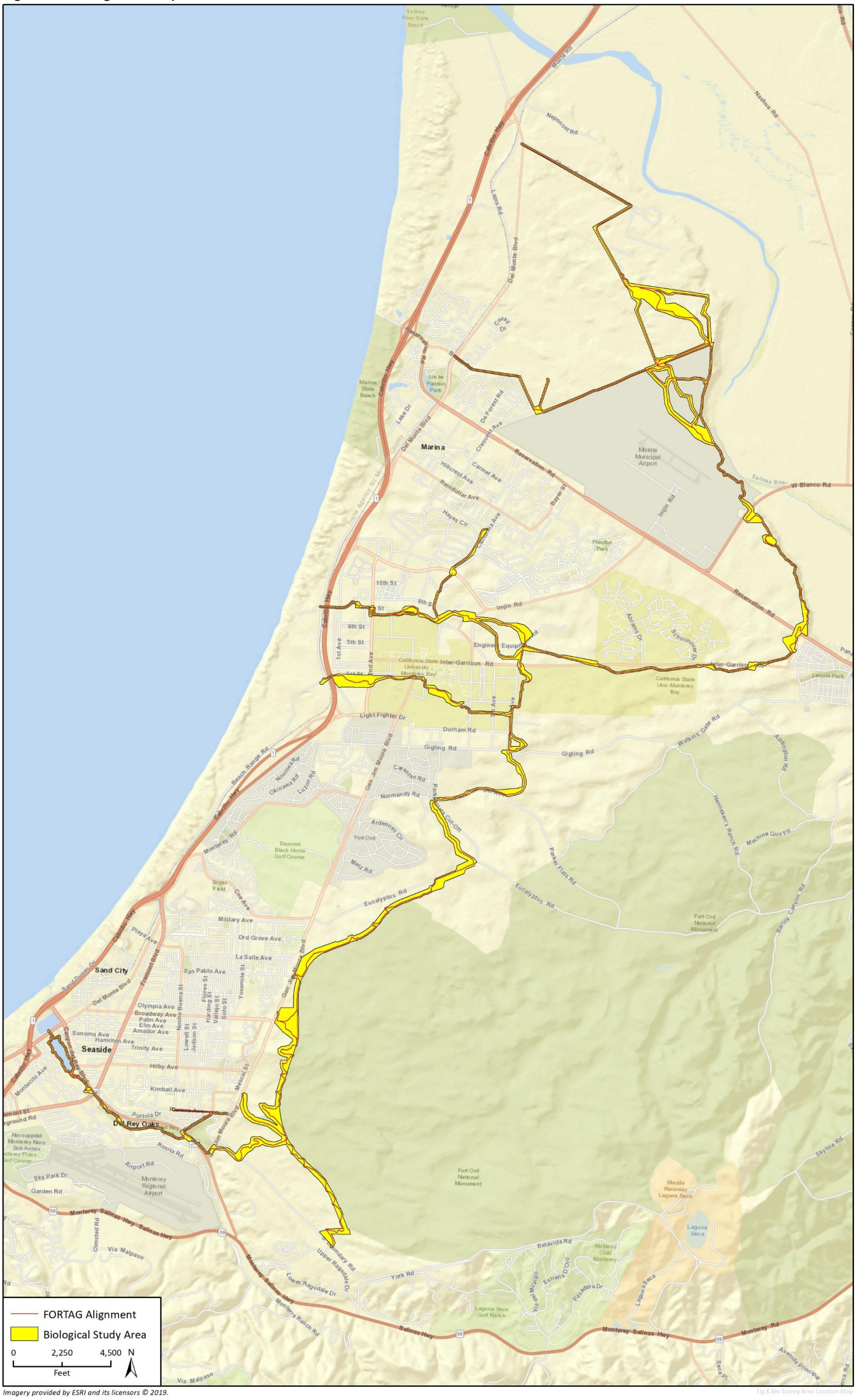

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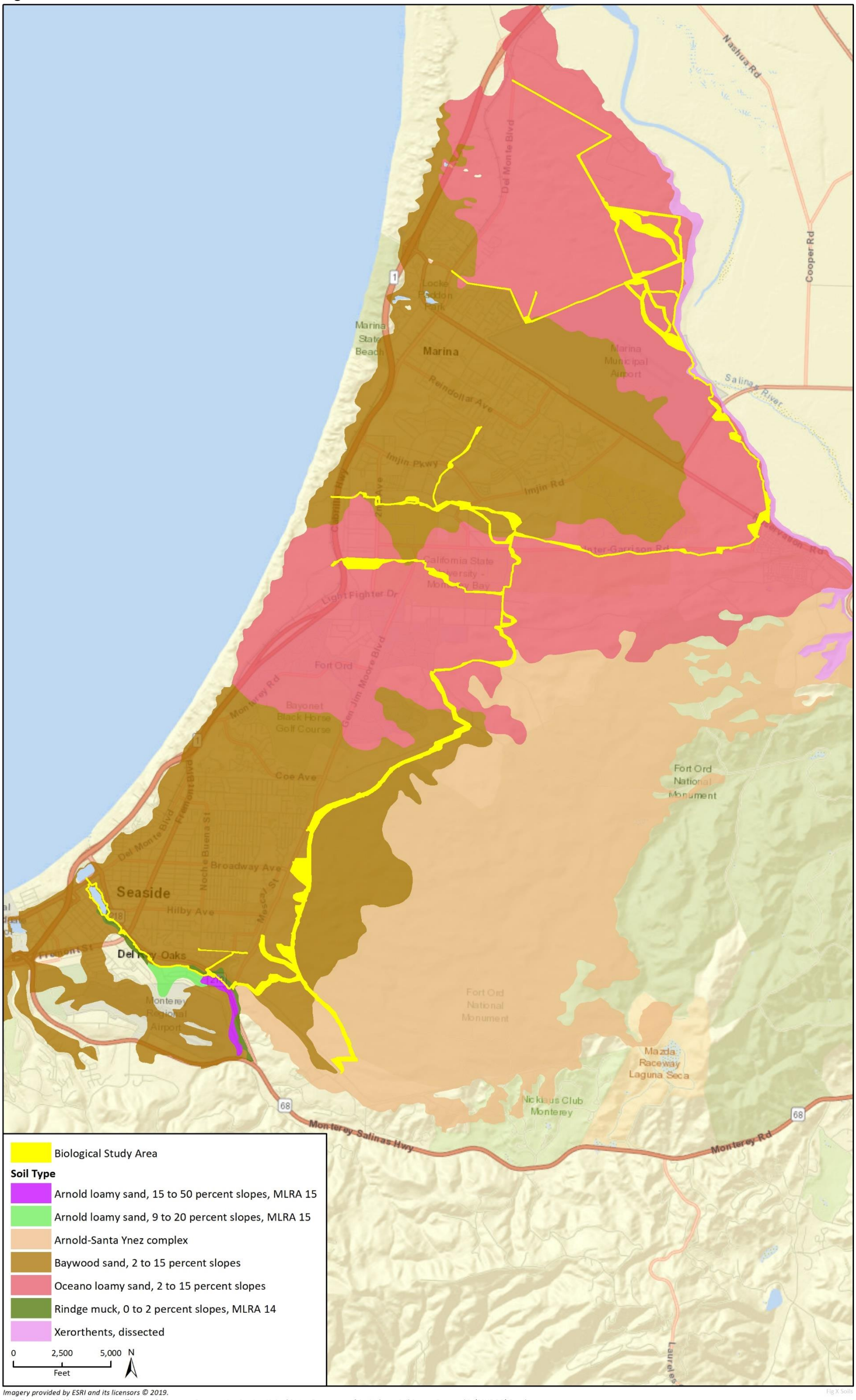
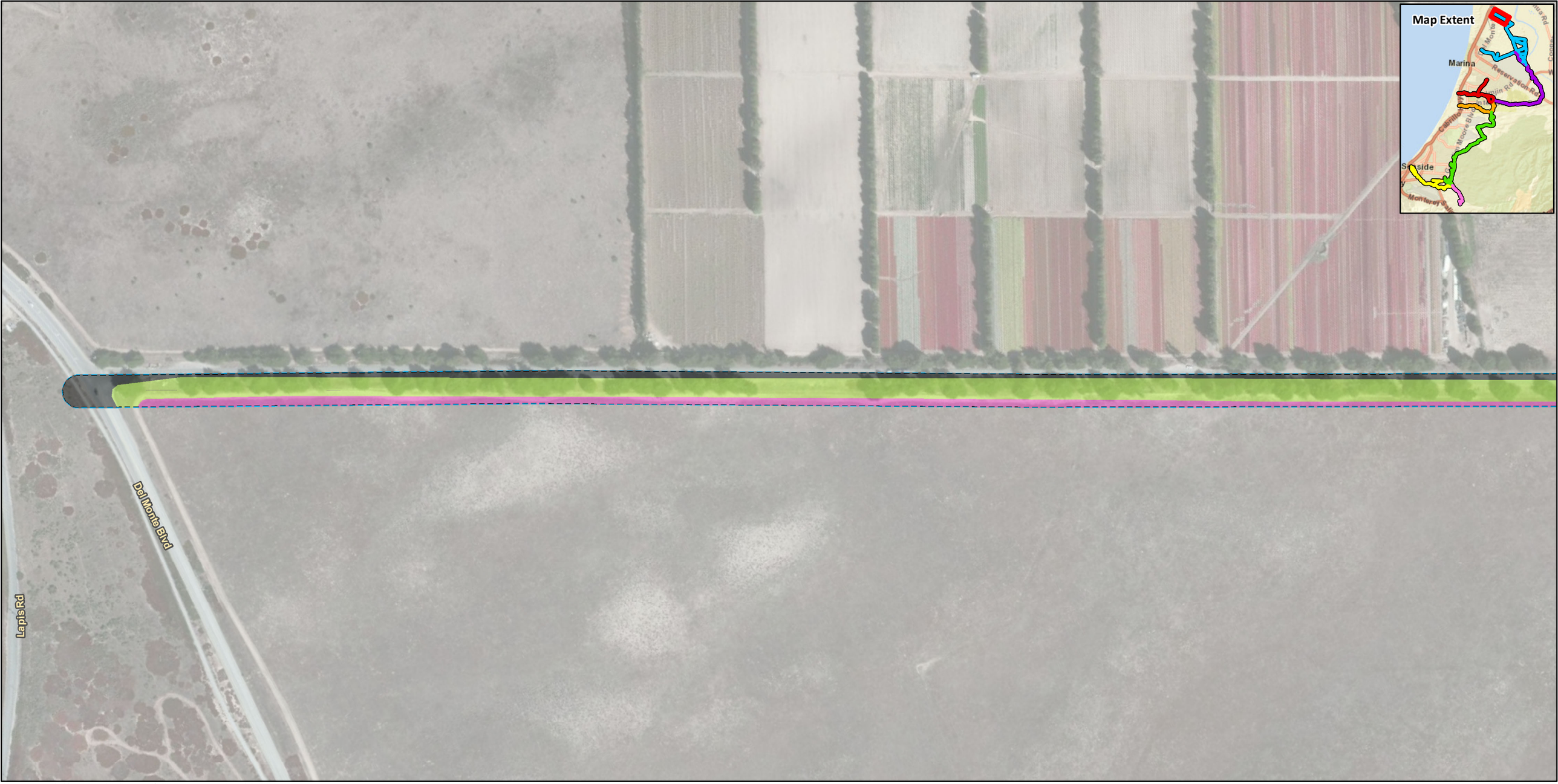
Figure 4 Soils



Imagery provided by ESRI and its licensors © 2019.
Soils data provided by Soil Survey Staff, Natural Resources Conservation Service, United States Dpartment of Agriculture. Soil Survey Geographic (SSURGO) Database.

Figure 5 Map Atlas (Vegetation Communities)



0 150 300
Feet

Survey Area
Landscaped
Agriculture
Developed

Vegetation 11x17

Imagery provided by ESRI and its licensors © 2019. Imagery capture date 2010.
Additional data provided by Alta Planning + Design, 2019.

0 150 300
Feet

Survey Area
Landscaped
Agriculture
Developed

Vegetation 11x17

0 150 300
Feet

N

Survey Area
Agriculture
Developed
Landscaped
Non-native Annual Grassland
Ruderal

Vegetation 11x17

Imagery provided by ESRI and its licensors © 2019. Imagery capture date 2010.
Additional data provided by Alta Planning + Design, 2019.

0 150 300
Feet

N

Survey Area
Developed
Non-native Annual Grassland
Ruderal

Vegetation 11x17

Imagery provided by ESRI and its licensors © 2019. Imagery capture date 2010.
Additional data provided by Alta Planning + Design, 2019.

0 150 300
Feet

N

Survey Area
Developed
Non-native Annual Grassland
Ruderal

Vegetation 11x17

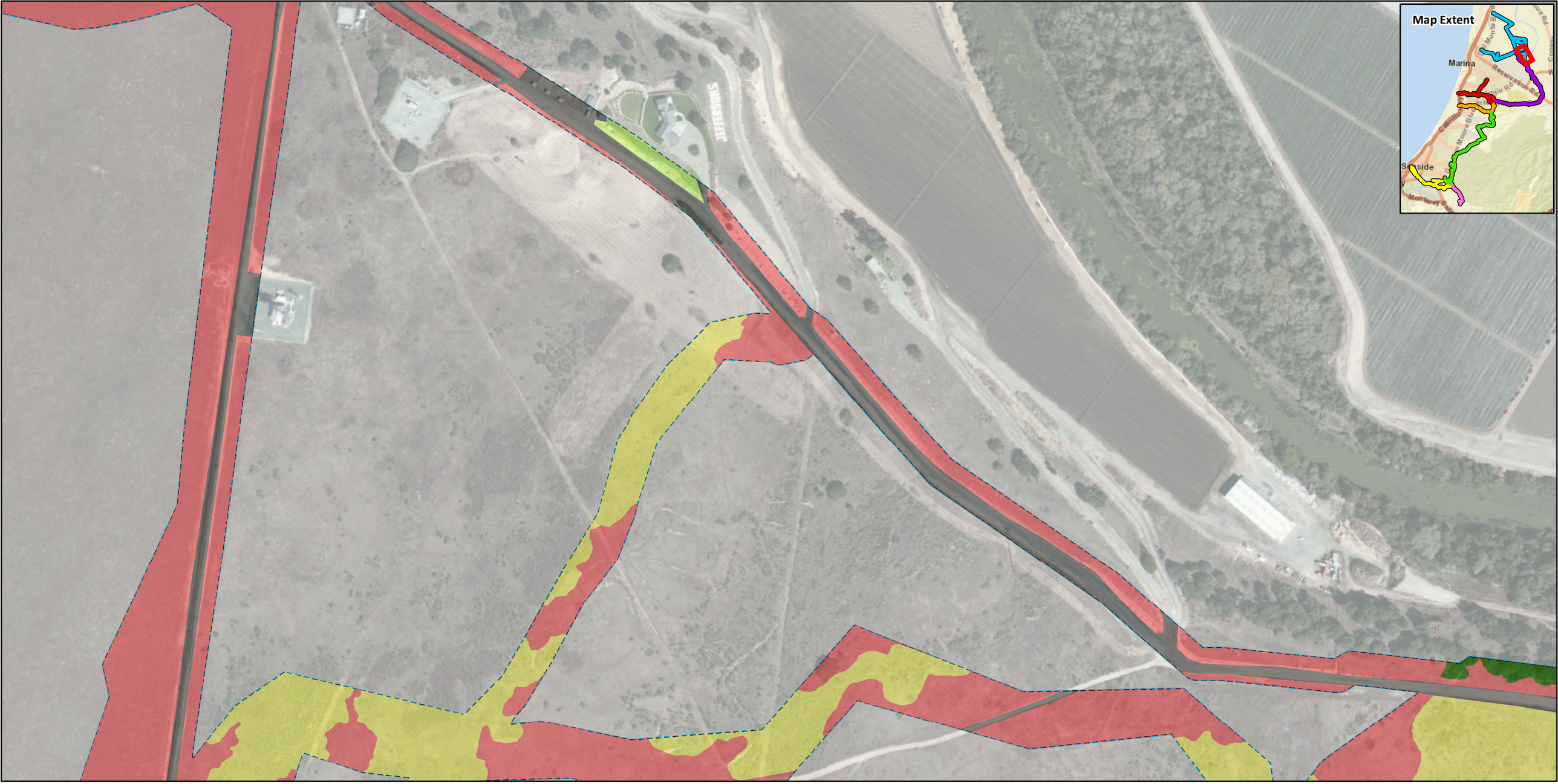
Imagery provided by ESRI and its licensors © 2019. Imagery capture date 2010.
Additional data provided by Alta Planning + Design, 2019.

0 150 300
Feet

N

Survey Area
Coyote Brush Scrub
Developed
Non-native Annual Grassland
Ruderal

Vegetation 11x17



Imagery provided by ESRI and its licensors © 2019. Imagery capture date 2010.
Additional data provided by Alta Planning + Design, 2019.

0 150 300
Feet

N

Survey Area
Coast Live Oak Woodland
Coyote Brush Scrub
Developed
Landscaped
Non-native Annual Grassland

Vegetation 11x17

Imagery provided by ESRI and its licensors © 2019. Imagery capture date 2010.
Additional data provided by Alta Planning + Design, 2019.

0 150 300
Feet

N

Survey Area
Coast Live Oak Woodland
Coyote Brush Scrub
Developed
Non-native Annual Grassland
Ruderal

Vegetation 11x17

Imagery provided by ESRI and its licensors © 2019. Imagery capture date 2010.
Additional data provided by Alta Planning + Design, 2019.

0 150 300 N
Feet

Survey Area
Agriculture
Coyote Brush Scrub
Developed
Non-native Annual Grassland
Ruderal

0 150 300
Feet

Survey Area
Agriculture
Coyote Brush Scrub
Detention Basin
Developed
Landscaped
Non-native Annual Grassland
Ruderal

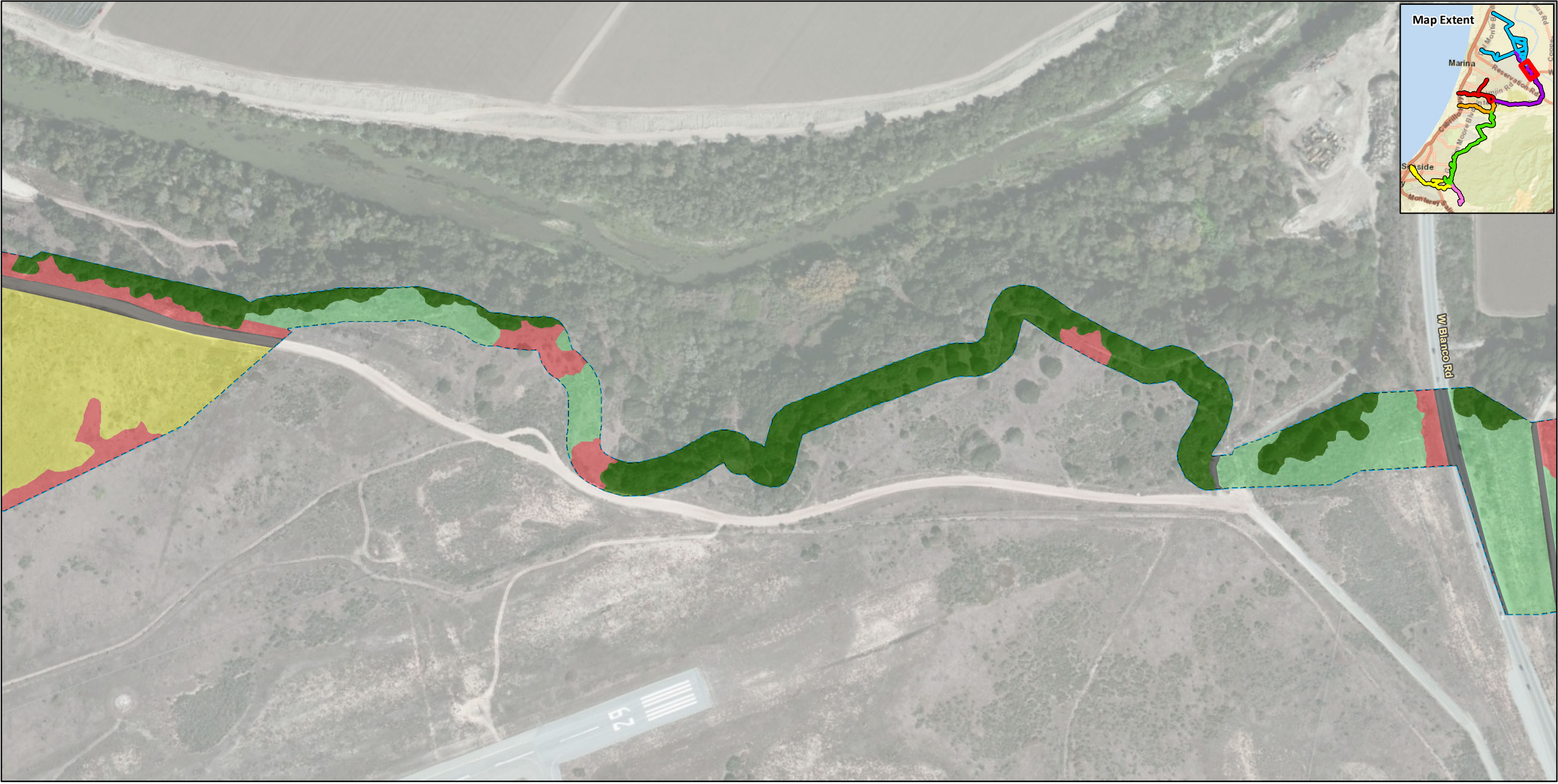
Vegetation 11x17

Imagery provided by ESRI and its licensors © 2019. Imagery capture date 2010.
Additional data provided by Alta Planning + Design, 2019.

0 150 300
Feet

Survey Area
Developed
Landscaped
Non-native Annual Grassland

Vegetation 11x17



0 150 300
Feet

N

Survey Area
California Sagebrush Scrub
Coast Live Oak Woodland
Coyote Brush Scrub
Developed
Non-native Annual Grassland

Vegetation 11x17

Imagery provided by ESRI and its licensors © 2019. Imagery capture date 2010.
Additional data provided by Alta Planning + Design, 2019.

0 150 300
Feet

N

Survey Area
California Sagebrush Scrub
Coast Live Oak Woodland
Developed
Ice Plant Mat
Non-native Annual Grassland
Ruderal

Vegetation 11x17

0 150 300
Feet

N

Survey Area
California Sagebrush Scrub
Coast Live Oak Woodland
Coastal Oak Sage Scrub
Coyote Brush Scrub
Developed
Eucalyptus
Ice Plant Mat
Non-native Annual Grassland
Ruderal

Vegetation 11x17

0 150 300
Feet

N

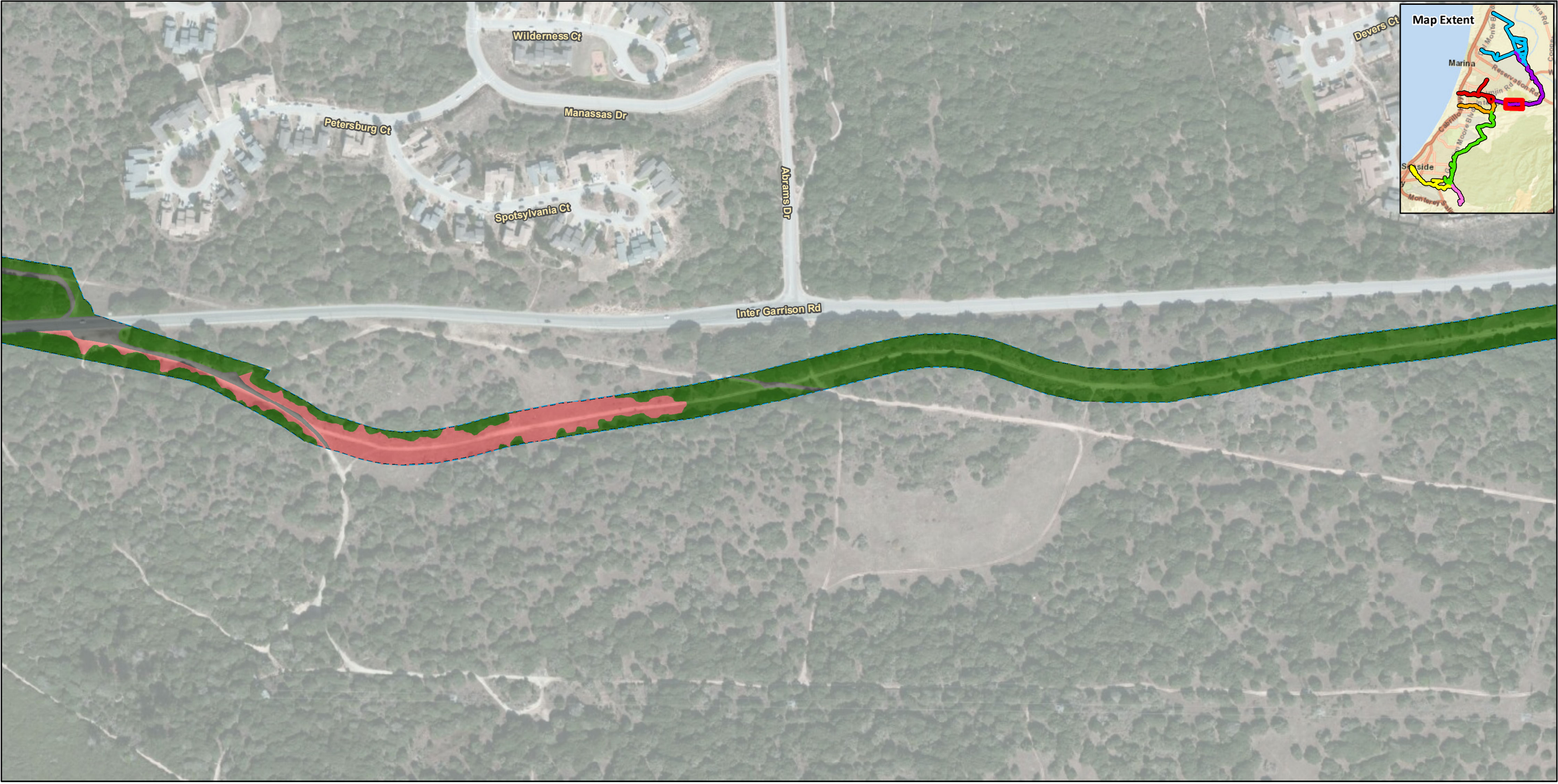
- Survey Area
- California Sagebrush Scrub
- Coast Live Oak Woodland
- Coastal Oak Sage Scrub
- Coyote Brush Scrub
- Developed
- Eucalyptus
- Landscaped
- Non-native Annual Grassland

Vegetation 11x17

0 150 300 Feet N

Survey Area
Coast Live Oak Woodland
Coyote Brush Scrub
Developed
Non-native Annual Grassland

Vegetation 11x17



0 150 300 Feet

N

Survey Area
Coast Live Oak Woodland
Developed
Non-native Annual Grassland

Vegetation 11x17

0 150 300 Feet

N

Survey Area
Coast Live Oak Woodland
Developed
Ice Plant Mat
Landscaped
Manzanita Chaparral
Non-native Annual Grassland

Vegetation 11x17

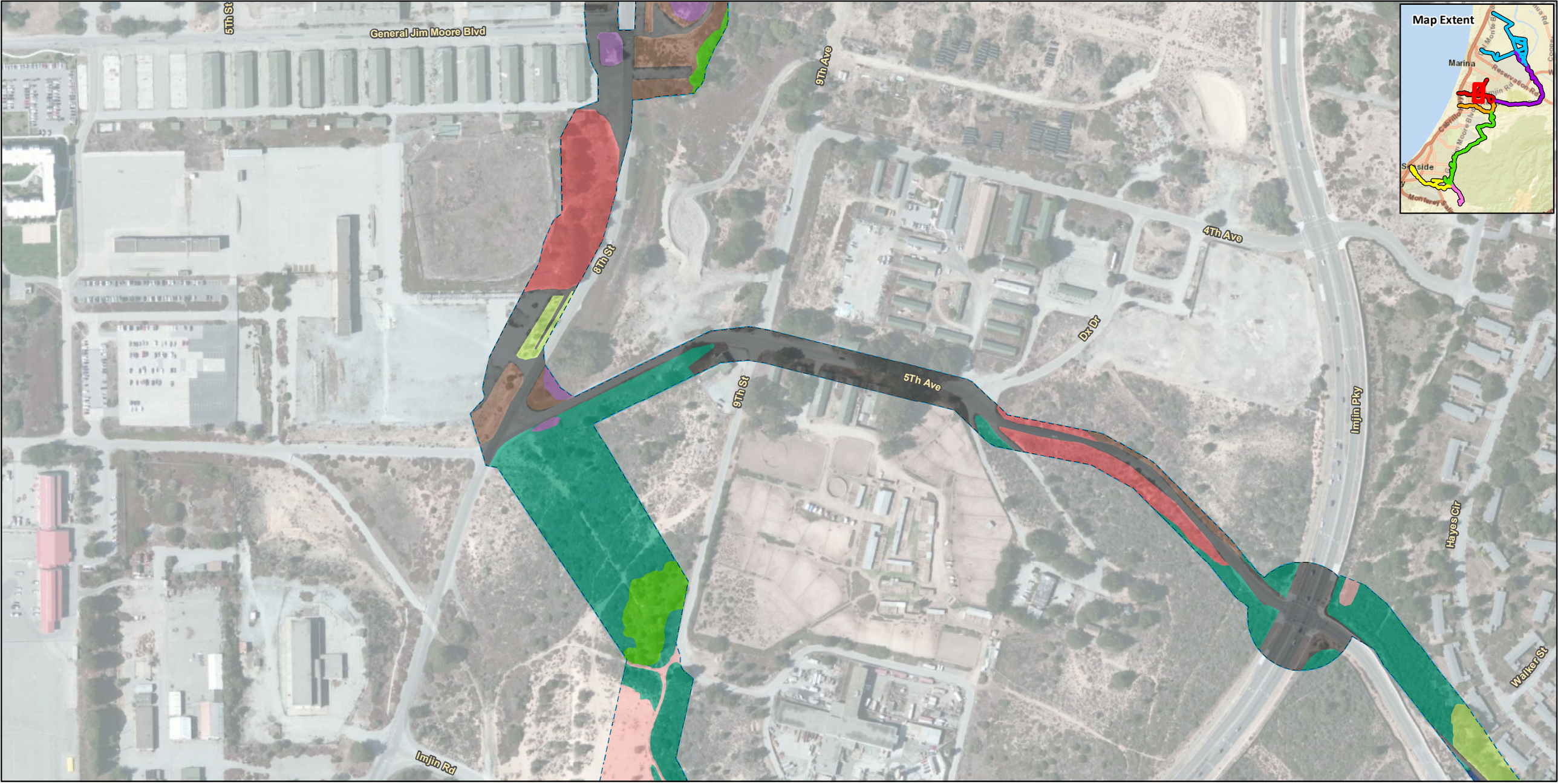
Imagery provided by ESRI and its licensors © 2019. Imagery capture date 2010.
Additional data provided by Alta Planning + Design, 2019.

0 150 300
Feet

N

- Survey Area
- Bare Ground/Disturbed
- Coast Live Oak Woodland
- Developed
- Ice Plant Mat
- Landscaped
- Manzanita Chaparral
- Monterey Cypress
- Monterey Pine
- Non-native Annual Grassland
- Sandmat Manzanita Chaparral

Vegetation 11x17



0 150 300
Feet

N

- Survey Area
- Bare Ground/Disturbed
- Detention Basin
- Developed
- Ice Plant Mat
- Landscaped
- Manzanita Chaparral
- Monterey Pine
- Non-native Annual Grassland
- Ruderal

Vegetation 11x17

Imagery provided by ESRI and its licensors © 2019. Imagery capture date 2010.
Additional data provided by Alta Planning + Design, 2019.

0 150 300
Feet

Survey Area
Bare Ground/Disturbed
Coast Live Oak Woodland
Detention Basin
Developed
Ice Plant Mat
Landscaped
Manzanita Chaparral
Non-native Annual Grassland
Ruderal

Vegetation 11x17

0 150 300
Feet

N

- Survey Area
- Bare Ground/Disturbed
- Developed
- Ice Plant Mat
- Landscaped
- Manzanita Chaparral
- Monterey Pine
- Non-native Annual Grassland
- Ruderal

Vegetation 11x17

0 150 300
Feet

N

- Survey Area
- Bare Ground/Disturbed
- Detention Basin
- Developed
- Dune Scrub
- Ice Plant Mat
- Landscaped
- Monterey Cypress
- Ruderal

Vegetation 11x17

0 150 300
Feet

Survey Area
Bare Ground/Disturbed
Coast Live Oak Woodland
Developed
Dune Scrub
Ice Plant Mat
Landscaped
Manzanita Chaparral
Monterey Cypress
Non-native Annual Grassland
Ruderal

Vegetation 11x17

0 150 300
Feet

Survey Area
Coast Live Oak Woodland
Developed
Ice Plant Mat
Landscaped
Mixed Monterey Pine Oak Woodland
Monterey Cypress
Non-native Annual Grassland
Ruderal

Vegetation 11x17

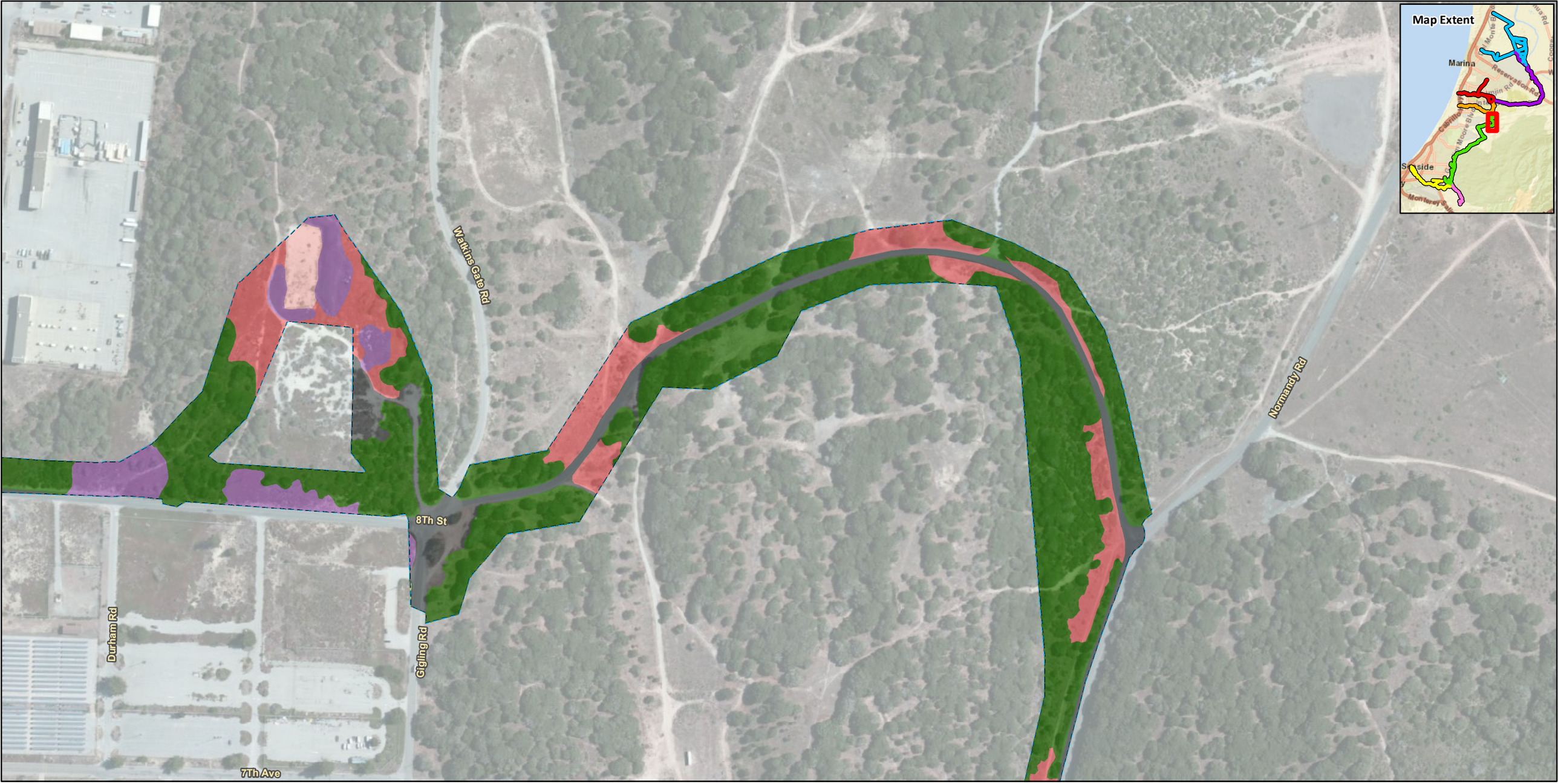
Imagery provided by ESRI and its licensors © 2019. Imagery capture date 2010.
Additional data provided by Alta Planning + Design, 2019.

0 150 300
Feet

N

Survey Area
Developed
Ice Plant Mat
Landscaped
Monterey Cypress
Monterey Pine
Ruderal

Vegetation 11x17



0 150 300
Feet

N

Survey Area
Bare Ground/Disturbed
Coast Live Oak Woodland
Developed
Ice Plant Mat
Landscaped
Non-native Annual Grassland

Vegetation 11x17

0 150 300
Feet

N

Survey Area
Coast Live Oak Woodland
Developed
Non-native Annual Grassland

Vegetation 11x17

Imagery provided by ESRI and its licensors © 2019. Imagery capture date 2010.
Additional data provided by Alta Planning + Design, 2019.

0 150 300
Feet

N

Survey Area
Black Sage Scrub
Chamise Chaparral
Coast Live Oak Woodland
Developed
Non-native Annual Grassland

Vegetation 11x17

Imagery provided by ESRI and its licensors © 2019. Imagery capture date 2010.
Additional data provided by Alta Planning + Design, 2019.

0 150 300
Feet

Survey Area
Bare Ground/Disturbed
Black Sage Scrub
Chamise Chaparral
Coast Live Oak Woodland
Developed
Ice Plant Mat
Ruderal

Vegetation 11x17

Imagery provided by ESRI and its licensors © 2019. Imagery capture date 2010.
Additional data provided by Alta Planning + Design, 2019.

0 150 300
Feet

Survey Area
Bare Ground/Disturbed
Black Sage Scrub
Coast Live Oak Woodland
Developed
Ice Plant Mat
Ruderal

Vegetation 11x17

0 150 300
Feet

Survey Area
Black Sage Scrub
Coast Live Oak Woodland
Detention Basin
Developed
Dune Scrub
Ice Plant Mat
Monterey Pine

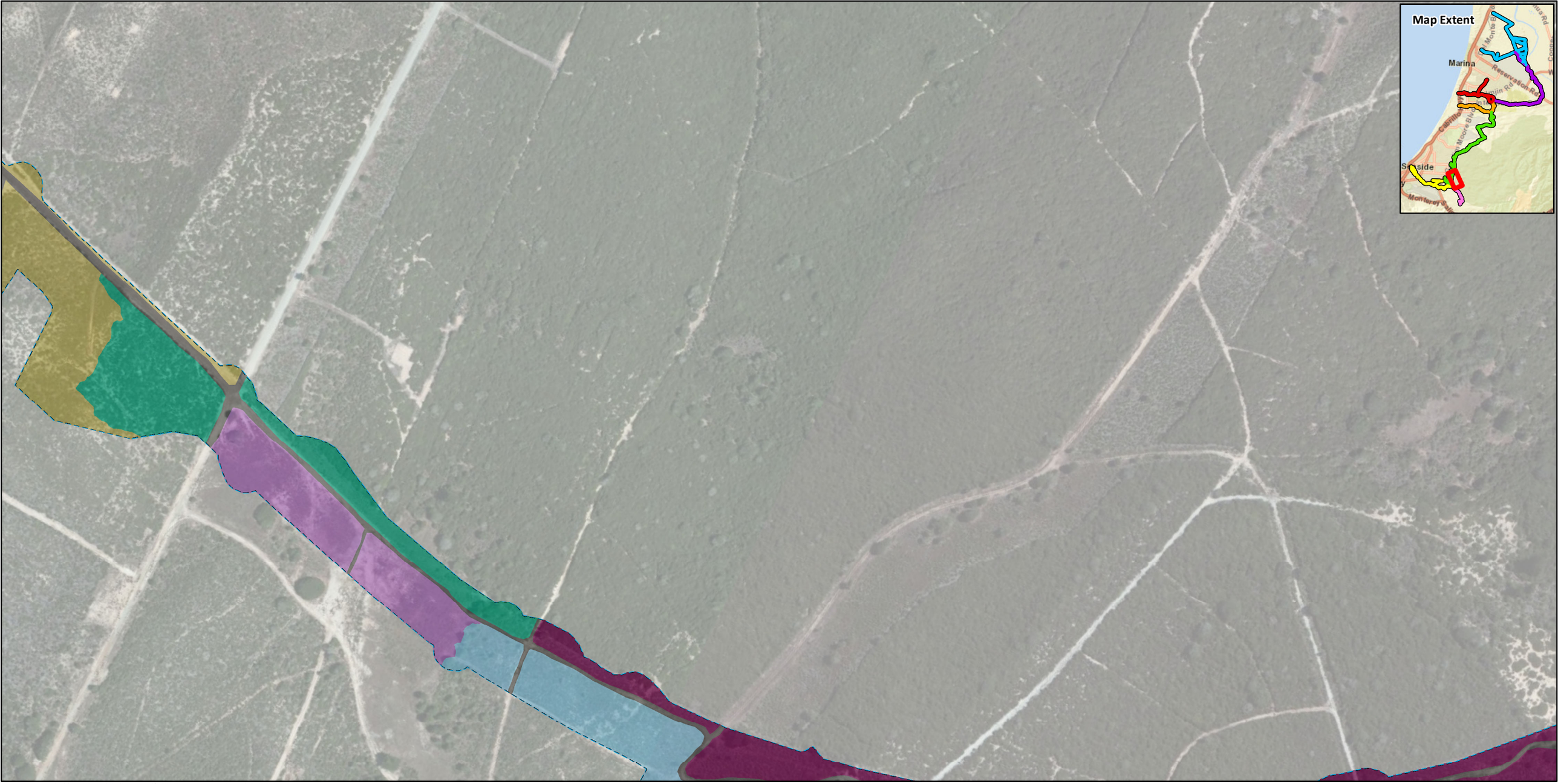
Vegetation 11x17

0 150 300
Feet

N

Survey Area
Bare Ground/Disturbed
Black Sage Scrub
Developed
Dune Scrub
Ice Plant Mat
Manzanita Chaparral

Vegetation 11x17



0 150 300
Feet

Survey Area
Black Sage Scrub
Chamise - Black Sage Chaparral
Coast Live Oak Woodland
Developed
Dune Scrub
Ice Plant Mat
Manzanita Chaparral

Vegetation 11x17

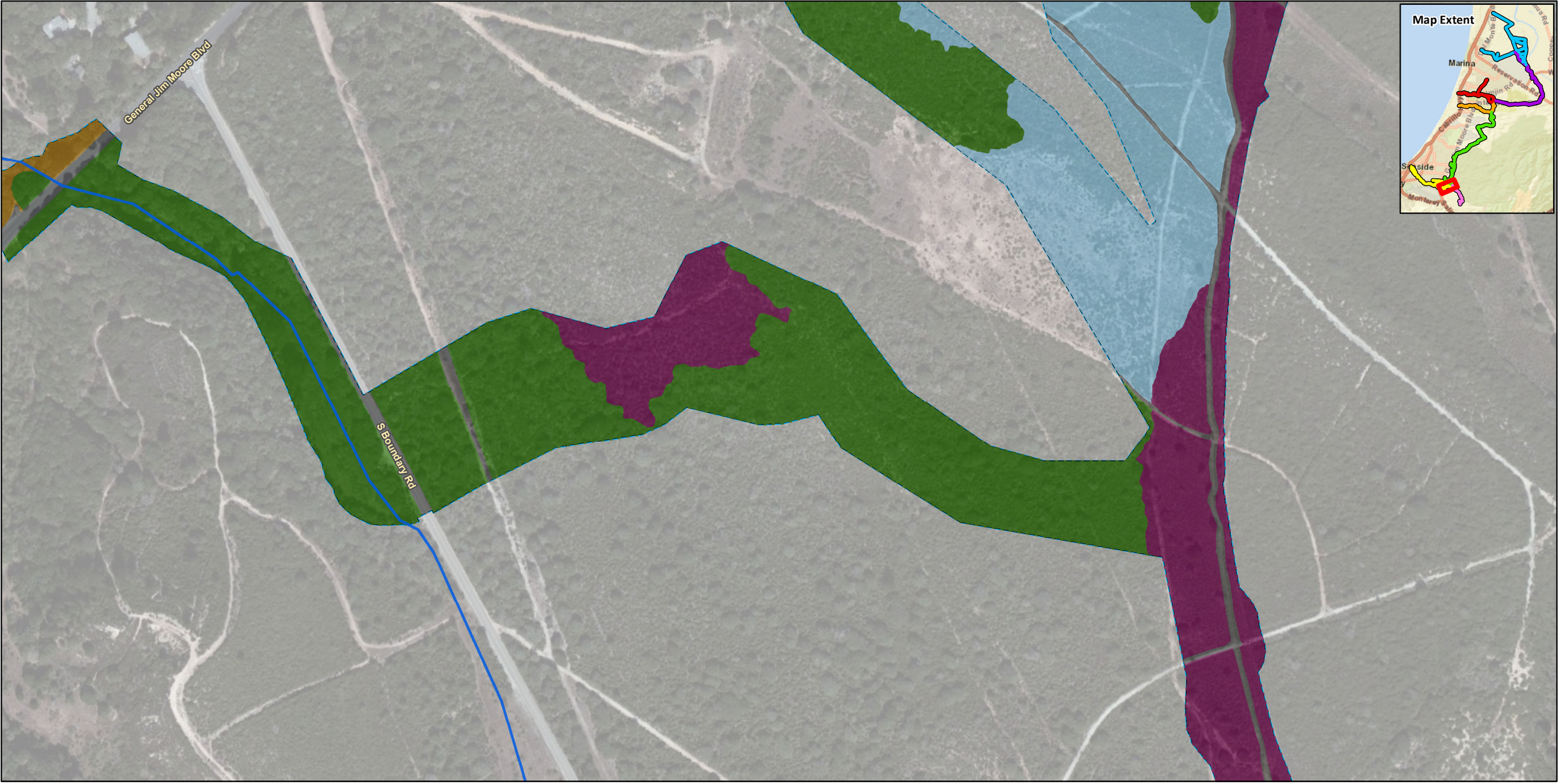
Imagery provided by ESRI and its licensors © 2019. Imagery capture date 2010.
Additional data provided by Alta Planning + Design, 2019.

0 150 300
Feet

N

- Survey Area
- Bare Ground/Disturbed
- Black Sage Scrub
- Chamise - Black Sage Chaparral
- Coast Live Oak Woodland
- Developed
- Ice Plant Mat
- Landscaped
- Manzanita Chaparral
- Mixed Monterey Pine Oak Woodland
- Monterey Cypress
- Sandmat Manzanita Chaparral

Vegetation 11x17



0 150 300
Feet

Survey Area
Canyon Del Rey Creek
Arroyo Willow
Black Sage Scrub
Chamise - Black Sage Chaparral
Coast Live Oak Woodland
Developed

Vegetation 11x17

0 150 300
Feet

N

Survey Area
Bare Ground/Disturbed
Black Sage Scrub
Burn Succession
Chamise Chaparral
Developed
Non-native Annual Grassland

Imagery provided by ESRI and its licensors © 2019. Imagery capture date 2010.
Additional data provided by Alta Planning + Design, 2019.

0 150 300
Feet

Survey Area
Canyon Del Rey Creek
Bare Ground/Disturbed
Black Sage Scrub
Burn Succession
Chamise Chaparral
Developed
Non-native Annual Grassland

Vegetation 11x17

Imagery provided by ESRI and its licensors © 2019. Imagery capture date 2010.
Additional data provided by Alta Planning + Design, 2019.

0 150 300
Feet

N

Survey Area
Canyon Del Rey Creek
Arroyo Willow
Black Sage Scrub
Coast Live Oak Woodland
Developed
Ephemeral Pond
Ice Plant Mat
Landscaped
Monterey Pine
Riparian Woodland

Vegetation 11x17

0 150 300
Feet

- Survey Area
- Canyon Del Rey Creek
- Arroyo Willow
- Bare Ground/Disturbed
- Chamise - Black Sage Chaparral
- Coast Live Oak Woodland
- Developed
- Ephemeral Pond
- Ice Plant Mat
- Landscaped
- Mixed Monterey Pine Oak Woodland
- Monterey Cypress
- Monterey Pine
- Riparian Woodland
- Sandmat Manzanita Chaparral

Vegetation 11x17

0 150 300
Feet

N

Survey Area
Canyon Del Rey Creek
Coast Live Oak Woodland
Developed
Freshwater Emergent Wetland
Ice Plant Mat
Landscaped
Monterey Pine
Riparian Woodland
Ruderal

Vegetation 11x17

Imagery provided by ESRI and its licensors © 2019. Imagery capture date 2010.
Additional data provided by Alta Planning + Design, 2019.

0 150 300
Feet

N

Survey Area
Canyon Del Rey Creek
Coast Live Oak Woodland
Developed
Freshwater Emergent Wetland
Ice Plant Mat
Landscaped
Open Water
Riparian Woodland
Ruderal

Vegetation 11x17

0 150 300
Feet

N

Survey Area
Canyon Del Rey Creek
Coast Live Oak Woodland
Developed
Freshwater Emergent Wetland
Landscaped
Open Water
Riparian Woodland
Ruderal

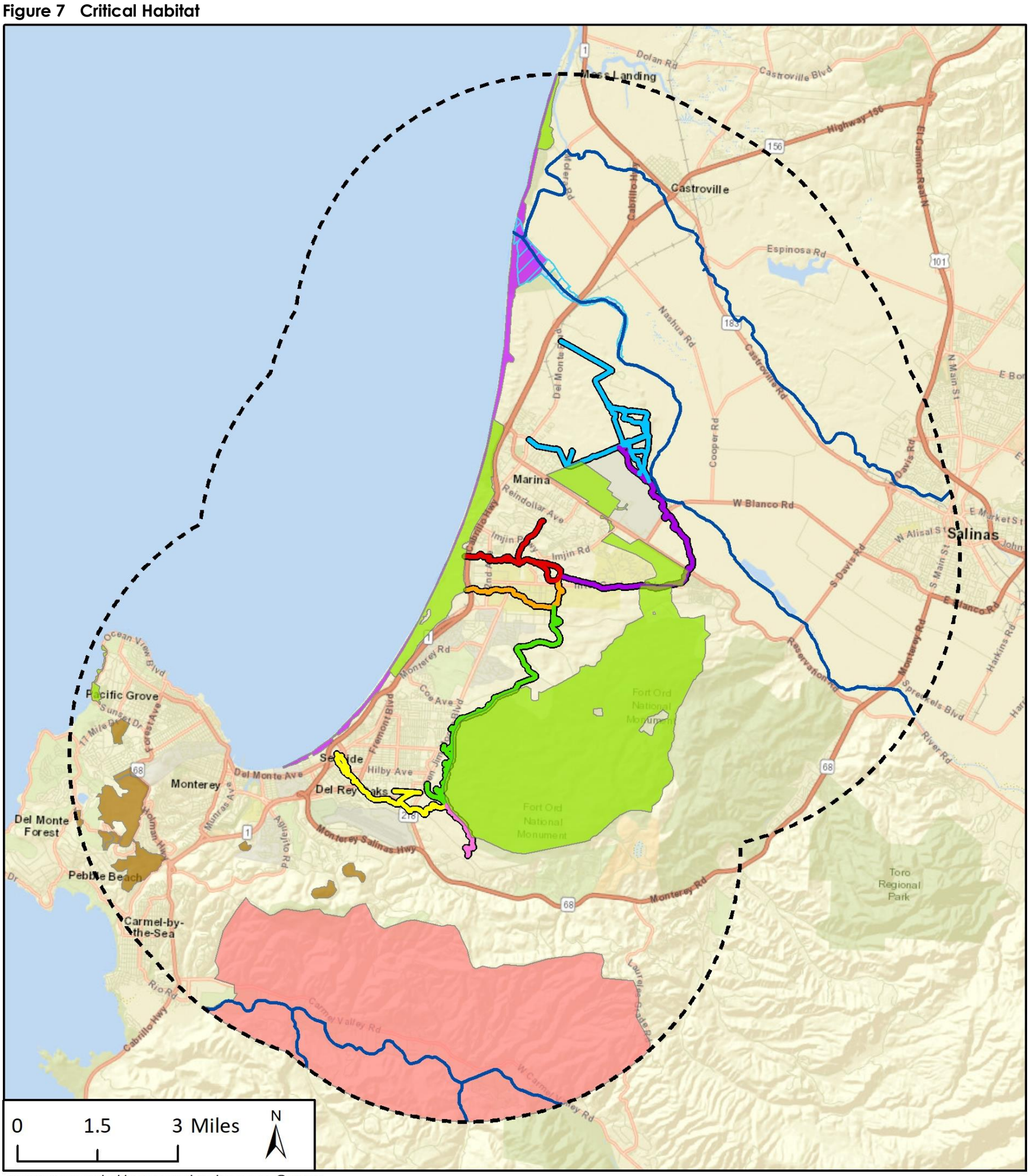
Vegetation 11x17

Figure 6 CTS Upland Habitat

Imagery provided by ESRI and its licensors © 2019.
California Tiger Salamander breeding data provided by FORA Annual Habitat Restoration Monitoring Reports, 2004-2019 and 2009-2019.

Fig X CTS Potential Breeding and Buffers_11x17

Figure 7 Critical Habitat



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Additional data provided by Alta Planning + Design, 2019.

FORTAG Alignment Segments
- Northern Marina Segment
- Northern Loop Segment
- CSUMB Loop North Segment
- CSUMB Loop South Segment
- National Monument Loop Segment
- Canyon Del Rey/SR 218 Segment
- Ryan Ranch Segment

5 Mile Buffer

Critical Habitat
- California red-legged frog
- Monterey spineflower
- Western snowy plover
- Yadon's piperia
- Tidewater goby
- Steelhead

Fig X Critical Habitat

Figure 8 Jurisdictional Waters

FORTAG Highway 218 Segment Project

Jurisdictional Waters and Wetlands Delineation

prepared by
Transportation Agency for Monterey County
55-B Plaza Circle
Salinas, California 93904
Contact: Rich Deal, Principal Engineer

prepared with the assistance of
Rincon Consultants, Inc.
437 Figueroa Street, Suite 203
Monterey, California 93940

October 2019

RINCON CONSULTANTS, INC.
Environmental Scientists | Planners | Engineers
rinconconsultants.com

Table of Contents

Figures

Tables

Appendices

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Executive Summary

Rincon Consultants, Inc. conducted a jurisdictional waters and wetlands delineation on behalf of the Transportation Agency for Monterey County, for an area along the Fort Ord Regional Trail and Greenway Project Highway 218 Segment in the City of Del Rey Oaks, Monterey County, California. The delineation was conducted to determine the location and extent of waters and wetlands along the proposed trail alignment that are potentially subject to the jurisdictions of the United States Army Corps of Engineers, Regional Water Quality Control Board, and California Department of Fish and Wildlife.

The Transportation Agency for Monterey County, in coordination with California Department of Transportation, proposes construction of a multi-use trail in northwestern Monterey County, generally surrounding the cities of Seaside and Marina and the California State University, Monterey Bay campus. A jurisdictional delineation study area was established by the Transportation Agency for Monterey County and potential jurisdictional features within the grant-funded segment of the Fort Ord Regional Trail and Greenway Project's study area were mapped and evaluated.

The delineation identified a freshwater emergent wetland, Canyon Del Rey Creek with associated riparian corridor and an unnamed ephemeral drainage within the study area. Impacts to delineated wetland waters and non-wetland waters with associated riparian vegetation in the Study Area are potentially subject to the provisions of the Clean Water Act, Porter-Cologne Water Quality Control Act, and California Fish and Game Code, and therefore, permits from the United States Army Corps of Engineers, Regional Water Quality Control Board, and California Department of Fish and Wildlife may be required to implement the project. Note that final jurisdictional areas are determined by the agencies at the time that permits are requested.

1 Introduction

Rincon Consultants, Inc. (Rincon) conducted a jurisdictional delineation for the Highway 2018 Segment of the Fort Ord Regional Trail and Greenway (FORTAG) Project (Project) in Monterey County, California. The Project involves construction of a multi-use trail in northwestern Monterey County, generally surrounding the cities of Seaside and Marina, and the California State University, Monterey Bay (CSUMB) campus. The project involves the phased construction this multi-use trail. This delineation focused on the 1.5-mile long section of the trail that extends from the intersection of Fremont Boulevard and Canyon del Rey Boulevard/State Route (SR) 218 to Del Rey Woods Elementary School in Del Rey Oaks. The delineation was conducted to determine the location and extent of waters and wetlands that are potentially subject to the jurisdictions of the United States Army Corps of Engineers (USACE), Regional Water Quality Control Board (RWQCB), and California Department of Fish and Wildlife (CDFW).

Any proposed impacts to areas identified as jurisdictional waters and/or wetlands may be subject to permit requirements under the Clean Water Act (CWA), Porter-Cologne Water Quality Control Act (Porter-Cologne Act), and/or the California Fish and Game Code (CFGC), as regulated by the USACE, RWQCB, and CDFW, respectively.

1.1 Project Location

The proposed Project trail alignment is located at the southern end of Monterey Bay in Monterey County (**Error! Reference source not found.** and **Error! Reference source not found.**). The entire trail will cross the cities of Monterey, Del Rey Oaks, Seaside, and Marina, unincorporated areas of Monterey County, CSUMB campus lands, Fort Ord Reuse Authority (FORA) lands, United States Army lands, California Department of Transportation (Caltrans) right-of-way (ROW) lands, and Monterey Peninsula Regional Park District (MPRPD) property. The approximate center of the jurisdictional delineation study area (Study Area) is located at latitude 36.596237°N and longitude 121.847816°W (WGS84). The Project site is depicted on the *Seaside*, *California* United States Geological Survey (USGS) 7.5-minute topographic quadrangle. The Public Lands Survey System illustrates the Project site within Township 15S, Range 01E, and Section 27, in the San Bernardino Meridian. The Study Area was defined to contain Highway 218 Segment Project components as outlined in the Project description, plus a 100-foot buffer where ground disturbing activities are anticipated and a 25-foot buffer at proposed access roads (Figure 2). The Study Area occurs at elevations ranging between 30-60 feet above mean sea level.

Figure 1. Regional Location

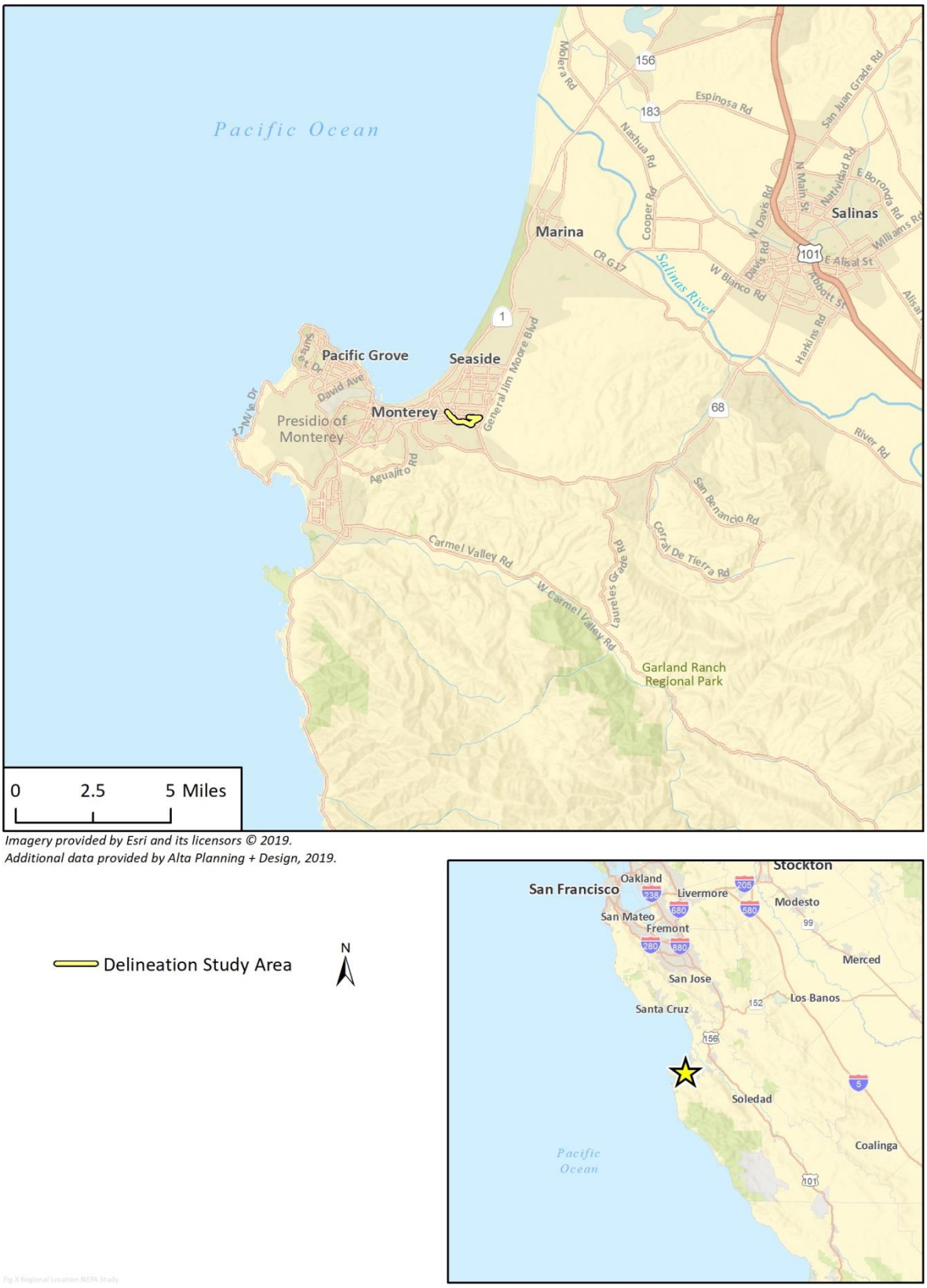

Figure 2. Topographical Map

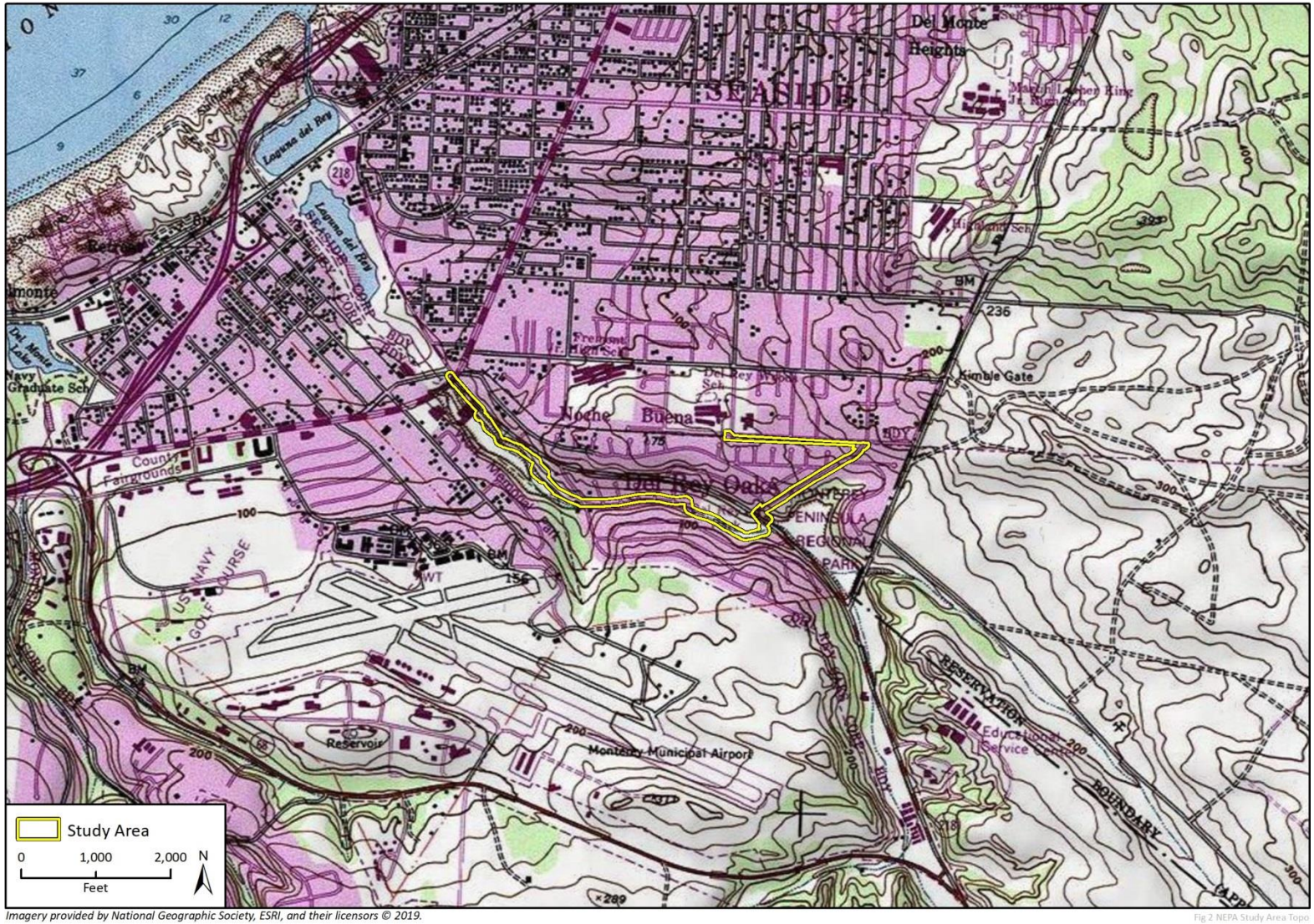

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Fig 2 NEPA Study Area Topo

1.2 Project Description

The proposed project involves the development of an approximately 1.5-mile long trail near the juncture of the cities of Seaside and Del Rey Oaks parallel to State Route (SR) 218. The project is part of the larger Fort Ord Regional Trail and Greenway (FORTAG) project which spans various cities and unincorporated areas of Monterey County, and lands, properties and rights-of-way under the jurisdiction of California State University Monterey Bay, Fort Ord Reuse Authority, Caltrans, and the Monterey Peninsula Regional Park District. As proposed by the Transportation Agency for Monterey County (TAMC), FORTAG, in its entirety includes approximately 28 miles of existing and newly constructed paved trails for pedestrians and bicyclists. The limits of this Highway 218 Segment extend from the intersection of Fremont Boulevard and Canyon Del Rey Boulevard/ State Route (SR) 218 to Del Rey Woods Elementary School via Canyon del Rey Boulevard/ SR 218, Angelus Way, Carlton Drive/Highland Street, and Plumas Avenue. The trail would consist of a 12-foot wide paved path with striping and a 2-foot wide unpaved shoulder on each side, for a total width of 16-feet. Construction would consist of a four-inch layer of asphalt over a six-inch aggregate base. The current study area of the project is described below, from west to east.

The trail starts at the existing traffic signal at Fremont Boulevard and Canyon Del Rey Boulevard/SR 218, which would be modified to provide bike crossing markings to indicate the intended path for bicyclists and provide a clear boundary between pedestrians and bicyclists at the intersection. Modifications at the Fremont Boulevard and SR 218 intersection also include curb ramps and signal equipment to facilitate the bike crossing. The trail continues east for 500 feet on the south side of Canyon Del Rey Boulevard/SR 218 and would be developed along the existing roadway in a new 10-foot wide Class I trail with a five-foot buffer immediately north of the existing Safeway shopping center. The trail would then enter the former golf driving range (City of Del Rey Oaks property known as Work Memorial Park) southeast of the Safeway building. The new Class I trail through Work Memorial Park would be a 12-foot-wide paved path, with a two-foot-wide unpaved shoulder on both sides, for a total width of 16 feet between the tennis courts and Del Rey Oaks Gardens garden center to reach Angelus Way. From Rosita Road, the trail would be developed along the existing paved Angelus Way right-of-way as a Class III bike route with appropriate signage to Del Rey Park.[1]

The trail would then enter Del Rey Park through the park's western parking lot and follow the existing decomposed granite path along the south and east edges of the park. This existing path varies in width but is typically approximately 10-feet wide. This path would be paved and widened to 12-feet as part of the project. The trail would continue east and border the southern portion of the parking lot south of Del Rey Oaks City Hall. A bike and pedestrian undercrossing would be constructed under Canyon Del Rey Boulevard/SR 218 to the Frog Pond Regional Park. The undercrossing is proposed approximately 140 feet southeast of the SR 218 and Carlton Drive intersection. Other design options under consideration include an at-grade crossing (mid-block) or a new signal and crosswalk at SR 218 and Carlton Drive. The trail would continue west along the north side of Canyon Del Rey/SR 218 for approximately 300 feet until turning east onto the road shoulder of Carlton Drive/Highland Street heading northeast towards Plumas Avenue. A new multi-use sidewalk would be constructed on the west side of Carlton Drive/Highland Street traveling north to Plumas Avenue. The sidewalk would be 12-feet wide with a 5-foot buffer between the roadway and

[1] Class III bikeways, or bike boulevards, are generally comprised of low-volume residential streets that parallel major streets. Class III bikeways are specific bike routes designated by street or roadway signage.

sidewalk. On the south side of Plumas Avenue, the project would include a 12-foot wide Class I trail with 2-foot shoulders within a Pacific Gas & Electric (PG&E). When the Plumas Avenue trail reaches Del Rey Woods Elementary School, American with Disabilities Act (ADA) compliant crosswalks and curb ramps would be constructed.

Lighting would be added for the undercrossing at Canyon Del Rey Boulevard/SR 218 and as needed at road crossings and other locations for safety and to aid in crime prevention. Retaining walls may be needed to retain slopes at the undercrossing beneath Canyon Del Rey Road/SR 218 and on Carlton Drive. Approximately 230 feet of retaining wall(s) would be constructed north of Canyon Del Rey Road/SR 218. Construction staging would be located on the existing parking lot south of Del Rey Oaks City Hall. No buildings or structures are proposed to be demolished or altered as part of the project, and no utilities are anticipated to require relocation as project design includes avoidance of major utility conflicts.

2 Methodology

Rincon initiated the delineation with a literature review of existing studies, maps, and other publications. After completion of the literature review, a field delineation was completed to identify, describe, and map all potential jurisdictional features within the Study Area. Fieldwork for this evaluation was conducted by Rincon biologists Carolynn Daman and Samantha Kehr on August 12, 2019. The delineation has been prepared in accordance with USACE, RWQCB, and CDFW procedures, as outlined below.

2.1 Literature Review

Prior to the field survey, Rincon reviewed aerial imagery depicting the Study Area (Google Earth 2019), the *Seaside, California* USGS 7.5-mintue topographic quadrangle, the *Web Soil Survey* (United States Department of Agriculture, Natural Resources Conservation Service [USDA, NRCS] 2019a and 1972), and other available background information, to characterize the Study Area and its surroundings from a hydrologic and geologic/topographical perspective.

Furthermore, the *National Wetlands Inventory* (NWI) (U.S. Fish and Wildlife Service 2019) and *National Hydrography Dataset* (NHD) (USGS 2019) were reviewed to determine if any wetlands and/or other waters had been previously documented and mapped on or in the vicinity of the proposed Project site. The *National Hydric Soils List by State: California* (USDA, NRCS 2019b) was also reviewed to determine if any soil map unit types mapped on or in the vicinity of the Study Area were classified as hydric.

2.2 Field Survey

After completion of the literature review, Rincon biologists surveyed the Study Area on foot for potential wetlands and non-wetland aquatic resources including streams that might exhibit an ordinary high water mark (OHWM) and that might constitute waters of the U.S. and/or State as well as areas subject to CFGC Section 1600 et seq. During the field delineation, the biologists noted general site characteristics and documented vegetation present on site. Current local, federal and state policies, methods and guidelines were used to identify and delineate potential jurisdictional areas, and are described in detail below and in Appendix A.

2.2.1 Non-Wetland Waters of the United States

The lateral limits (i.e., width) of potential USACE jurisdiction for non-wetland waters or "other waters" are determined by the presence of physical characteristics indicative of the OHWM. The Code of Federal Regulations (CFR) sections (33 CFR 328.3 and 33 CFR 328.4) and Regulatory Guidance Letter No. 05-02 (USACE 2005), as well as in reference to various relevant technical publications including but not limited to *Review of Ordinary High Water Mark Indicators for Delineating Arid Streams in the Southwestern United States* (USACE 2004), *Distribution of Ordinary High Water Mark (OHWM) Indicators and Their Reliability in Identifying the Limits of "Waters of the United States" in Arid Southwestern Channels* (USACE 2006), *A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States* (USACE

2008b), and *Updated Datasheet for the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States* (USACE 2010) were reviewed. Additionally, Rincon evaluated sources of water and connections to interstate waters, and other factors that affect whether waters qualify as "waters of the United States" under current regulations (i.e., the 2015 Clean Water Rule, 33 CFR Part 328). OHWM data points were collected and are included as Attachment D.

2.2.2 Wetland Waters of the United States

Potential wetland features were evaluated for presence of wetland indicators; specifically, hydrophytic vegetation, hydric soils and wetland hydrology, according to routine delineation procedure *Wetlands Delineation Manual* (USACE 1987) and *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region* (USACE 2008a). The USACE Arid West 2016 Regional Wetland Plant List was used to determine the indicator status of the examined vegetation by the following indicator status categories: Upland (UPL), Facultative Upland (FACU), Facultative (FAC), Facultative Wetland (FACW), and Obligate Wetland (OBL) (Lichvar et al. 2016; USACE 2016). Three representative sample points was selected and examined in the field for potential wetland indicators. Wetland Determination Data Forms are included as Attachment D.

2.2.3 Waters of the State

The limits of "waters of the State," as defined under the Porter-Cologne Act, were determined by first surveying for indicators of an OHWM in the Study Area as described above. In addition to including areas within the OHWM, Rincon conservatively delineated riparian areas associated with the OHWM as waters of the State since the Central Coast RWQCB has at times asserted jurisdiction over these areas on different projects in the past.

2.2.4 CDFW Streams and Riparian Habitat

The CDFW has not defined the term "stream" for the purposes of implementing its regulatory program under CFGC Section 1600 *et seq*., and the agency has not promulgated regulations directing how jurisdictional streambeds may be identified, or how their limits should be delineated. Considering this, sources of information were reviewed and considered in determining the appropriate limits of CDFW jurisdiction within the site. The review includes the following resources:

- Section 1600 *et seq*. of the California Fish and Game Code;
- *Rutherford v. State of California* (188 Cal App. 3d 1276 (1987) court decision, which interpreted Section 1602's use of "stream" to be as defined in common law;
- CDFW regulations defining "stream" for other purposes, including sport fishing (14 CCR 1.72) and streambed alterations associated with cannabis production (14 CCR 722(c)(21)); and
- *A Field Guide to Lake and Streambed Alteration Agreements* (CDFG 1994).

The principles presented in these materials were used to guide the delineation of outer limit of riparian vegetation, where present, or the tops of banks for stream features, with consideration given to the relevance (i.e., jurisdiction, applicability) of each source to the Project and resources at hand. A more detailed regulatory definition of CDFW jurisdiction can be found in Appendix A.

2.3 Data Collection and Processing

Drainage features, riparian habitat, width measurements, and wetland sample points were mapped using a Trimble® GeoXT GPS unit and recent aerial photography. Width measurements for USACE jurisdiction were determined based on the lateral extent of the OHWM. CDFW jurisdictional limits were measured laterally from bank to bank at the top of the channel, or to the outer drip-line of associated riparian vegetation, if present. Wetland sample points were taken at representative locations to determine the presence/absence of wetland indicators, such as hydrophytic vegetation, hydric soils, and wetland hydrology. Soil test pits confirmed the soil conditions at each sample point.

3 Environmental Setting

A description of the existing site conditions, major vegetation units observed, soil types encountered, and a discussion of local hydrology in the Study Area are presented below.

3.1 Existing Site Conditions, Topography, Land Use, and Climate

The Project is located in the Monterey Bay area, approximately one mile east of the Pacific Ocean, 0.3 mile southeast of Laguna del Rey Lagoon, and 0.3 mile west of the Fort Ord National Monument. It passes through Work Memorial Park, Del Rey Park, and Monterey Peninsula Regional Park. Adjacent land uses in the vicinity of the Project include urbanized developments of residential homes, commercial buildings, and roadways. Topography is comprised of coastal alluvial terraces and relatively low-lying rolling hills and manufactured slopes adjacent to SR 218.

Although some revegetation has occurred in Work Memorial Park, the portion of the Project within the park is substantially disturbed due to prior grading activities when the site was utilized as an active golf center/driving range and regularly maintained (prior to 2011) (Herrera 2015, Google Earth 2007). Aerial imagery from February 2018 shows an unpaved access roadway established through the center of Work Memorial Park connecting the Del Oaks Garden Center, previously used as a golf center, to the paved access road behind an established grocery store (Google Earth 2019). During the survey, the unpaved roadway was utilized for vehicular travel to the Del Oaks Garden Center. The roadway contains heavily compacted soils elevated from the surrounding landscape. Additionally, storm drains adjacent to SR 218 and the Garden Center convey stormwater to the area during rain events and also convey water discharges from the Garden Center.

According to the Western Regional Climate Center data records between 1906 and 2016, average annual temperatures in Monterey (Station 045795) ranged between 48 and 65 degrees Fahrenheit, with the warmest temperatures occurring between September and October and the coldest temperatures occurring between December and January. Monterey receives an average rainfall of approximately 19.73 inches, with the most rain occurring between December and March (Western Regional Climate Center 2016).

3.2 Vegetation

The Natural Environment Study (NES) prepared by Rincon for the Project in 2019 identified eight terrestrial vegetation communities and other land cover types in the Study Area. These communities and types were confirmed during delineation field surveys and are displayed in Appendix B. In some cases one community graded into another and the boundaries demarking these communities were indeterminate and subject to interpretation. The limits of these vegetation communities were approximately delimited and mapped based on estimates of the percept cover of the dominant species, and often adjacent communities have the same general species composition in varying abundance. For example, non-native annual grassland may include a percentage of coyote brush, and adjacent coyote brush scrub may include a percentage of non-native grasses. Oak trees were

common throughout much of the Study Area, in some areas forming oak woodland communities, and in others, simply occurring as scattered occurrences of oak trees in scrub, grassland, or other communities.

The mapping is presented in a land-cover map atlas and provides a reasonable approximation of the types and acreages of the various vegetation communities and land-cover types that occur within the Study Area. The map atlas is provided in Appendix B.

The vegetation community characterizations for this analysis were based on the classification systems presented in *A Manual of California Vegetation, Second Edition* ([MCV2] Sawyer et al. 2009) but have been modified slightly to most accurately reflect the existing site conditions. The *Preliminary Description of Terrestrial Natural Communities of California* (Holland 1986) has been superseded by the MCV2, but is included for consistency with previous descriptions of the former Fort Ord. Many of the vegetation communities discussed below represent large areas which may be geographically isolated from one another and therefore lesser species components and overall cover may be highly variable from one location to the next. Representative photographs of the Study Area are included in Appendix C. Plant species nomenclature and taxonomy used for this document follows the treatments within the second edition of *The Jepson Manual* (Baldwin et al. 2012) and updates available in the online Jepson eFlora (UCB 2019).

The eight vegetation communities and land cover types in the Study Area include:

- Coast Live Oak Woodland
- Freshwater Emergent
- Riparian Woodland
- Ice Plant Mat
- Monterey Pine
- Landscaped
- Developed
- Ruderal

Brief descriptions of these communities and types are provided below.

3.2.1 Coast Live Oak Woodland

The coast live oak woodland habitat is found along the hillslopes in Work Memorial Park and is characterized by coast live oak trees found in monotypic stands and most closely corresponds with the *Quercus agrifolia* Woodland Alliance in the MCV2. Within the Study Area this community is highly variable, but is generally dominated by coast live oak (*Quercus agrifolia,* UPL) with an understory that ranged from dense scrub to open and underdeveloped. Typical scrub understory constituents include scrub or chaparral species such as black sage (*Salvia mellifera,* UPL), chamise (*Adenostoma fasciculatum,* UPL), coyote brush (*Baccharis pilularis,* UPL), woolly leaf manzanita (*Arctostaphylos tomentosa,* UPL), and California sagebrush (*Artemisia californica,* UPL). In other areas, the understory was dominated by a tangle of vine herbs such as poison oak (*Toxicodendron diversilobum,* FACU) and purple fiestaflower (*Pholistoma auritum,* UPL), or annual grasses.

3.2.2 Freshwater Emergent

The freshwater emergent habitat is found along the basin of Work Memorial Park adjacent to the access roadway through the area and is characterized by hydrophytic perennial monocots. Soils

within this vegetation community are typically saturated or inundated for many weeks each year. This community is comprised predominately of bulrush (*Schoenoplectus americanus,* OBL*)* broadleaf cattail (*Typha latifolia,* OBL) and salt grass (*Distichlis spicata,* FAC) with patches of other emergent herbaceous wetland vegetation, including pennywort (*Hydrocotyle ranunculoides,* OBL), loosestrife (*Lythrum hyssopifolia,* OBL), rabbitsfoot grass (*Polypogon monspeliensis,* FACW), common duckweed (*Lemna minor*, OBL) and water smartweed (*Pennisetum clandestinum*, OBL). This vegetation community most closely resembles the *Schoenoplectus americanus* Herbaceous Alliance described in the MCV2.

3.2.3 Riparian Woodland

Riparian woodland habitat primarily occurs along Canyon Del Rey Creek and consists of a canopy dominated by several riparian tree species including coast live oak, arroyo willow (*Salix lasiolepis,* FACW), and white alder (*Alnus rhombifolia,* FACW). The understory typically contains common riparian understory species such as stinging nettle (*Urtica dioica,* FAC) and poison oak (*Toxicodendron diversilobum,* FACU). The riparian woodland habitat along Angelus Way includes coast redwood (*Sequoia sempervirens*, UPL) in the canopy and contains an understory dominated by invasives English ivy (*Hedera helix,* FACU) and French broom (*Genista monspessulana*, UPL) with occasional native understory herbs and ferns such as wood fern (*Dryopteris arguta*, UPL). Infestations of Himalayan blackberry (*Rubus armeniacus,* FAC), cape ivy (*Delairea odorata*, UPL) and garden nasturtium (*Tropaeolum majus*, UPL) are also present in a patchy distribution within the understory. This vegetation community most closely corresponds with the *Quercus agrifolia* Woodland Alliance and *Alnus rhombifolia* Forest Alliance in the MCV2.

3.2.4 Ice Plant Mat

Iceplant mat habitat was observed along the slopes of Work Memorial Park and Del Rey Park. This vegetation type is strongly dominated by iceplant (*Carpobrotus edulis*), and often consists of dense matted tangled iceplant many inches thick. Due to this aggressive growth form, not many other species are present in most instances. In some locations iceplant is the dominant species in the understory growing in gaps between trees or shrubs. Where it occurred as the dominant species over a substantial area, it was mapped as a community of its own. This community most closely resembles the *Carpobrotus edulis* or Other Iceplant Semi-Natural Herbaceous Stand Alliance described in the MCV2.

3.2.5 Monterey Pine Woodland

Monterey pine woodland habitat was observed along the south bank of the Canyon Del Rey Creek within Del Rey Park. This vegetation community includes a wooded canopy with coast live oak and Monterey pine (*Pinus radiata,* UPL) occurring as co-dominant. The understory is fairly underdeveloped consisting mostly of bare soil and scattered shrubs such as deerweed (*Acmispon glaber,* UPL) and coyote brush (*Baccharis pilularis,* UPL*)*, non-native grasses, and mats of iceplant. This community is not described by Holland or Sawyer et al.; however, this community is best described by the *Pinus muricata – Pinus radiata* Forest Alliance in the MCV2.

3.2.6 Landscaped

This land cover type is primarily associated with development. Tree species found in this type are highly variable, and typically consist of either non-native (ornamental) species or native species that were planted, and not part of a natural community. The most commonly occurring tree species

within this community include Monterey cypress (*Hesperocyparis macrocarpa,* UPL), eucalyptus (*Eucalyptus* spp., UPL), Monterey pine, redbud (*Cercis* sp., UPL), California sycamore (*Platanus racemose,* FAC), and American sweetgum (*Liquidambar styraciflua,* FAC). Bushes and shrubs in this community are variable by occurrence and include oleander (*Nerium oleander*, UPL), lantanas (*Lantana* spp., UPL), and juniper (*Juniperus* spp., UPL) among other ornamental species. Landscape grass species typically include turf grasses and nonnative species such as kikuyu grass (*Pennisetum clandestinum,* FACU), hairy crabgrass (*Digitaria sanguinalis,* FACU), and English daisy (*Bellis perennis*, UPL). This land cover type is not naturally occurring and is not described in either the Holland or Sawyer et al. classification systems. It consists of primarily non-native species in ornamental plantings.

3.2.7 Developed

This land cover type consists of areas that have been modified such that most or all vegetation has been removed or only small areas of landscape vegetation are present. Parking lots, roads, sidewalks, structures, paved and unpaved pathways are included within this type. In some cases vegetation from adjacent areas may overhang. Playgrounds, picnic areas, gravel areas, roadside pullouts, and areas of urban-related bare soil are included in this type. This land cover type is not naturally occurring and is not described in either the Holland or Sawyer et al. classification systems.

3.2.8 Ruderal

The ruderal habitat is found along roadsides and the margins of buildings. Habitats that have been heavily disturbed or altered such that natural vegetation has largely been removed are mapped as ruderal areas. Ruderal areas have had visible disturbance of soil or vegetation and are mostly bare and colonized by weeds and disturbance-tolerant natives, such as fiddleneck (*Amsinckia* sp., UPL), wild radish (*Raphanus sativa*, UPL), field mustards (*Brassica* sp., UPL), cheeseweed (*Malva parviflora*, UPL), and annual grasses. These sites do not correspond well with either the Holland or Sawyer et al. classification systems.

3.3 Hydrology

The Study Area is located within the Canyon Del Rey sub-watershed (Hydrologic Unit Code 12-180600150304). Canyon Del Rey Creek (also referred to as Arroyo del Rey Creek) is a perennial/intermittent stream that flows to the Pacific Ocean, draining approximately 17 square miles (approximately 10,750 acres) of land surface, including portions of the cities of Seaside, Del Rey Oaks, Monterey, and unincorporated Monterey County (Balance Hydrologics 2014).

The headwaters of Canyon Del Rey Creek originate at an elevation of 500 feet near the Laguna Seca Raceway at the eastern end of the watershed (Balance Hydrologics 2014). The creek flows mostly westerly along SR 68 until the junction of SR 68 with SR 218. At the highway junction, the creek follows SR 218 north and west to the Frog Pond Wetland Preserve, eventually draining into Laguna Grande, then Roberts Lake, and finally, the Monterey Bay/Pacific Ocean.

The Frog Pond Wetland Preserve, located approximately 2.2 river miles (3.5 kilometers) upstream of Monterey Bay, is within the Canyon del Rey sub-watershed. The entire preserve is 17 acres in size and sustains a seasonal pond, wetland, and upland habitats. The pond/wetland is an isolated remnant of a much larger freshwater ecosystem, but still retains important wetland structures and functions. The pond receives water from three general sources: 1) a tributary to Canyon del Rey (South Boundary Tributary); 2) springs at the northern edge of the pond; and 3) runoff from the

residential neighborhoods along the northern border of the preserve. The pond typically dries in mid to late summer, and refills after the first significant rains in the fall. Canyon Del Rey Creek maintains low flows throughout the summer, fed by runoff from residential and golf course irrigation.

Within 1.2 miles of Monterey Bay, the creek passes through a long culvert at Work Memorial Park and into Laguna Grande. Water from the Laguna Grande and Roberts Lake eventually flows to Monterey Bay at Monterey State Beach through a box culvert outfall.

3.4 Soils

3.4.1 Soil Survey

The Web Soil Survey (USDA-NRCS 2019a) shows four soil map units within the Study Area:

- Arnold loamy sand 9 to 20 percent slopes, MLRA 15
- Arnold loamy sand 15 to 50 percent slopes, MLRA 15
- Baywood sand, 2 to 15 percent slopes
- Rindge muck, 0 to 2 percent slopes, MLRA 14

Mapped soils in the Study Area are depicted on **Error! Reference source not found.**.

Arnold loamy sand is a somewhat excessively drained sandy soil that occurs on terraces. Arnold soils are derived from residuum weathered from sandstone and occur on hills and escarpments. These soils are typically found on slopes between 9 and 75 percent at elevations ranges from 100 to 2,500 feet. A typical soil profile consists of sandy loam topsoil to approximately 12-inches and below this sand subsoil extending to approximately 55-inches to the underlining soft sandstone to 64-inches. Within the Study Area, Arnold soils are predominately found surrounding Canyon Del Rey Creek. . These Arnold loamy sand soil map units are not included on the *National Hydric Soils List* (USDA, NRCS 2019b).

Baywood sand are somewhat excessively drained soils derived from stabilized sandy eolian, or windblown, sands. These soils are found at elevation ranges from 20 to 800 feet. A typical soil profile consists of very dark fine sand to a depth of 90 inches. Baywood soils are found north of the Canyon Del Rey Creek within the Study Area. This soil map unit is not included on the *National Hydric Soils List* (USDA, NRCS 2019b).

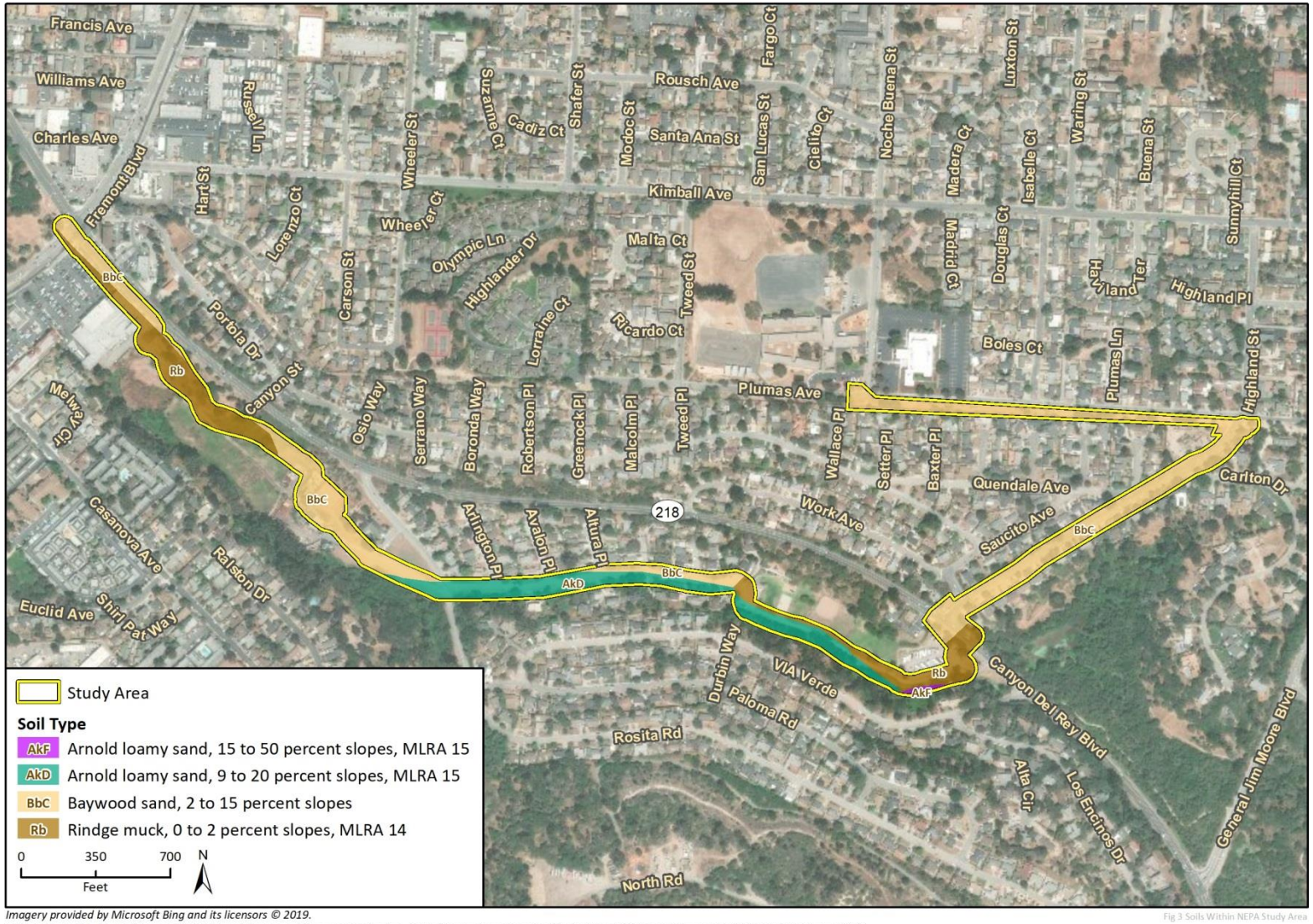
Rindge muck is very deep, poorly drained soil derived from plant residue with mixed alluvium that occurs in freshwater marshes, sloughs, and drainage channels. Rindge muck is typically found on slopes less than two percent at elevations between 5 and 20 feet. A typical soil profile consists of black muck topsoil to approximately 13 inches and mucky peat subsoil to approximately 60 inches. This soil unit is found within Work Memorial Park and the Frog Pond Wetland Reserve adjacent to Canyon Del Rey Creek. These soil map units are included on the *National Hydric Soils List* (USDA, NRCS 2019b).

3.4.2 Wetland Soil Sample Points

Based on the soil pit data from the field survey (Appendix D), hydric soils indicators are present within areas of Work Memorial Park. The Work Memorial Park area contains loamy sand soils that support hydric soil indicators including depleted matrix and sandy gleyed matrix. Saturated soils were encountered with consistent hydrologic flow observed within Work Memorial Park as well as

Canyon Del Rey Creek. Hydric soils are considered present within the creek and lower elevations of Work Memorial Park.

Figure 3. Soils within the Study Area



Imagery provided by Microsoft Bing and its licensors © 2019.
Soils data provided by Soil Survey Staff, Natural Resources Conservation Service, United States Department of Agriculture, Soil Survey Geographic (SSURGO) Database, 2019.

Fig 3 Soils Within NEPA Study Area

4 Assessment of Jurisdictional Waters and Wetlands

Based upon the jurisdictional delineation conducted by Rincon, a freshwater emergent wetland and Canyon Del Rey Creek with its associated riparian habitat are potentially subject to USACE, RWQCB and CDFW jurisdictions. Potential jurisdictional areas within the Study Area are summarized below in Table 2 and shown on Figure 4. Representative photographs of each feature can be found in Appendix C and a table with details for waters of the U.S. is included in Appendix D.

4.1 Freshwater Emergent Wetland

A freshwater emergent wetland was observed during the survey within Work Memorial Park northeast of an unpaved access road that transects the area to the Garden Center. The freshwater emergent wetland is approximately 180 feet northeast of Canyon Del Rey Creek. A total of three wetland determination data points (sample points, or SP) were evaluated to confirm the wetland boundaries within the Study Area. USACE Wetland Determination Data Forms (USACE wetland forms) are provided in Appendix D. Investigations started approximately 30 feet north of the unpaved access roadway downslope of the arroyo willow stand where hydrophytic vegetation was dominant and standing water was observed.

SP-1 was investigated within the Study Area approximately 40 feet south from the centerline of the proposed trail in the lowest area in the vicinity. The soil pit was excavated within the potential jurisdictional wetland feature. The point confirmed that the lowest elevation area within Work Memorial Park within the Study Area is a wetland due to the presence of all three USACE-defined wetland parameters: hydrophytic vegetation, hydric soils, including depleted matrix, and wetland hydrology indicated by the presence of surface water. Several obligate wetland plant species were present at this location including common duckweed, broadleaf cattail, and bulrush.

SP-2 was evaluated where obligate plant species decreased in dominance and facultative species with upland species were observed. This point was collected approximately 20 feet from the centerline of the proposed trail on a hillslope greater than 10 percent slope. This point also contained all three wetland parameters with gleyed and very saturated soils.

SP-3 was evaluated where salt grass dominated the landscape and oak and pine woodland overstory was present. The hillslope increased in elevation with a greater than 15 percent slope and hydrophytic vegetation was not dominant. The sample point lacked hydric soils and wetland hydrology; therefore, this location is not within a wetland, based on the absence of all three wetland parameters. The limits of the wetland were established after the analysis of SP-3. The wetland boundary extends beyond the limits of the Study Area to the edge of the access roadway. Approximately 6-inch wide low flow channels were observed within the wetland. They contained water flowing in a southeast direction to the culverts that convey water towards Canyon Del Rey Creek.

In the NWI, the wetland is classified as a Freshwater Emergent Wetland that is ‘seasonally flooded’ and created by a dike or impoundment. This feature meets the federal definition of a wetland;

however, due to its distance greater than 100 feet from the OHWM of Canyon Del Rey Creek, a significant nexus evaluation was completed and discussed below. It is expected to fall under CWA jurisdiction, and would likely be regulated by the USACE and RWQCB. The wetland may also be regulated by the RWQCB under the Porter-Cologne Act.

4.2 Canyon Del Rey Creek

Canyon Del Rey Creek is a perennial stream and relatively permanent water (RPW) that enters the Study Area west of SR 218 and north of Via Verde Road. The OHWM is distinguished by a break in slope, change in vegetation cover, and presence of bed and bank. The top of bank extends between 6 to 10 feet from the edge of the OWHM on the north bank adjacent to the proposed trail location. The creek banks are steep and densely vegetated. Water was observed throughout the channel adjacent to Angelus Way and Del Rey Park. Pooling was observed throughout the channel downstream of culverts under bridges to houses south of Angelus Way and in areas downstream of in-channel debris adjacent to Del Rey Park. Due to the presence of an algal surface layer, the substrate for the channel was undefined. The riparian community forms a narrow band generally following the top of bank. The corridor is restricted to approximately 20 feet of the active Canyon del Rey Creek channel due to the surrounding development. This corridor is located south of Angelus Way, south of Del Rey Park and east of SR 218. The banks of the channel are vegetated with arroyo willow, coast live oak, and white alder south of Angelus Way. In areas adjacent to development the riparian composition transitions to understory of cape ivy, Himalayan blackberry, and American dogwood (*Cornus sericea*, FACW). The banks adjacent to Del Rey Park contain a predominately uniform understory cover of horsetail (*Equisetum arvense*, FAC) and poison oak, and an overstory of Monterey pine. The banks appear to be routinely maintained. Riparian vegetation east of SR 218 and south of Carlton Drive is dense with Himalayan blackberry, poison oak, coast live oak, and arroyo willow.

In the Study Area, Canyon Del Rey Creek is classified in the NWI as unconsolidated bottomed perennial riverine stream. The creek has a traceable hydrologic connection to the Pacific Ocean, a traditional navigable water (TNW). This creek is a non-wetland water that is likely to fall under CWA jurisdiction, and is thus likely to be regulated by the USACE and RWQCB pursuant to Sections 404 and 401 of the CWA, respectively. The creek may also be regulated by the RWQCB under the Porter-Cologne Act. In addition, this stream meets the definition of a CDFW streambed jurisdictional feature and likely falls under CDFW jurisdiction pursuant to CFGC Section 1600 et seq.

4.3 Unnamed Ephemeral Drainage

An unnamed ephemeral drainage was observed within Work Memorial Park to the east of the freshwater emergent wetland discussed above. This drainage contained a vegetated bed approximately two feet wide and steep banks. In-channel vegetation consisted of cattails and pampas grass (*Cortaderia selloana*, FACU), along with upland grasses and forbs. The drainage begins just east of the Garden Center and flows in a western direction into the freshwater emergent wetland outside the Study Area. The drainage collects discharge water from the garden center as well as natural sheet flow from the adjacent hillside to the north.

The unnamed ephemeral drainage is not identified in the NWI or NHD. The drainage has a traceable hydrologic connection to the freshwater emergent wetland and potentially Canyon Del Rey Creek during high precipitation events. This drainage is a non-wetland water that is likely to fall under

CWA jurisdiction, and is thus likely to be regulated by the USACE and RWQCB pursuant to Sections 404 and 401 of the CWA, respectively. The creek may also be regulated by the RWQCB under the Porter-Cologne Act. In addition, this stream meets the definition of a CDFW streambed jurisdictional feature and likely falls under CDFW jurisdiction pursuant to CFGC Section 1600 et seq.

5 Summary of Jurisdictional Waters and Wetlands

Table 1 Delineated USACE, RWQCB, and CDFW Jurisdictional Areas

Feature	USACE/RWQCB Jurisdiction		RWQCB(Porter-Cologne Act)*	CDFW Jurisdiction
	Non-wetland Waters (Acres/Linear Feet)	Wetland Waters (Acres)	Waters of the State (Acres/Linear Feet)	Streambed and Associated Riparian (Acres/Linear Feet)
Wetland 1	--	0.25	0.25 / --	--
Canyon Del Rey Creek	0.23 / 2,321	--	1.02 / 3,054	1.02 / 3,054
Total	0.23 / 2,321	0.25	1.27 / 3,054	1.02 / 3,054

*includes streambanks, wetland and edge of riparian or top of bank

5.1 Clean Water Act Jurisdiction

Canyon Del Rey Creek and a freshwater emergent wetland in the Study Area may be jurisdictional waters of the U.S. regulated under the CWA Sections 404 and 401 as administered by the USACE and RWQCB, respectively. This creek conveys water to the Pacific Ocean outside the Study Area. As depicted in Table 1 above, a total of approximately 0.23 acre (2,321 linear feet) of non-wetland waters of the U.S. were delineated in the Study Area (Figures 4b and 4c). Additionally, a freshwater emergent wetland approximately 0.25 acre in size was delineated (Figure 4a). Due to the adjacency to non-wetland waters of the U.S., a significant nexus evaluation of the wetland has been conducted and is presented below.

5.1.1 Significant Nexus Evaluation

The USACE and U.S. Environmental Protection Agency (USEPA) assess the significance of the nexus to jurisdictional waters in terms of the CWA's objective to "restore and maintain the chemical, physical, and biological integrity of the Nation's waters." Waters are "waters of the U.S." if they, either alone or in combination with similarly situated waters in the region, significantly affect the chemical, physical or biological integrity of traditional navigable waters, interstate waters, or the territorial seas. When the effects are speculative or insubstantial the "significant nexus" would not be present. This significant nexus evaluation considered hydrological and ecological factors associated with the freshwater emergent wetland in the Study Area.

Figure 4a. Waters of the U.S. within the Study Area

Figure 5b. Waters of the U.S. within the Study Area

Figure 6c. Waters of the U.S. within the Study Area

Hydrological Factors

The freshwater emergent wetland within the Study Area is located approximately 165 feet northeast of Canyon Del Rey Creek which has direct connectivity to the Pacific Ocean approximately one mile from the western terminus of the Study Area. An access roadway or manufactured berm separates visual direct connectivity between the freshwater emergent wetland and the creek. In historic aerial imagery, prior to 2016 and the establishment of the access roadway, potential wetland waters were less defined. Historic aerial imagery indicates the area was likely much drier in the past than it is currently, potentially due to the active maintenance of the golf course that utilized the space, the lack of a manufactured berm, and the lack of discharge of water from the Garden Center or adjacent development to the north. It was likely that during heavy rain events the creek flows beyond its banks and floods the lower elevated areas of Work Memorial Park. The topography in the park slopes toward the creek and the presence of culverts under the access roadway connecting the wetland to the lands adjacent to the creek indicate water naturally flows in the direction of the creek. Both the wetland and Canyon Del Rey Creek contained water during the time of the survey indicating that both features are not dependent only on rain events. Due to the high percolation rate of the sandy soils and topography, groundwater exchange between the wetland and creek is likely occurring.

Ecological Factors

The lands surrounding the freshwater emergent wetland are developed and support commercial/industrial land uses. These developments contribute increased irrigation water, nuisance runoff, and sediment runoff into Work Memorial Park, as evidenced by the culvert outlets and the presence of water. As a result, there is potential for the wetland to transport development-related pollutants to the Canyon Del Rey Creek, and eventually the Pacific Ocean, affecting water quality. The Canyon Del Rey Creek is not listed on the CWA Section 303(d) list of impaired waters (2006).

The freshwater emergent wetland contains stand of cattails and standing water that provide habitat for common plants and wildlife that occur in the area.

Significant Nexus Determination

The freshwater emergent wetland likely has connectivity to Canyon Del Rey Creek through groundwater exchange and sheetflow during rain events. Given these factors it is reasonable to conclude that the freshwater emergent wetland has a significant nexus with a TNW (i.e., the Pacific Ocean), and is thereby under CWA jurisdiction. Note that the USACE and USEPA make the final significant nexus determination.

5.2 RWQCB Porter-Cologne Act Jurisdiction

The streambanks of the Canyon Del Rey Creek with its associated riparian habitat, and the delineated freshwater emergent wetland may also be jurisdictional waters of the State under the Porter-Cologne Act, and subject to the permitting authority of the RWQCB. As depicted in Table 1 above, a total of approximately 1.27 acres (3,054 linear feet) of potential waters of the State are present in the Study Area (Figures 5a, 5b, and 5c). The limits of the creek were conservatively assumed to be equivalent to the jurisdictional streambed and riparian habitat boundaries.

Figure 7a. CDFW Streambed, Riparian and Waters of the State within the Study Area

Figure 8b. CDFW Streambed, Riparian and Waters of the State within the Study Area

Figure 9c. CDFW Streambed, Riparian and Waters of the State within the Study Area

5.3 CDFW Jurisdiction

Canyon Del Rey Creek contains 1.02 acres (3,054 linear feet) of streambed and associated riparian habitat within the Study Area. These areas are likely jurisdictional under Section 1600 et seq. of the CFGC, as the creek contains a defined bed and bank and has a riparian zone that provides potential wildlife habitat. Due to the presence of adjacent development, the greatest width of CDFW jurisdiction along the creek measured 20 feet, inclusive of channel bed and banks and associated riparian habitat.

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Appendix A

Regulatory Overview and Definitions

USACE Jurisdiction

The USACE, under provisions of Section 404 of the Clean Water Act and USACE implementing regulations, has jurisdiction over the "waters of the United States." "Waters" include all waters subject to the ebb and flow of the tide, all interstate waters, all other waters (intrastate lakes, rivers, streams, mudflats, sandflats, playa lakes, natural ponds, seasonal drainage channels, etc.), all impoundments of waters otherwise defined as waters of the U.S., tributaries of waters otherwise defined as waters of the U.S., territorial seas, and wetlands adjacent to waters of the U.S. USACE jurisdictional limits are typically identified by the presence of an Ordinary High Water Mark (OHWM). The OHWM is the line on the shore or banks of a water course established by the fluctuations of water and indicated by physical characteristics such as a clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding area. The USACE defines wetlands as containing three parameters: hydrophytic vegetation, hydric soils, and wetland hydrology.

Areas not considered to be jurisdictional waters include non-tidal drainage and irrigation ditches excavated on dry land, artificially-irrigated areas, artificial lakes or ponds excavated on dry land used for irrigation or stock watering, small artificial water bodies such as swimming pools, and water filled depressions (51 Fed. Reg. 41, 217 1986). In addition, a Supreme Court ruling (Solid Waste Agency of Northern Cook Counties [SWANCC] vs. USACE, January 9, 2001) determined that the USACE exceeded its statutory authority by asserting Clean Water Act jurisdiction over "an abandoned sand and gravel pit in northern Illinois, which provides habitat for migratory birds." Based solely on the use of such waters by migratory birds, the Supreme Court's holding was strictly limited to waters that are "non-navigable, isolated, and intrastate."

The Supreme Court further addressed the extent of the USACE jurisdiction in Rapanos v. U.S. (June 19, 2006). There, a sharply divided Court issued multiple opinions, none of which garnered the support of a majority of Justices. This created substantial uncertainty as to which jurisdictional test should be used. The Ninth Circuit Court of Appeal, which encompasses California, answered this in Northern California River Watch v. City of Healdsburg (August 11, 2006). There, the Court held that Justice Kennedy's opinion in Rapanos provides the controlling rule of law. Under that rule, wetlands or other waters which are not navigable in fact are subject to USACE jurisdiction if they have a "significant nexus" to a navigable-in-fact waterway. As Justice Kennedy explained, whether a significant nexus exists in any given situation will have to be decided on a case-by-case basis, depending on site-specific circumstances.

USACE Headquarters in Washington, D.C. issued substantive guidance on June 5, 2007, to its District Offices as to how to apply these rulings. Based on this guidance, additional quantitative, qualitative, and other physical data is required for the USACE to make a determination of jurisdictional authority. This determination is reviewed by the United States Environmental Protection Agency (USEPA).

In accordance with the Rapanos guidance, the USACE will assert jurisdiction over traditional navigable waters (TNWs), non-navigable tributaries of TNWs that are relatively permanent waters (RPWs), and wetlands that directly abut such tributaries. TNWs include all of the "navigable waters

of the U.S.," defined in 33 CFR Part 329 and by pertinent federal court decisions. RPWs convey water flow seasonally, typically for at least 3 months. In addition, non-navigable tributaries that are not relatively permanent (non-RPWs), wetlands adjacent to non-RPWs, and wetlands adjacent to but that do not directly abut a TNW will be found jurisdictional based on a fact-specific analysis that they have a significant nexus with a TNW. The significant nexus evaluation considers the volume, duration, and frequency of water flow in the tributary and the proximity of the tributary to a TNW, as well as the hydrologic, ecologic, and other functions performed by the tributary and all of its adjacent wetlands.

RWQCB Jurisdiction

The State Water Resources Control Board (SWRCB) and local RWQCB have jurisdiction over "waters of the State," which are defined as any surface water or groundwater, including saline waters, within the boundaries of the state. The SWRCB has issued general Waste Discharge Requirements (WDRs) regarding discharges to "isolated" waters of the State (Water Quality Order No. 2004-0004-DWQ, Statewide General Waste Discharge Requirements for Dredged or Fill Discharges to Waters Deemed by the USACE to be Outside of Federal Jurisdiction). The local RWQCB enforces actions under this general order, and is also responsible for Clean Water Act Section 401 certification determinations over USACE defined jurisdictional waters.

The Porter-Cologne Act provides the State with very broad authority to regulate "waters of the State" (which are defined as any surface water or groundwater, including saline waters). The Porter-Cologne Act has become an important tool in the post-SWANCC and Rapanos era with respect to the State's authority over isolated waters. Generally, any person proposing to discharge waste into a water body that could affect its water quality must file a "Report of Waste Discharge" (ROWD) when there is no federal nexus, such as under Section 401of the CWA. Although "waste" is partially defined as any waste substance associated with human habitation, the RWQCB interprets this to include fill discharge into water bodies.

It should be noted that the RWQCB shares USACE jurisdiction unless isolated conditions are present. If isolated waters conditions are present, the RWQCB takes jurisdiction using the USACE's definition of the OHWM and/or the three-parameter wetlands methodology pursuant to the 1987 Wetlands Manual. The CDFW's jurisdiction is defined as the top of the bank to the top of the bank of the stream, channel, or basin or to the outer limit of riparian vegetation located within or immediately adjacent to the river, stream, creek, pond, or lake or other impoundment, whichever is greater.

CDFW Jurisdiction

Section 1602 of CFGC requires an entity to notify the CDFW before conducting any activity that would divert obstruct, or substantially alter a streambed. Once notified, the CDFW may require that a Streambed Alteration Agreement be executed before the activity may proceed. The CDFW has not defined the term "stream" for the purposes of implementing its regulatory program under Section 1602, and the agency has not promulgated regulations directing how jurisdictional streambeds may be identified, or how their limits should be delineated. Considering this, four sources of information were reviewed and considered in determining the appropriate limits of CDFW jurisdiction within the site, as discussed below. The principles presented in these materials were used to guide the delineation of on-site streams, with consideration given to the relevance (i.e., jurisdiction, applicability) of each source to the project and resources at hand.

- **The plain language of Section 1602 of CFGC** establishes the following general concepts:
  - References "river," "stream," and "lake"
  - References "natural flow"
  - References "bed," "bank," and "channel"
- **Applicable court decisions**, in particular *Rutherford v. State of California* (188 Cal App. 3d 1276 (1987), which interpreted Section 1602's use of "stream" to be as defined in common law. The Court indicated that a "stream" is commonly understood to:
  - Have a source and a terminus
  - Have banks and a channel
  - Convey flow at least periodically, but need not flow continuously and may at times appear outwardly dry
  - Represent the depression between the banks worn by the regular and usual flow of the water
  - Include the area between the opposing banks measured from the foot of the banks from the top of the water at its ordinary stage, including intervening sand bars
  - Include the land that is covered by the water in its ordinary low stage
  - Include lands below the OHWM
- **CDFW regulations** defining "stream" for other purposes, including sport fishing (14 CCR 1.72) and streambed alterations associated with cannabis production (14 CCR 722(c)(21)), which indicate that a stream:
  - Flows at least periodically or intermittently
  - Flows through a bed or channel having banks
  - Supports fish or aquatic life
  - Can be dry for a period of time
  - Includes watercourses where surface or subsurface flow supports or has supported riparian vegetation

- **Guidance documents**, including *A Field Guide to Lake and Streambed Alteration Agreements* (CDFG 1994) and *Methods to Describe and Delineate Episodic Stream Processes on Arid Landscapes for Permitting Utility-Scale Solar Power Plants* (Brady and Vyverberg 2013), which suggest the following:
  - A stream may flow perennially or episodically
  - A stream is defined by the course in which water currently flows, or has flowed during the historic hydrologic course regime (approximately the last 200 years)
  - Width of a stream course can reasonably be identified by physical or biological indicators
  - A stream may have one or more channels (single-thread vs. compound form)
  - Features such as braided channels, low-flow channels, active channels, banks associated with secondary channels, floodplains, islands, and stream-associated vegetation, are interconnected parts of the watercourse
  - Canals, aqueducts, irrigation ditches, and other means of water conveyance can be considered streams if they support aquatic life, riparian vegetation, or stream-dependent terrestrial wildlife
  - Biologic components of a stream may include aquatic and riparian vegetation, all aquatic animals including fish, amphibians, reptiles, invertebrates, and terrestrial species which derive benefits from the stream system
  - The lateral extent of a stream can be measured in different ways depending on the particular situation and the type of fish or wildlife resource at risk

The tenets listed above, among others, were applied within the project site in an attempt to determine the limits of on-site streams.

Wetlands

The USACE defines wetlands as containing three parameters: hydrophytic vegetation, hydric soils, and wetland hydrology. The following is a discussion of each of these parameters.

Hydrophytic Vegetation

Hydrophytic vegetation dominates areas where frequency and duration of inundation or soil saturation exerts a controlling influence on the plant species present. Plant species are assigned wetland indicator status according to the probability of their occurring in wetlands. More than fifty percent of the dominant plant species must have a wetland indicator status to meet the hydrophytic vegetation criterion. The USFWS published the National List of Plant Species That Occur In Wetlands (Lichvar, 2013), which separates vascular plants into the following four basic categories based on plant species frequency of occurrence in wetlands:

- **Obligate Wetland (OBL).** Occur almost always (estimated probability >99%) under natural conditions in wetlands.
- **Facultative Wetland (FACW).** Usually occur in wetlands (estimated probability 67%-99%), but occasionally found in non-wetlands.
- **Facultative (FAC).** Equally likely to occur in wetlands or non-wetlands (estimated probability 34%-66%).
- **Facultative Upland (FACU).** Usually occur in non-wetlands (estimated probability 67%-99%), but occasionally found in wetlands (estimated probability 1%-33%).
- **Obligate Upland (UPL).** May occur in wetlands in another region, but occur almost always (estimated probability >99%) under natural conditions in non-wetlands in the region specified.

The USACE considers OBL, FACW and FAC species to be indicators of wetlands. An area is considered to have hydrophytic vegetation when greater than 50 percent of the dominant species in each vegetative stratum (tree, shrub, and herb) fall within these categories. Any species not appearing on the USFWS list is assumed to be an upland species, almost never occurring in wetlands. In addition, an area needs to contain at least 5% vegetative cover to be considered as a vegetated wetland.

Hydric Soils

Hydric soils are saturated or inundated for a sufficient duration during the growing season to develop anaerobic or reducing conditions that favor the growth and regeneration of hydrophytic vegetation. Field indicators of wetland soils include observations of ponding, inundation, or saturation, dark (low chroma) soil colors, bright mottles (concentrations of oxidized minerals such as iron), gleying, which indicates reducing conditions by a blue-grey color, or accumulation of organic material. Additional supporting information includes documentation of soil as hydric or reference to wet conditions in the local soils survey, both of which must be verified in the field.

Wetland Hydrology

Wetland hydrology is inundation or soil saturation with a frequency and duration long enough to cause the development of hydric soils and plant communities dominated by hydrophytic vegetation. If direct observation of wetland hydrology is not possible (as in seasonal wetlands), or records of wetland hydrology are not available (such as stream gauges), assessment of wetland hydrology is frequently supported by field indicators, such as water marks, drift lines, sediment deposits, or drainage patterns in wetlands.

Appendix B

Vegetation Communities and Land Cover


Portola Dr
Canyon St
Canyon Del Rey Blvd
218
Wilson Dr
Wilson Way
Woodrat Midden
Fremont St
Fremont Blvd
Study Area
Vegetation Communities and Land Cover Types
Arroyo Willow
Coast Live Oak Woodland
Developed
Freshwater Emergent Wetland
Ice Plant Mat
Ruderal
Salt Grass
Woodrat Midden
0
50
100
Feet
Imagery provided by Microsoft Bing and its licensors © 2019.


Portola Dr
Canyon St
218
Arlington Pl
Argyle Way
Rosita Rd
Woodrat Midden
Ralston Dr
Study Area
Vegetation Communities and Land Cover Types
Arroyo Willow
Coast Live Oak Woodland
Developed
Freshwater Emergent Wetland
Ice Plant Mat
Landscaped
Riparian Woodland
Ruderal
Salt Grass
Canyon Del Rey Creek
Unnamed Ephemeral Drainage
Woodrat Midden
0 50 100
Feet
1
2
3
4
5
6
7
Imagery provided by Microsoft Bing and its licensors © 2019.


218
Work Ave
Canyon Del Rey Blvd
Arlington Pl
Avalon Pl
Altura Pl
Arbor Pl
Adair Pl
Angelus Way
VIA Verde
Dunlin Way
Study Area
Vegetation Communities and Land Cover Types
Developed
Ice Plant Mat
Landscaped
Riparian Woodland
Ruderal
Canyon Del Rey Creek
0
50
100
N
Feet
1
2
3
4
5
6
7
Imagery provided by Microsoft Bing and its licensors © 2019.


Work Ave
Canyon Del Rey Blvd
218
Carlton Dr
Angelus Way
Los Encinos Dr
VIA Verde
Durbin Way
Study Area
Vegetation Communities and Land Cover Types
Developed
Ice Plant Mat
Landscaped
Monterey Pine
Riparian Woodland
Canyon Del Rey Creek
0
50
100
Feet
N
1
2
3
4
5
6
7
Imagery provided by Microsoft Bing and its licensors © 2019.


Portola Dr
Saucito Ave
Yoo Pl
Glendale Ave
Loch Pl
Plumas Ave
Sandmat Manzanita
Carlton Dr
Study Area
Vegetation Communities and Land Cover Types
Developed
Ice Plant Mat
Landscaped
Sandmat Manzanita
0
50
100
Feet
1
2
3
4
5
6
7
Imagery provided by Microsoft Bing and its licensors © 2019.


Siler Ln
Plumas Ln
Highland St
Plumas Ave
Sandmat Manzanita
Carlton Dr
Carlton Pl
Yoo Pl
Loch Pl
Quendale Ave
Sausito Ave
Study Area
Vegetation Communities and Land Cover Types
Developed
Ice Plant Mat
Landscaped
Sandmat Manzanita
0 50 100 N
Feet
Imagery provided by Microsoft Bing and its licensors © 2019.


Boles Ct
Noche Buena St
Waring St
Plumas Ave
Wallace Pl
Setter Pl
Baxter Pl
Hillcrest Pl
Brae Pl
Yoe Pl
Portola Dr
Quendale Ave
Study Area
Vegetation Communities and Land Cover Types
Developed
Landscaped
0
50
100
Feet
N
1
2
3
4
5
6
7
Imagery provided by Microsoft Bing and its licensors © 2019.

Appendix C

Representative Photographs

Photograph 1. Work Memorial Park wetland and unpaved access roadway through area. Photograph taken facing south.

Photograph 2. Work Memorial Park wetland and unpaved access roadway through area. Photograph taken facing east.

Photograph 3. Freshwater emergent wetland with low-flow channel dominated by bulrush. Photograph taken facing north.

Photograph 4. Standing water within the freshwater emergent wetland in proximity of Sample Point 1.

Photograph 5. Freshwater emergent wetland in foreground and along the slope where Sample Point 2 was collected. Photograph taken facing north.

Photograph 6. Sample Point 3 location outside the boundary of the freshwater emergent wetland. Photograph taken facing east.

Photograph 7. Freshwater emergent wetland with low-flow channel. Photograph taken facing east.

Photograph 8. Unnamed ephemeral drainage northwest of the Garden Center wall with in-channel cattails and Pampas grass. Photograph taken facing west.

Photograph 9. Adjacent riparian vegetation to Canyon Del Rey Creek at the intersection of Rosita Road and Angelus Way. Photograph taken facing west.

Photograph 10. Canyon Del Rey Creek adjacent to Angelus Way with vegetated banks and bridge crossings. Photograph taken facing southwest.

Photograph 11. Densely vegetated banks, predominately horsetail, of Canyon Del Rey Creek adjacent to Del Ray Park. Photograph taken facing west.

Photograph 12. Riparian vegetation adjacent to SR 218. Photograph taken facing south.

Appendix D

Data Summary

Table D-1 Observed Plant List

Scientific Name	Common Name	Wetland Indicator Status (WMVC)
Acmispon glaber	deerweed	NL (UPL)
Adenostoma fasciculatum	chamise	NL (UPL)
Agrostis capillaris	Colonial bentgrass	FAC
Alnus rhombifolia	white alder	FACW
Amsinckia sp.	Fiddleneck	NL (UPL)
Arctostaphylos tomentosa	woolly leaf manzanita	NL (UPL)
Artemisia californica	California sagebrush	NL (UPL)
Baccharis pilularis	coyote brush	NL (UPL)
Bellis perennis	English daisy	NL (UPL)
Brassica sp.	field mustard	UPL
Carpobrotus edulis	Iceplant	NL (UPL)
Carex tumulicola	split awn sedge	FACU
Cercis occidentalis	Western redbud	NL (UPL)
Cirsium vulgare	bull thistle	FACU
Cornus sericea	American dogwood	FACW
Cortaderia selloana	pampus grass	FACU
Cotula coronopifolia	brass buttons	OBL
Cyperus eragrostis	tall cyperus	FACW
Delairea odorata	cape ivy	NL(UPL)
Desmazeria rigida	Ferngrass	NL
Digitaria sanguinalis	Hairy crabgrass	FACU
Distichlis spicata	salt grass	FAC
Dryopteris arguta	wood fern	NL (UPL)
Equisetum arvense	Common horsetail	FAC
Eucalyptus globulus	Blue gum eucalyptus	NL (UPL)
Genista monspessulana	French broom	NL (UPL)
Hedera helix	English ivy	FACU
Hesperocyparis macrocarpa	Monterey cypress	NL (UPL)
Heterotheca grandiflora	telegraph weed	NL (UPL)
Hydrocotyle ranunculoides	pennywort	OBL
Juniper spp.	Juniper	NL (UPL)
Lantana ssp.	Lantana	NL (UPL)

Scientific Name	Common Name	Wetland Indicator Status (WMVC)
Lemna minor	common duckweed	OBL
Liquidambar styraciflua	American sweetgum	FAC
Lotus corniculatus	Bird's foot trefoil	FAC
Lythrum hyssopifolia	loosestrife	OBL
Malva parviflora	cheeseweed	NL (UPL)
Nerium oleander	Oleander	NL (UPL)
Quercus agrifolia	coast live oak	NL (UPL)
Pennisetum clandestinum	kikuyu grass	FACU
Persicaria amphibia	water smartweed	OBL
Pholistoma auritum	purple fiestaflower	NL (UPL)
Pinus radiata	Monterey pine	NL (UP)
Platanus racemose	California sycamore	FAC
Polypogon monspeliensis	rabbitsfoot grass	FACW
Populus trichocarpa	Black cottonwood	FAC
Raphanus raphanistrum	wild radish	NL (UPL)
Rubus armeniacus	Himalayan blackberry	FAC
Rumex acetosella	Sheep sorrel	FACU
Salix lasiolepis	arroyo willow	FACW
Salvia mellifera	black sage	NL (UPL)
Schoenoplectus americanus	Chairmaker's bulrush	OBL
Sequoia sempervirens	coast redwood	NL (UPL)
Toxicodendron diversilobum	poison oak	FACU
Tropaeolum majus	garden nasturtium	UPL
Typha latifolia	broadleaf cattail	OBL
Urtica dioica	stinging nettle	FAC

*Wetland Indicator Status WMVC refers to the indicator status given in the current National Wetland Plant List for the Western Mountain, Valley and Coast Region:

OBL = occurs in aquatic resources > 99% of time

FACW = occurs in aquatic resources 67-99% of time

FAC = occurs in aquatic resources 34-66% of time

FACU = occurs in aquatic resources 1-33% of time

UPL = occurs in uplands > 99% of time

NL = indicator status not known in this region

Table D-2 USACE Jurisdictional Features: Data Summary

Aquatic Resource	Area	Cowardin Class	Wetland Indicator Summary	Latitude	Longitude
Freshwater Emergent Wetland	0.25 acres	Palustrine Emergent Wetland (PEM)	Wetland. ▪ Hydrophytic vegetation, primarily bulrush and cattail. ▪ Hydric Soils (F2, F3) ▪ Hydrology (A3, B7)	36.596186	-121.847957
Canyon Del Rey Creek (CDRC-1)	0.07 acres 640 linear feet	Riverine (R3) Unconsolidated bottom, Upper Perennial	Non-Wetland. This perennial features lacks indicators of wetland vegetation and was mapped based on indicators of the OHWM.	36.594398	-121.843020
Canyon Del Rey Creek (CDRC-2)	0.05 acres 451 linear feet	Riverine (R3) Unconsolidated bottom, Upper Perennial	Non-Wetland. This perennial features lacks indicators of wetland vegetation and was mapped based on indicators of the OHWM.	36.594581	-121.841226
Canyon Del Rey Creek (CDRC-3)	0.11 acres 1230 linear feet	Riverine (R3) Unconsolidated bottom, Upper Perennial	Non-Wetland. This perennial features lacks indicators of wetland vegetation and was mapped based on indicators of the OHWM.	36.593539	-121.837992

Wetland Determination Data Points

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: FORTAG - Work Memorial Park City/County: City of Del Rey Oaks Sampling Date: 8/12/2019
Applicant/Owner: City of Del Rey Oaks State: CA Sampling Point: SP-1
Investigator(s): Carolynn Daman Section, Township, Range: S27, T15S, R01E
Landform (hillslope, terrace, etc.): Basin Local relief (concave, convex, none): Concave Slope (%): 0
Subregion (LRR): C Lat: 36.596350 Long: -121.848202 Datum: WGS83
Soil Map Unit Name: Rindge muck, 0 to 2 percent slopes, MLRA 14 NWI classification: PEM1Ch
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No ____ (If no, explain in Remarks.)
Are Vegetation ✓, Soil ✓, or Hydrology ✓ significantly disturbed? Are "Normal Circumstances" present? Yes ____ No ✓
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes ✓ No ____	**Is the Sampled Area within a Wetland?** Yes ✓ No ____
Hydric Soil Present?	Yes ✓ No ____	
Wetland Hydrology Present?	Yes ✓ No ____	

Remarks:
Low elevation areas adjacent to a access roadway that creates a berm for water to flow towards the Canyon Del Rey Creek to the southwest. Site used to be golf range and routinely maintenance. Appears to be a drainage basin during rain events with pipe culverts adjacent to SR218 into area and from adjacent tennis courts.

VEGETATION – Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
	____ = Total Cover		
Sapling/Shrub Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
5.			
	____ = Total Cover		
Herb Stratum (Plot size: 5-feet radius)			
1. Typha latifolia	5		OBL
2. Lemna minor	15		OBL
3. Schoenoplectus americanus	30	Yes	OBL
4. Distichlis spicata	60	Yes	FAC
5. Lotus corniculatus	2		FAC
6. Agrostis capillaris	2		FAC
7.			
8.			
	114 = Total Cover		
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
	____ = Total Cover		

% Bare Ground in Herb Stratum 0 % Cover of Biotic Crust 0

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)
Total Number of Dominant Species Across All Strata: 2 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 2/2 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species ____	x 1 = ____
FACW species ____	x 2 = ____
FAC species ____	x 3 = ____
FACU species ____	x 4 = ____
UPL species ____	x 5 = ____
Column Totals: ____ (A)	____ (B)

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:
✓ Dominance Test is >50%
___ Prevalence Index is ≤3.0[1]
___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No ____

Remarks:
Bulrush dominate mixed with salt grass and duckweed in standing water adjacent to point. No bare ground observed, over growth of vegetation.

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SOIL

Sampling Point: SP-1

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0-4	10yR 3/2	100					loamy sani	very saturated
4-10	2.5 Y 4/1	98	7.5 YR 4/2	2	CS	M	loamy sani	very saturated

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

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

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ✓ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if present):

Type: cobble

Depth (inches): 4

Hydric Soil Present? Yes ✓ No ___

Remarks:

Roots observed within top four inches, cobble sized rocks observed at 3 inches depth. Very moist soils, gritty sand within soil. Had to allow soil to dry before investigating for redox.

HYDROLOGY

Wetland Hydrology Indicators:

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

- ✓ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ✓ No ___ Depth (inches): 2 inches

Water Table Present? Yes ___ No ✓ Depth (inches): ___

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

Wetland Hydrology Present? Yes ✓ No ___

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

Remarks:

Surface water present within one foot of point approximately 2 inches depth. Water flowing in eastern direction slowly where 100% of bull rush observed.

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WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: FORTAG - Work Memorial Park City/County: City of Del Rey Oaks Sampling Date: 8/12/2019
Applicant/Owner: City of Del Rey Oaks State: CA Sampling Point: SP-2
Investigator(s): Carolynn Daman Section, Township, Range: S27, T15S, R01E
Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): none Slope (%): 10
Subregion (LRR): C Lat: 36.596383 Long: -121.848095 Datum: WGS83
Soil Map Unit Name: Rindge muck, 0 to 2 percent slopes, MLRA 14 NWI classification: PEM1Ch
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No ____ (If no, explain in Remarks.)
Are Vegetation ✓, Soil ✓, or Hydrology ✓ significantly disturbed? Are "Normal Circumstances" present? Yes ____ No ✓
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes ✓ No ____
Hydric Soil Present? Yes ✓ No ____
Wetland Hydrology Present? Yes ✓ No ____

Is the Sampled Area within a Wetland? Yes ✓ No ____

Remarks:
Low elevation areas adjacent to a access roadway that creates a berm for water to flow towards the Canyon Del Rey Creek to the southwest. Site used to be golf range and routinely maintenance. Appears to be a drainage basin during rain events with pipe culverts adjacent to SR218 into area and from adjacent tennis courts.

VEGETATION – Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
Herb Stratum (Plot size: 5-feet radius)			
1. Distichlis spicata	90	Yes	FAC
2. Schoenoplectus americanus	5		OBL
3. Desmanzeria rigida	10		UPL
4.			
5.			
6.			
7.			
8.			
	105 = Total Cover		
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
	= Total Cover		

% Bare Ground in Herb Stratum 0 % Cover of Biotic Crust 0

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)
Total Number of Dominant Species Across All Strata: 1 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 1/1 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species ____	x 1 = ____
FACW species ____	x 2 = ____
FAC species ____	x 3 = ____
FACU species ____	x 4 = ____
UPL species ____	x 5 = ____
Column Totals: ____ (A)	____ (B)

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:
✓ Dominance Test is >50%
___ Prevalence Index is ≤3.0[1]
___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No ____

Remarks:
Transition of salt grass dominate with some bulrush. No bare ground observed, over growth of vegetation.

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SOIL

Sampling Point: SP-2

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4	10yR 3/1	100					loamy sand	
4-12	2.5 -N	90	5YR 4/6	5	C	M	loamy sand	
			5PB	5	D	PL	loamy sand	

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

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

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ✓ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if present):

Type: cobble

Depth (inches): 4

Hydric Soil Present? Yes ✓ No ___

Remarks:

Roots observed within top four inches, cobble sized rocks observed within top 12 inches. Gley soils found within soil with dark patches of soil and redox.

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ✓ Hydrogen Sulfide Odor (C1)
- ✓ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ✓ No ___ Depth (inches): 2 inches

Water Table Present? Yes ___ No ✓ Depth (inches): ___

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

Wetland Hydrology Present? Yes ✓ No ___

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

Remarks:

Surface water present within 3 foot of point approximately 2 inches depth. Water flowing in eastern direction slowly where 100% of bulrush observed. Strong hydrogen sulfide odor during excavation and redox along living roots of saltgrass.

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WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: FORTAG - Work Memorial Park City/County: City of Del Rey Oaks Sampling Date: 8/12/2019
Applicant/Owner: City of Del Rey Oaks State: CA Sampling Point: SP-3
Investigator(s): Carolynn Daman Section, Township, Range: S27, T15S, R01E
Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): none Slope (%): 20
Subregion (LRR): C Lat: 36.596437 Long: -121.847920 Datum: WGS83
Soil Map Unit Name: Rindge muck, 0 to 2 percent slopes, MLRA 14 NWI classification: PEM1Ch
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No ____ (If no, explain in Remarks.)
Are Vegetation ✓, Soil ✓, or Hydrology ✓ significantly disturbed? Are "Normal Circumstances" present? Yes ____ No ✓
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes ____ No ✓	**Is the Sampled Area within a Wetland?** Yes ____ No ✓
Hydric Soil Present?	Yes ____ No ✓	
Wetland Hydrology Present?	Yes ____ No ✓	

Remarks:
Low elevation areas adjacent to a access roadway that creates a berm for water to flow towards the Canyon Del Rey Creek to the southwest. Site used to be golf range and routinely maintenance. Appears to be a drainage basin during rain events with pipe culverts adjacent to SR218 into area and from adjacent tennis courts.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 10 foot radius)	Absolute % Cover	Dominant Species?	Indicator Status
1. Pinus radiata	5	Y	UPL
2.			
3.			
4.			
	5 = Total Cover		
Sapling/Shrub Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
5.			
	____ = Total Cover		
Herb Stratum (Plot size: 5-feet radius)			
1. Distichlis spicata	80	Y	FAC
2. Lotus corniculatus	20		FAC
3. Cirsium vulgare	2		FACU
4.			
5.			
6.			
7.			
8.			
	102 = Total Cover		
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
	____ = Total Cover		

% Bare Ground in Herb Stratum 0 % Cover of Biotic Crust 0

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)
Total Number of Dominant Species Across All Strata: 2 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: .50 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species ____	x 1 = ____
FACW species ____	x 2 = ____
FAC species ____	x 3 = ____
FACU species ____	x 4 = ____
UPL species ____	x 5 = ____
Column Totals: ____ (A)	____ (B)

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:
___ Dominance Test is >50%
___ Prevalence Index is ≤3.0[1]
___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ____ No ✓

Remarks:
Transition of salt grass with no obligate species on a steep grade with woodland habtiat over story. No bare ground observed, over growth of vegetation.

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SOIL

Sampling Point: SP-3

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-10	7.5 Y 3/3	100					sandy loar	

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

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

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ✓

Remarks:

Soil rocky and very hard with no redox observed.

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

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

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

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

Wetland Hydrology Present? Yes _____ No ✓

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

Remarks:

No hydrology indicators observed.

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Ordinary High Water Mark Data Forms

OHWM Delineation Cover Sheet Page 1 of ___

Project: Fortag **Date:** August 12, 2019

Location: Work Memorial Park / Del Rey Park **Investigator(s):** Carolynn Daman

Project Description:
A perennial creek with riparian vegetation on the western side of the project and less dense riparian vegetation adjacent to development with more non-native vegetation (ornamental). Water flowing in a western direction.

Describe the river or stream's condition (disturbances, in-stream structures, etc.):
Uniform bank slopes that look to be maintained adjacent to Del Rey Park, bridges over channel w/ footing or culverts w/in channel near Angelus Way.

Off-site Information

Remotely sensed image(s) acquired? ☐ **Yes** ☒ **No** [If yes, attach image(s) to datasheet(s) and indicate approx. locations of transects, OHWM, and any other features of interest on the image(s); describe below] Description:

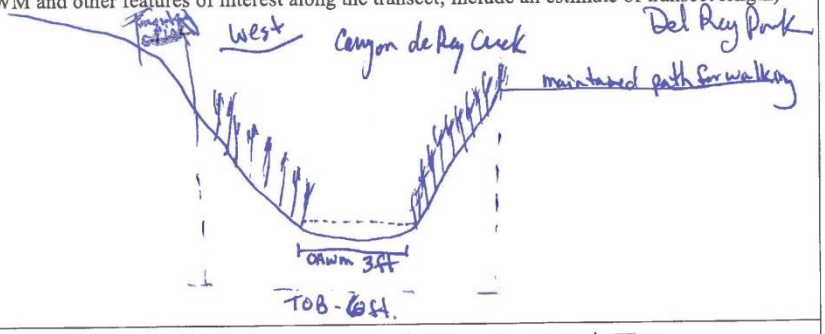
Hydrologic/hydraulic information acquired? ☐ **Yes** ☒ **No** [If yes, attach information to datasheet(s) and describe below.] Description:

List and describe any other supporting information received/acquired:

Instructions: Complete one cover sheet and one or more datasheets for each project site. Each datasheet should capture the dominant characteristics of the OHWM along some length of a given stream. Complete enough datasheets to adequately document up- and/or downstream variability in OHWM indicators, stream conditions, etc. Transect locations can be marked on a recent aerial image or their GPS coordinates noted on the datasheet.

Datasheet # 1 **OHWM Delineation Datasheet** Page 2 of 3

Transect (cross-section) drawing: (choose a location that is representative of the dominant stream characteristics over some distance; label the OHWM and other features of interest along the transect; include an estimate of transect length)



Break in Slope at OHWM: ☒ Sharp (> 60°) | ☐ Moderate (30–60°) | ☐ Gentle (< 30°) | ☐ None

Notes/Description:
Very steep slopes with occational rockslope or imported soils.

Sediment Texture: Estimate percentages to describe the general sediment texture above and below the OHWM

	Clay/Silt <0.05mm	Sand 0.05 – 2mm	Gravel 2mm – 1cm	Cobbles 1 – 10cm	Boulders >10cm	Developed Soil Horizons (Y/N)
Above OHWM	X			X	X	
Below OHWM		X				

Notes/Description:
Banks contain boulders, cobbles and silt. Below w/in channel difficult to see but sandy substrate @ edge of waterline so assumed similar to channel bed.

Vegetation: Estimate absolute percent cover to describe general vegetation characteristics above and below the OHWM

	Tree (%)	Shrub (%)	Herb (%)	Bare (%)
Above OHWM	10	Ø	85	5
Below OHWM	Ø	Ø	5	

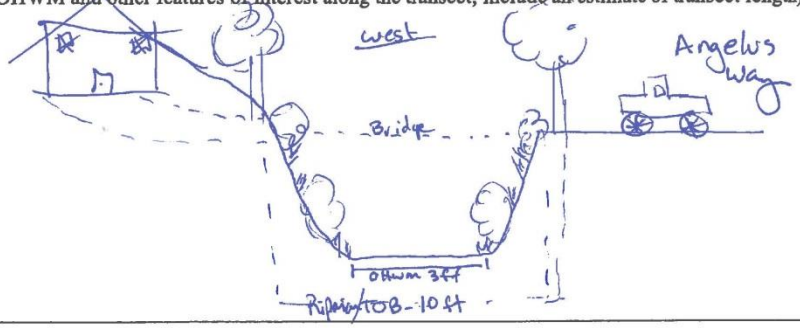
Notes/Description:
Banslopes heavily vegetated w/ horsetail and vines with redwoods and other trees @ top of bank. Occational in channel vegetation of horsetail ~~on~~ near edge of ohwm.

Other Evidence: List/describe any additional field evidence and/or lines of reasoning used to support your delineation

Channel banks appear to be regularly maintained w/ uniform vegetation especially on the northern bank adjacent to existing walking path. Water observed w/in channel with layer of algae on top.

Datasheet # 2 **OHWM Delineation Datasheet** Page 3 of 3

Transect (cross-section) drawing: (choose a location that is representative of the dominant stream characteristics over some distance; label the OHWM and other features of interest along the transect; include an estimate of transect length)



Break in Slope at OHWM: ☒ Sharp (> 60°) | ☐ Moderate (30–60°) | ☐ Gentle (< 30°) | ☐ None

Notes/Description:
Very steep slope with roadway on north side.

Sediment Texture: Estimate percentages to describe the general sediment texture above and below the OHWM

	Clay/Silt <0.05mm	Sand 0.05 – 2mm	Gravel 2mm – 1cm	Cobbles 1 – 10cm	Boulders >10cm	Developed Soil Horizons (Y/N)
Above OHWM	X	X		X		
Below OHWM		X		X		

Notes/Description:
Cobbles observed to be imported for bank stabilization on southern bank near houses. Cobbles w/ sand substrate observed on bed of channel.

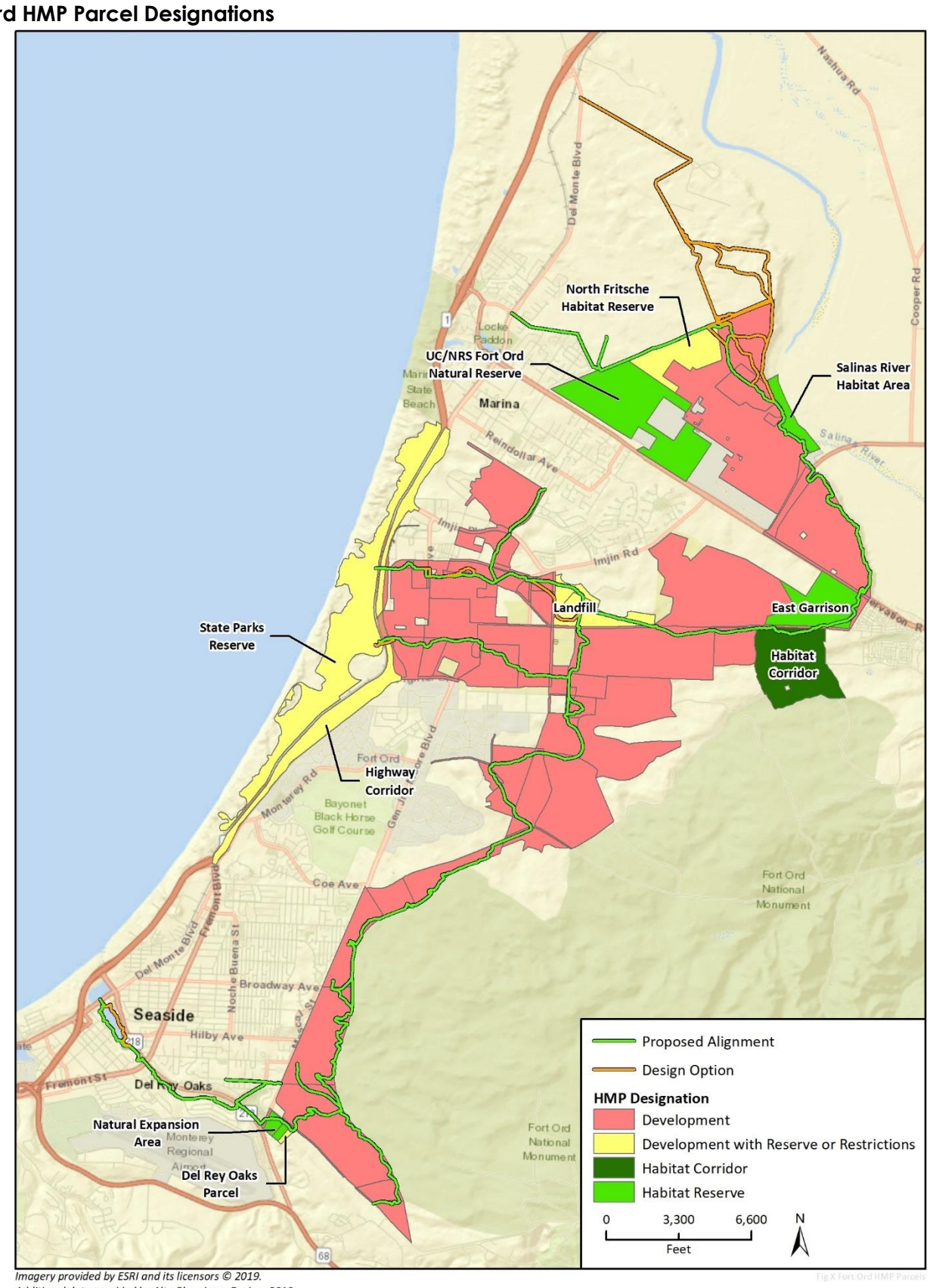
Vegetation: Estimate absolute percent cover to describe general vegetation characteristics above and below the OHWM

	Tree (%)	Shrub (%)	Herb (%)	Bare (%)
Above OHWM	10	20	70	Ø
Below OHWM	Ø	Ø	5	Ø

Notes/Description:
Slope densly vegetated w/ ornamental or planted vegetation. Riparian habitat of willows & oaks & alder with understory of cape ivy, dogwood & blackberry. Grasses observed at top of bank.

Other Evidence: List/describe any additional field evidence and/or lines of reasoning used to support your delineation
Channel is extremely restricted by development with roadway on north side and houses on south side. Banks appear to be maintained and invasive and ornamental vegetation integration observed. Water observed flowing in a western direction with algae layer in areas.

Figure 9 Fort Ord HMP Parcel Designations



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Additional data provided by Alta Planning + Design, 2019.

Appendix B

Regulatory Setting

Regulatory Setting

Special-status habitats are vegetation types, associations, or sub-associations that support concentrations of special-status plant or animal species, are of relatively limited distribution, or are of particular value to wildlife.

Listed species are those taxa that are formally listed as endangered or threatened by the federal government (e.g., U.S. Fish and Wildlife Service [USFWS]), pursuant to the FESA or as endangered, threatened, or rare (for plants only) by the State of California (i.e., California Fish and Game Commission), pursuant to the California Endangered Species Act or the California Native Plant Protection Act. Some species are considered rare (but not formally listed) by resource agencies, organizations with biological interests/expertise (e.g., Audubon Society, CNPS, The Wildlife Society), and the scientific community.

The following is a brief summary of the regulatory context under which biological resources are managed at the federal, state, and local levels. A number of federal and state statutes provide a regulatory structure that guides the protection of biological resources. Agencies with the responsibility for protection of biological resources within the project site include:

- U.S. Army Corps of Engineers (wetlands and other waters of the United States);
- Central Coast Regional Water Quality Control Board (waters of the State);
- U.S. Fish and Wildlife Service (federally listed species and migratory birds);
- California Department Fish and Wildlife (riparian areas, streambeds, and lakes; state-listed species; Species of Special Concern; nesting birds);
- The California Coastal Commission
- The County of Monterey
- The City of Monterey
- The City of Del Rey Oaks
- The City of Seaside
- The City of Marina
- California State University Monterey Bay

U.S. Army Corps of Engineers

Under Section 404 of the Clean Water Act, the U.S. Army Corps of Engineers (USACE) has authority to regulate activities that could discharge fill of material into wetlands or other “waters of the United States.” Perennial and intermittent creeks are considered waters of the United States if they are hydrologically connected to other jurisdictional waters (typically a navigable water). The USACE also implements the federal policy embodied in Executive Order 11990, which is intended to result in no net loss of wetland value or acres. In achieving the goals of the Clean Water Act, the USACE seeks to avoid adverse impacts and offset unavoidable adverse impacts on existing aquatic resources. Any fill of wetlands that are hydrologically connected to jurisdictional waters would require a permit from the USACE prior to the start of work. Typically, when a project involves impacts to waters of the United States, the goal of no net loss of wetland acres or values is met

through avoidance and minimization to the extent practicable, followed by compensatory mitigation involving creation or enhancement of similar habitats.

Regional Water Quality Control Board

The State Water Resources Control Board (SWRCB) and the local Regional Water Quality Control Board (RWQCB) have jurisdiction over "waters of the State," pursuant to the Porter-Cologne Water Quality Control Act, which are defined as any surface water or groundwater, including saline waters, within the boundaries of the State. The SWRCB has issued general Waste Discharge Requirements (WDRs) regarding discharges to "isolated" waters of the State (Water Quality Order No. 2004-0004-DWQ, Statewide General Waste Discharge Requirements for Dredged or Fill Discharges to Waters Deemed by the U.S. Army Corps of Engineers to be Outside of Federal Jurisdiction). The RWQCB administers actions under this general order for isolated waters not subject to federal jurisdiction, and is also responsible for the issuance of water quality certifications pursuant to Section 401 of the Clean Water Act for waters subject to federal jurisdiction.

United States Fish and Wildlife Service

The USFWS implements the Migratory Bird Treaty Act (16 United States Code [USC] Section 703-711) and the Bald and Golden Eagle Protection Act (16 USC Section 668). The USFWS and National Marine Fisheries Service (NMFS) share responsibility for implementing the Federal Endangered Species Act (FESA) (16 USC § 153 et seq.). Generally, the USFWS implements the FESA for terrestrial and freshwater species, while the NMFS implements the FESA for marine and anadramous species. Projects that would result in "take" of any federally threatened or endangered species are required to obtain permits from the USFWS or NMFS through either Section 7 (interagency consultation with a federal nexus) or Section 10 (Habitat Conservation Plan) of the FESA, depending on the involvement by the federal government in permitting and/or funding of the project. The permitting process is used to determine if a project would jeopardize the continued existence of a listed species and what measures would be required to avoid jeopardizing the species. "Take" under federal definition means to harass, harm (which includes habitat modification), pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct. Proposed or candidate species do not have the full protection of the FESA; however, the USFWS and NMFS advise project applicants that they could be elevated to listed status at any time.

California Department of Fish and Wildlife

The California Department of Fish and Wildlife (CDFW) derives its authority from the Fish and Game Code of California. The California Endangered Species Act (CESA) (Fish and Game Code Section 2050 et. seq.) prohibits take of state listed threatened or endangered. Take under CESA is restricted to direct mortality of a listed species and the law does not prohibit indirect harm by way of habitat modification. Where incidental take would occur during construction or other lawful activities, CESA allows the CDFW to issue an Incidental Take Permit upon finding, among other requirements, that impacts to the species have been minimized and fully mitigated.

The CDFW also enforces Sections 3511, 4700, 5050, and 5515 of the Fish and Game Code, which prohibits take of species designated as Fully Protected. The CDFW is not allowed to issue an Incidental Take Permit for Fully Protected species; therefore, impacts to these species must be avoided.

California Fish and Game Code sections 3503, 3503.5, and 3513 describe unlawful take, possession, or destruction of native birds, nests, and eggs. Section 3503.5 of the Code protects all birds-of-prey

and their eggs and nests against take, possession, or destruction of nests or eggs. Section 3513 makes it a state-level office to take any bird in violation of the federal Migratory Bird Treaty Act. CDFW administers these requirements.

Species of Special Concern (SSC) is a category used by the CDFW for those species which are considered to be indicators of regional habitat changes or are considered to be potential future protected species. Species of Special Concern do not have any special legal status except that which may be afforded by the Fish and Game Code as noted above. The SSC category is intended by the CDFW for use as a management tool to include these species in special consideration when decisions are made concerning the development of natural lands. The CDFW also has authority to administer the Native Plant Protection Act (NPPA) (Fish and Game Code Section 1900 et seq.). The NPPA requires the CDFW to establish criteria for determining if a species, subspecies, or variety of native plant is endangered or rare. Effective in 2015, CDFW promulgated regulations (14 CCR 786.9) under the authority of the NPPA, establishing that the CESA's permitting procedures would be applied to plants listed under the NPPA as "Rare." With this change, there is little practical difference for the regulated public between plants listed under CESA and those listed under the NPPA.

Perennial, intermittent, and ephemeral streams and associated riparian vegetation, when present, also fall under the jurisdiction of the CDFW. Section 1600 *et seq*. of the Fish and Game Code (Lake and Streambed Alteration Agreements) gives the CDFW regulatory authority over activities that divert, obstruct, or alter the channel, bed, or bank of any river, stream or lake.

1997 Fort Ord Reuse Authority (FORA) Base Reuse Plan

The Fort Ord Reuse Authority (FORA) adopted the *Fort Ord Base Reuse Plan* (BRP) in June 1997, and a revised version of the BRP was published in digital format in September 2001, incorporating various corrections and errata. The main objectives related to biological resources that are outlined in the BRP for the City of Seaside are: to preserve and protect the sensitive species and habitats addressed in the HMP; preserve and protect the sensitive species and habitats that are not addressed in the HMP; avoid or minimize disturbance to natural land features and habitats through project design; promote awareness and education concerning the biological resources on the former Fort Ord; and develop strategies for interim management of undeveloped natural land areas.

Conservation goals, policies, and programs are defined in the BRP to accomplish these objectives. Some of the main policies outlined for the City of Seaside are as follows. Policy A-4 requires the City to encourage the preservation of small pockets of habitat and populations of HMP species within and around developed areas. Policy B-1 requires that the City strive to avoid or minimize loss of any sensitive species occurring in areas planned for development. Policy B-3 requires the City to preserve, enhance and protect wetland areas. Policy C-2 requires the City to encourage the preservation and enhancement of oak woodland elements in the natural and built environments. Policy D-2 requires the City to encourage and participate in the preparation of educational materials through various media sources which describe the biological resources on the former Fort Ord. Policy E-1 requires that the City develop a plan describing how it intends to address the interim management of natural land areas for which the City is designated as the responsible party.

Fort Ord Habitat Management Plan and Habitat Conservation Plan

The Fort Ord Habitat Management Plan (HMP) was published by the USACE in 1997 in compliance with the USFWS final Biological Opinion for disposal and reuse of former Fort Ord lands. The HMP establishes guidelines for the conservation and management of plant and wildlife species and their

habitat that occur on former Fort Ord lands. The HMP promotes preservation, enhancement, and restoration of habitat and populations of HMP covered species while allowing development on selected properties that promotes economic recovery after closure of the fort.

The Fort Ord Habitat Conservation Plan (HCP) is currently being prepared by the Fort Ord Reuse Authority and is independent of the Fort Ord HMP. The HCP provides the framework for ensuring conservation of State and federally listed plant and animal species (HCP species) and the natural communities that support them on former Fort Ord. The HCP incorporates all relevant information from the HMP, and would supersede it as the primary conservation planning document for listed species and non-federal recipients of Fort Ord lands; however, the HCP has not yet been adopted. To date, USFWS has generally accepted adherence to the HMP conditions as sufficient to avoid and mitigate impacts to federally listed plant species within designated development areas of the FORA. CDFW has generally accepted adherence to the HMP conditions as sufficient to avoid and mitigate impacts to non-listed sensitive species within designated development areas of the FORA. However, these are project-specific determinations, and impacts to federally or state listed wildlife generally requires individual take authorization from one or both agencies.

Local Jurisdiction

2010 Monterey County General Plan

The conservation and Open Space Element of the County General Plan contains Goal OS-5, which aims to "conserve listed species, critical habitat, habitat and species protected in area plans; avoid, minimize and mitigate significant impacts to biological resources." This is supported by policies such as Policy OS-5.3 which states "development shall be carefully planned to provide for the conservation and maintenance of critical habitat." Additionally, Policy OS-5.4 states that "development shall avoid, minimize, and mitigate impacts to listed species and critical habitat to the extent feasible." Policy CVS-5.1 prohibits development from encroaching on the main channels of the Salinas River and Policy CVS-5.2 requires that new recreational uses avoid encroaching on the main channel of the Salinas River in order to preserve riparian habitats.

Monterey County Municipal Code

Section 21.64.260 of Monterey County's municipal code provides for the preservation of oaks and other protected trees. This code requires a permit from the County for the removal of trees in unincorporated areas designated as resource conservation, residential, commercial or industrial. It also prohibits the removal of landmark trees, unless approved by the Director of Planning.

City of Marina General Plan

The City of Marina General Plan (GP) includes policies to provide "Habitat Reserves and Other Open Space for the protection of important habitat areas, scenic areas, and other areas of natural open space." Under the GP areas designated as "Habitat Reserve and Other Open Space" will be permanently maintained to "protect significant plants and wildlife inhabiting these areas." These areas include:

1. Riparian habitats and vegetation along the Salinas River,
2. Coastal Strand and Dunes,
3. 1,160 acres of maritime chaparral, coastal scrub, and coast live oak woodland designated for protection within the University of California Natural Reserve System, a 124 acre reserve

site and adjacent land on Armstrong Ranch, 160 acres within the East Garrison Reserve, a 227 acre reserve south of Imjin Road, and a 50 acre reserve located along the east side of Highway 1 near the planned extension of Del Monte Boulevard.

4. Wetlands, including habitat at the Armstrong Ranch to preserve vernal pools. The GP also requires a biological field survey to determine if additional vernal ponds exist prior to development on the Armstrong Ranch. If vernal pools are present, development must preserve vernal pools or provide either for the replacement of habitat. Several ponds in the developed areas of the City are also protected as open space.

City of Marina Municipal Code

The City of Marina Municipal Code Chapter 17.51 (Tree Removal, Preservation and Protection) requires a tree removal permit for the removal of any tree within the city with a single stem six inches or more in diameter at breast height (DBH), or a multistemmed plant having an aggregate diameter of ten inches or more DBH, and any living woody plant which was planted as part of an approved compensation plan or landscaping plan. Conditions imposed on the removal may include, but would not be limited to, one or more of the following:

1) Preparation of a tree removal and protection plan, including tree protection guidelines.
2) A compensation plan requiring the replacement or placement of additional trees on the property and/or the payment to the city to fund the purchase, planting, and maintenance of off-site replacement trees.
3) Preparation of a site restoration plan requiring restoration of ground surface area in the vicinity of tree removals.

Additionally, Section 17.51.070 provides for the protection of Landmark trees and landmark tree stands. Landmark trees and landmark tree stands are defined by the City as;

1) Prominently visible from public streets, public parking areas, parks or open space, from a minimum distance of one hundred feet;
2) Indicate at least a seventy percent chance of surviving more than ten years, and be able to be maintained without excessive threat to the public health, safety and welfare.

Landmark trees and landmark tree stands must also meet one of the following criteria:

1) Possesses special beauty, or horticultural or historic interest;
2) Is of such substantial size or prominence that it has significant visibility from city streets, parks or open space;
3) Is of such substantial size that it makes a significant contribution to the forested skyline of the city;
4) Is a rare or unusual species for this area;
5) Is a particularly outstanding representative of the species.

Applications for the removal of landmark trees and landmark tree stands must be reviewed and approved by the City Planning Commission and tree committee

2004 Seaside General Plan

The Conservation/Open Space Element of the Seaside 2004 General Plan includes policies addressing protection of sensitive biological resources. The Goal of COS-4 is to "preserve and protect the sensitive habitats and species within the community." Policy COS-4.1 is to "Preserve ecological and biological resources by maintaining these resources as open space." Implementation Plan COS-4.1.1 is to "Require Proper Analysis and Mitigation of Biological Resources. Use proper land use planning and environmental review to minimize the impact of urban development on sensitive ecological and biological resources. Where feasible, require open space easements and/or buffers to avoid impacts to sensitive biological resources. Where on-site preservation is not feasible, require habitat replacement at locations and ratios acceptable to the State and Federal agencies with jurisdiction over the project."

Policy COS-4.2 is to "Protect and enhance the creeks, lakes, and adjacent wetlands for their value in providing visual amenity, habitat for wildlife, and recreational opportunities."

Policy COS-4.3 is to "Encourage the preservation and enhancement of oak woodland elements in the natural and built environments." Implementation Plan COS-4.3.1 requires "project developers to retain coast live oak trees within the planning area, including oaks within new development areas. All coast live oak trees should be surveyed prior to construction to determine if any raptor nests are present and active. If active nests are observed, the construction should be postponed until the end of the fledgling."

Draft Seaside 2040

The goals, policies, and implementation actions of *Draft Seaside 2040* support growth and redevelopment, which includes areas within the jurisdiction of the City's LCP; as well as on undeveloped former Fort Ord lands. New development under *Draft Seaside 2040* on former Fort Ord lands would incorporate open space corridors with Trails that support natural vegetation communities, and sensitive habitats.

Draft Seaside 2040 includes "Goal POC-8: Sensitive species and habitat protected on former Fort Ord lands. The Fort Ord HMP and HCP provide frameworks to conserve and manage special status species, animal communities, and habitat areas on former Fort Ord lands. This goal aims to implement those plans locally, identifying and managing habitat areas and species." *Draft Seaside 2040* includes "Goal POC-9: New development supports the preservation or enhancement of the City's natural resources." One of the implementing Policies for POC-9 states "Clustered development. Cluster new development on former Fort Ord lands to minimize impacts to oak woodlands and linkages, preserve habitat management areas, and protect steep slopes, wetlands, and waterways." Other implementing policies for POC-9 state "Integrating oak woodland. Work with developers to promote an understanding of existing oak trees and previously-identified oak woodland linkages as they design new developments."

Seaside Municipal Code

The City of Seaside Municipal Code Title 8 Health and Safety, Chapter 8.54 Trees provides standards for the removal, protection and preservation of trees. The ordinance requires a tree removal permit and replacement plantings for any tree to be removed during project construction. In addition to requiring tree removal permits, the ordinance also requires measures to protect existing trees during project construction.

2005 City of Monterey General Plan

The Conservation Element of the City General Plan contains Goal d, which aims to "protect the character and composition of existing native vegetative communities. Conserve, manage, and restore habitats for endangered species, and protect biological diversity represented by special status plant and wildlife species." This is supported by policies such as Policy d.5, which states "reduce biotic impacts to a less-than-significant level on project sites by ensuring that mitigation measures identified in biotic reports are incorporated as conditions of approval for development projects. Compliance with the City Tree Ordinance is the mechanism that will be used to address impacts of tree removals. As mitigation for significant impacts, avoidance, replacement, restoration of habitats on- or off-site, or other measures may be required."

City of Monterey Municipal Code

The City of Monterey Municipal Code Chapter 37, *Preservation of Trees and Shrubs,* requires a permit issued by the City prior to removal of "protected trees" (§ 37-8). Protected trees are defined as "a) trees located on a vacant private parcel that are more than two inches (2") in diameter when measured at a point four feet six inches (4'6") above the tree's natural grade; and, b) trees located on a private, developed parcel that are more than six inches (6") when measured at a point four feet six inches (4'6") above the tree's natural grade." Additionally, a "local landmark tree" is defined as an outstanding, healthy, and prominent tree that is designated landmark in accordance with the procedures established in the ordinance. To be eligible for consideration as a local landmark tree, trees must meet the following minimum criteria:

1. Oak trees
    a) Ten inch (10") trunk diameter measured at a point four feet, six inches (4'6") above natural grade
    b) Twenty feet (20') in height measured from natural grade to the top of the canopy
    c) Prominently visible from public streets, public parking areas, parks or open space, from a minimum distance of one hundred feet (100')
2) Conifers
    a) Twelve inch (12") trunk diameter measured at a point four feet, six inches (4'6") above natural grade
    b) Thirty feet (30') in height measured from natural grade to the top of the canopy
    c) Prominently visible from public streets, public parking areas, parks or open space, from a minimum distance of one hundred feet (100')
3) Non-native ornamental
    a) Ten inch (10") trunk diameter measured at a point four feet, six inches (4'6") above natural grade

According to Section 37-10, tree removal permits are required to be approved before a protected tree may be removed. The City Forester shall review and approve removals that are based on tree health and/or safety considerations. According to Section 37-11, if it is determined after inspection of the property by the City Forester, that the adverse effects of tree removal can be mitigated, conditions may be imposed on the removal. Additionally, according to Section 37-12, local landmark trees may be removed in situations where the tree is determined to be unhealthy, present a safety hazard, or prevents reasonable development of permitted uses on the property.

1997 City of Del Rey Oaks General Plan

The City of Del Rey Oaks General Plan contains goals and policies to provide a framework for the growth and development of the City while protecting the City's natural resources, such as Canyon Del Rey Creek and the Frog Pond Wetland Preserve. Specific policies include but are not limited to; the preservation of wildlife corridors, the protection of the Canyon Del Rey drainage and water quality, and the protection of habit on former Fort Ord Lands.

Del Rey Oaks Municipal Code

The City of Del Rey Oaks Municipal Code Title 12, Chapter 12.16 Street Trees and Shrubs, provides protection for oak trees and other significant trees. Under this code a permit is required to cut or remove "any tree of the *quercus* genus more than 30 inches in circumference as measured two feet about the root crown or, in the case of an oak with more than one trunk, any such tree with a circumference of any two trunks of at least 40 inches as measured two feet above the root crown" , or a significant tree, defined as "a woody perennial plant which usually, but not necessarily, has a single trunk, and which has a height of 30 feet or more, or has a circumference of 36 inches or more at 24 inches above the ground".

Current 2007 California State University Master Plan

The Current CSUMB master plan includes a section on Habitat Integration under Chapter 5. Development Framework, which prioritizes maintain the natural habitats and habitat connections on campus.

Draft 2017 California State University Master Plan

The Draft CSUMB master plan includes policies to protect and enhance the natural environment as well as preserve and protect native habitats and trees. This policy requires that development avoid or minimize impacts to native habitats, mature trees, special status species. The Policy for Goal OS 1.6 also requires two replacement trees for every one tree that dies, is damaged, or is removed from the campus. The Policy for Goal OS 1.12 requires the protection of open space at the Southern Oak Woodlands and East Campus Open Space, but allows for minimally intrusive Trail development. The Policy for Goal OS 1.15 includes continued participation in development and implementation of the Fort Ord HCP as well as the Monterey County Oak Woodland Stewardship Guidelines.

The Draft CSUMB master plan also incorporates FORTAG alignment in the mobility section (Section 7).

Appendix C

Site Photographs

Photograph 1. 3.28.2019. The Canyon Del Rey/ SR 218 Trail segment north west of Laguna Grande, showing willow riparian and emergent wetlands along the existing Trail, facing south.

Photograph 2. 3.28.2019. The Canyon Del Rey/ SR 218 Trail segment at Laguna Grande, facing north.

Photograph 3. 3.28.2019. The Canyon Del Rey/ SR 218 Trail segment adjacent to Canyon Del Rey Creek, south of Laguna Grande, facing south east.

Photograph 4. 3.28.2019. The Canyon Del Rey/ SR 218 Trail segment at Work Memorial Park, showing the freshwater emergent wetland, facing south east.

Photograph 5. 3.28.2019. The Canyon Del Rey/ SR 218 Trail segment at Work Memorial Park, showing a patch of cattails, facing south east.

Photograph 6. 3.28.2019. The Canyon Del Rey/ SR 218 Trail segment at Angelus Way, Canyon Del Rey Creek can be seen to the left of the road, facing east.

Photograph 7. 3.28.2019. The Canyon Del Rey/ SR 218 Trail segment and Canyon Del Rey Creek at Del Rey Park, facing east.

Photograph 8. 3.28.2019. Willow riparian habitat on the Canyon Del Rey/SR 218 Trail segment at the Frog Pond Wetland Preserve, facing east.

Photograph 9. 3.28.2019. The Frog Pond, facing north east.

Photograph 10. 6.18.2019. The southern end of the Ryan Ranch Trail segment, showing a burn succession north of South Boundary Road, facing north south.

Photograph 11. 6.18.2019. The southern end of the Ryan Ranch Trail segment, showing chamise chaparral, facing west.

Photograph 12. 6.18.2019. The southern half of the National Monument Trail segment, showing chamise – black sage chaparral, facing south.

Photograph 13. 6.18.2019. National Monument Trail segment, showing dune scrub, facing east.

Photograph 14. 6.18.2019. The National Monument Trail segment, showing iceplant surrounded by manzanita chaparral, facing north.

Photograph 15. 6.18.2019. The National Monument Trail segment, showing ruderal habitat west of Eucalyptus Road, facing north.

Photograph 16. 6.18.2019. The National Monument Trail segment, showing chamise chaparral with oak woodland in the back ground, facing north.

Photograph 17. 6.18.2019. Intersection of Normandy Road and Parker Flats Cut-off Road, on the National Monument Trail segment, facing south west.

Photograph 18. 6.19.2018. Oak woodland habitat along the Parker Flats Cut-off Road, on the National Monument Trail segment, facing north.

Photograph 19. 3.28.2019. A field of iceplant mat at the west end of the CSUMB South Loop Trail segment, with Monterey cypress in the background, facing west.

Photograph 20. 3.28.2019. Mixed Monterey pine oak woodland along the CSUMB South Loop Trail segment, facing east.

Photograph 21. 3.28.2019. Coast live oak woodland along the CSUMB South Loop Trail segment, facing east.

Photograph 22. 3.28.2019. Annual grassland along the CSUMB South Loop Trail segment, facing north west.

Photograph 23. 3.29.2019. A detention basin with iceplant mat at west end of the CSUMB north Loop Trail segment, facing north east.

Photograph 24. 3.29.2019. Developed areas at west end of the CSUMB north Loop Trail segment, facing west.

Photograph 25. 3.29.2019. Manzanita chaparral and Monterey pine on the CSUMB north Loop Trail segment, facing east.

Photograph 26. 3.29.2019. Sandmat manzanita chaparral on the CSUMB north Loop Trail segment, facing west.

Photograph 27. 3.29.2019. Coast live oak woodland and annual grassland on the Northern Loop Trail segment, facing east.

Photograph 28. 6.19.2019. Coastal oak sage scrub on the Northern Loop Trail segment north of Reservation Road, facing east.

Photograph 29. 6.19.2019. California sagebrush scrub on the Northern Loop Trail segment, facing north.

Photograph 30. 6.19.2019. California sagebrush scrub on the Northern Loop Trail segment above the Salinas River, facing north east.

Photograph 31. 6.19.2019. Coyote brush and annual grassland on the Northern Marina Trail segment, facing north west.

Photograph 32. 6.19.2019. Annual grassland on the Northern Marina Trail segment, facing north west.

Photograph 33. 6.20.2019. Water tower located along the Northern Loop Trail segment with annual grassland in the foreground, facing west.

Photograph 34. 6.20.2019. View of the landmark trees as designated by the City of Marina along Beach Road on the Northern Loop Trail segment, facing east.

Photograph 35. 6.20.2018. Portion of the Northern Loop Trail that extends west through a residential neighborhood along Beach Road.

Appendix D

Floral and Faunal Compendium

Plant Species Observed Within the Study Area

Scientific Name	Common Name	Status	Native or Introduced
Plants			
Trees			
Washingtonia robusta	Mexican fan palm	None	Introduced Cal-IPC Moderate
Alnus rhombifolia	white alder	None	Native
Hesperocyparis macrocarpa	Monterey cypress	None	Native
Sequoia sempervirens	coast redwood	None	Native
Acacia dealbata	Silver wattle	None	Introduced Cal-IPC Moderate
Acacia longifolia	sydney golden wattle	None	Planted
Acacia melanoxylon	blackwood acacia	None	Introduced Cal-IPC Limited
Quercus agrifolia var. *agrifolia*	Coast live oak	None	Native
Eucalyptus globulus	blue gum	None	Introduced Cal-IPC Limited
Pinus radiata	Monterey pine	None	Native
Shrubs			
Toxicodendron diversilobum	western poison oak	None	Native
Artemisia californica	California sagebrush	None	Native
Baccharis pilularis	coyote brush	None	Native
Ericameria ericoides	mock-heather	None	Native
Symphoricarpos mollis	snowberry	None	Native
Cornus sericea	American dogwood	None	Native
Arctostaphylos crustacea	Brittle leaf manzanita	None	Native
Arctostaphylos pumila	sandmat manzanita	CRPR 1B.2	Native
Arctostaphylos tomentos	woolly leaf manzanita	None	Native
Genista monspessulana	French broom	None	Introduced Cal-IPC High
Lupinus albifrons	bush lupine	None	Native
Lupinus arboreus	coastal bush lupine	None	Native
Lupinus chamissonis	silver bush lupine	None	Native
Ribes speciosum	fuchsia-flowered gooseberry	None	Native
Salvia mellifera	black sage	None	Native
Mimulus aurantiacus	sticky monkeyflower	None	Native
Ceanothus dentatus	sandscrub ceanothus	None	Native
Ceanothus papillsus	wartleaf ceanothus	None	Native
Frangula californica	coffeeberry	None	Native
Adenostoma fasciculatum	chamise	None	Native
Salix lasiolepis	arroyo willow	None	Native
Herbs			
Dryopteris arguta	Wood fern	None	Native
Equisetum arvense	common horsetail	None	Native
Pentagramma triangularis	Gold back fern	None	Native

Scientific Name	Common Name	Status	Native or Introduced
Chlorogalum pomeridianum	soap root	None	Native
Carpobrotus edulis	iceplant	None	Introduced Cal-IPC High
Allium hickmanii	Hickman's onion	CRPR 1B.2	Native
Anthriscus caucalis	bur chervil	None	Introduced
Apium graveolens	Garden celery	None	Introduced
Conium maculatum	poison hemlock	None	Introduced Cal-IPC Moderate
Foeniculum vulgare	fennel	None	Introduced Cal-IPC High
Sanicula crassicaulis	Snakeroot	None	Native
Vinca major	periwinkle	None	Introduced Cal-IPC Moderate
Hedera helix	English ivy	None	Introduced Cal-IPC High
Achillea millefolium	common yarrow	None	Native
Artemisia douglasiana	Mugwort	None	Native
Carduus pycnocephalus	Italian thistle	None	Introduced Cal-IPC Moderate
Centaurea melitensis	tocalote	None	Introduced Cal-IPC Moderate
Cirsium occidentale	Cobweb thistle	None	Native
Cirsium vulgare	bull thistle	None	Introduced Cal-IPC Moderate
Corethrogyne filaginifolia var. *filaginifolia*	Common aster	None	Native
Deinandra corymbosa	coastal tarweed	None	Native
Delairea odorata	Cape-ivy	None	Introduced Cal-IPC High
Erigeron bonariensis	flax-leaved horseweed	None	Introduced
Erigeron canadensis	horseweed	None	Native
Eriophyllum confertiflorum	golden yarrow	None	Native
Euthamia occidentalis	western goldenrod	None	Native
Heterotheca grandiflora	telegraph weed	None	Native
Hypochaeris glabra	smooth cat's ear	None	Introduced Cal-IPC Limited
Layia platyglossa	tidy tips	None	Native
Lessingia pectinata var. *pectinata*	Valley lessingia	None	Native
Logfia filaginoides	California cottonrose	None	Native
Logfia gallica	Herba impia	None	Introduced
Madia sativa	coast tarweed	None	Native
Matricaria discoidea	pineapple weed	None	Introduced
Microseris douglasii ssp. *douglasii*	Microseris	None	Native
Pseudognaphalium californicum	California everlasting	None	Native
Pseudognaphalium luteoalbum	cudweed	None	Introduced
Psilocarphus tenellus	Slender woolly heads	None	
Senecio vulgaris	groundsel	None	Introduced
Silybum marianum	milk thistle	None	Introduced Cal-IPC Limited

Scientific Name	Common Name	Status	Native or Introduced
Sonchus asper	prickly sow thistle	None	Introduced
Cryptantha intermedia var. *intermedia*	cryptantha	None	Native
Eriodictyon californicu,	Yerba Santa	None	Native
Nemophila menziesii	babu blue eyes	None	Native
Pholistoma auritum	Fiesta flower	None	Native
Pholistoma membranaceum	white fiesta flower	None	Native
Brassica nigra	black mustard	None	Introduced Cal-IPC Moderate
Capsella bursa-pastoris	shepherd's purse	None	Introduced
Cardamine oligosperma	bittercress	None	Native
Nasturtium officinale	water cress	None	Native
Raphanus raphanistrum	jointed charlock	None	Introduced
Thysanocarpus curvipes	fringepod	None	Native
Opuntia sp.	Prickly pear cactus	None	Planted
Cardionema ramosissimum	sand mat	None	Native
Cerastium glomeratum	mouse-eared chickweed	None	Introduced
Petrorhagia dubia	windmill pink	None	Introduced
Polycarpon tetraphyllum	fourleaf allseed	None	Introduced
Silene gallica	windmill pinks	None	Introduced
Spergularia rubra	sand spurrey	None	Introduced
Stellaria media	common chickweed	None	Introduced
Crocanthemum scoparium	rush-rose	None	Native
Crassula connata	pygmy-weed	None	Native
Marah fabacea	man-root	None	Native
Carex tumulicola	split awn sedge	None	Native
Schoenoplectus acutus var. *occidentalis*	common tule	None	Native
Schoenoplectus californicus	Southern bulrush	None	Native
Croton californicus	croton	None	Native
Croton setiger	dove weed	None	Native
Euphorbia crenulata	chinesecaps	None	Native
Euphorbia lathyris	caper spurge	None	Introduced Cal-IPC Watch List
Euphorbia peplus	petty spurge	None	Introduced
Acmispon americanus var. *americanus*	Spanish clover	None	Native
Acmispon glaber	deerweed	None	Native
Acmispon strigosus	strigose lotus	None	Native
Acmispon wrangelianus	Chilean trefoil	None	Native
Lupinus bicolor	miniature lupine	None	Native
Lupinus nanus	sky lupine	None	Native
Medicago polymorpha	bur clover	None	Introduced Cal-IPC Limited

Scientific Name	Common Name	Status	Native or Introduced
Melilotus indicus	sour clover	None	Introduced
Trifolium angustifolium	Narrow leaved clover	None	Introduced
Trifolium sp.	clover	None	Introduced
Trifolium tomentosum	woolly clover	None	Introduced
Vicia benghalensis	Purple vetch	None	Introduced
Vicia sativa ssp. *sativa*	winter vetch	None	Introduced
Vicia villosa	hairy vetch	None	Introduced
Zeltnera davyi	Davy's Centaury	None	Native
Erodium botrys	Storksbill	None	Introduced
Erodium brachycarpum	filaree	None	Introduced
Erodium cicutarium	redstem filaree	None	Introduced Cal-IPC Limited
Erodium moschatum	greenstem filaree	None	Introduced
Geranium dissectum	cut-leaf geranium	None	Introduced Cal-IPC Limited
Geranium molle	dovefoot geranium	None	Introduced
Sisyrinchium bellum	blue-eyed grass	None	Native
Juncus mexicanus	curly rush	None	Native
Lamium amplexicaule	henbit	None	Introduced
Stachys bullata	wood mint; hedge nettle	None	Native
Malva parviflora	cheeseweed	None	Introduced
Calandrinia ciliata	red maids	None	Native
Claytonia perfoliata	miner's lettuce	None	Native
Lysimachia arvensis	scarlet pimpernel	None	Introduced
Camissonia strigulosa	sun cups	None	Native
Camissoniopsis cheiranthifolia	beach evening-primrose	None	Native
Clarkia purpurea	farewell to spring	None	Native
Epilobium brachycarpum	willow-herb	None	Native
Piperia michaelii	Michael's rein orchid	None	Native
Piperia transversa	rein orchid	None	Native
Castilleja affinis ssp. *affinis*	indian paintbrush	None	Native
Castilleja attenuata	narrow-leaved owl's-clover	None	Native
Castilleja exserta	owl's clover	None	Native
Oxalis pes-caprae	Bermuda buttercup	None	Introduced Cal-IPC Moderate
Eschscholzia californica	California poppy	None	Native
Platystemon californicus	cream cups	None	Native
Nuttallanthus texanus	toad flax	None	Introduced
Plantago coronopus	plantain	None	Introduced
Plantago erecta	plantain	None	Native
Plantago lanceolata	English plantain	None	Introduced
Gilia clivorum	purple spot gilia	None	Native

Scientific Name	Common Name	Status	Native or Introduced
Gilia tenuiflora ssp. *tenuiflora*	Sand gilia	FE; ST; CRPR 1B.1	Native
Navarretia atractyloides	navarretia	None	Native
Chorizanthe diffusa	diffuse spineflower	None	Native
Chorizanthe pungens var. *pungens*	Monterey spineflower	FT; CRPR1B.2	Native
Persicaria lapathifola	common knotweed	None	Native
Persicaria sp.	water smartweed	None	Native
Pterostegia drymarioides	woodland threadstem	None	Native
Rumex acetosella	sheep sorrel	None	Introduced Cal-IPC Moderate
Rumex salcifolius	willow-leaved dock	None	Native
Primula clevelandii var. *gracilis*	Padre's shooting star	None	Native
Pentagramma triangularis subsp. triangularis	goldback fern	None	Native
Ranunculus californicus	California buttercup	None	Native
Horkelia cuneata ssp. *cuneata*	Wedge leaved horkelia	None	Native
Potentilla anserina	Pacific silverweed	None	Native
Galium aparine	Goose grass	None	Native
Galium californicum ssp. *californicum*	California bedstraw	None	Native
Lithophragma affine	common woodland star	None	Native
Solanum douglasii	Douglas' nightshade	None	Native
Brodiaea terrestris	dwarf brodiaea	None	Native
Dichelostemma capitatum	blue-dicks	None	Native
Typha sp.	cattail	None	Native
Urtica dioica	stinging nettle	None	Native
Grasses			
Aira caryophyllea	hair grass	None	Introduced
Avena barbata	slender wild oat	None	Introduced Cal-IPC Moderate
Avena fatua	wild oat	None	Introduced Cal-IPC Moderate
Briza maxima	Rattlesnake grass	None	Introduced Cal-IPC Limited
Briza minor	small quaking grass	None	Introduced
Bromus diandrus	ripgut brome	None	Introduced Cal-IPC Moderate
Bromus hordeaceus	soft chess	None	Introduced Cal-IPC Limited
Bromus madritensis subsp. *rubens*	red brome	None	Introduced Cal-IPC High
Cortaderia jubata	jubata grass	None	Introduced Cal-IPC High
Cynodon dactylon	Bermuda grass	None	Introduced Cal-IPC Moderate
Ehrharta calycina	Veldt grass	None	Introduced Cal-IPC High
Festuca microstachys	Annual fescue	None	Native
Festuca myuros	rattail fescue	None	Introduced Cal-IPC Moderate
Festuca perennis	Ryegrass	None	Introduced Cal-IPC Moderate

Scientific Name	Common Name	Status	Native or Introduced
Hordeum murinum	wall barley	None	Introduced Cal-IPC Moderate
Schismus arabicus	Mediterranean grass	None	Introduced Cal-IPC Limited
Schismus barbatus	Mediterranean grass	None	Introduced Cal-IPC Limited
Stipa sp.	needlegrass	None	Native

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Animal Species Observed Within the Study Area

Scientific Name	Common Name	Status	Native or Introduced
Insects			
Celastrina sp.	Spring azure butterfly	None	native
Birds			
Buteo jamaicensis	Red-tailed hawk	None	Native
Buteo lineatus	Red-shouldered hawk	None	Native
Elanus leucurus	White-tailed kite	None	Native
Cathartes aura	Turkey vulture	None	Native
Anas platyrhynchos	Mallard duck	None	Non-Native
Branta canadensis	Canada goose	None	Native
Calypte anna	Anna's hummingbird	None	Native
Larus californicus	California gull	None	Native
Larus occidentalis	Western gull	None	Native
Columba livia	Rock dove (pigeon)	None	Non-Native
Streptopelia decaocto	Eurasian collared-dove	None	Non-Native
Zenaida macroura	Mourning dove	None	Native
Callipepla californica	California quail	None	Native
Meleagris gallopavo	Turkey	None	Non-Native
Fulica americana	American coot	None	Native
Agelaius phoeniceus	Red-winged blackbird	None	Native
Aphelocoma californica	California scrub-jay	None	Native
Baeolophus inornatus	Oak titmouse	None	Native
Bombycilla cedrorum	Cedar waxwing	None	Native
Cardellina pusilla	Wilson’s warbler	None	Native
Calypte costae	Costa's Hummingbird	None	Native
Catharus guttatus	Hermit thrush	None	Native
Certhia americana	Brown creeper	None	Native
Corvus brachyrhynchos	American crow	None	Native
Cyanocitta stelleri	Steller’s jay	None	Native
Setophaga coronata	Yellow -rumped warbler	None	Native
Euphagus cyanocephalus	Brewer's blackbird	None	Native
Haemorhous mexicanus	House finch	None	Native
Hirundo rustica	Barn swallow	None	Native

Scientific Name	Common Name	Status	Native or Introduced
Junco hyemalis	Dark-eyed junco	None	Native
Melanerpes formicivorus	Acorn woodpecker	None	Native
Melozone crissalis	California towhee	None	Native
Mimus polyglottos	Northern mockingbird	None	Native
Passer domesticus	House sparrow	None	Non-Native
Petrochelidon pyrrhonota	Cliff swallow	None	Native
Pipilo maculatus	Spotted towhee	None	Native
Poecile rufescens	Chestnut-backed chickadee	None	Native
Psaltriparus minimus	Bushtit	None	Native
Quiscalus mexicanus	Great-tailed grackle	None	Native
Sayornis nigricans	Black phoebe	None	Native
Sialia mexicana	Western bluebird	None	Native
Setophaga coronata	Yellow-rumped warbler	None	Native
Turdus migratorius	American robin	None	Native
Tachycineta thalassina	Violet-green swallow	None	Native
Zonotrichia atricapilla	Golden crowned sparrow	None	Native
Zonotrichia leucophrys	White-crowned sparrow	None	Native
Toxostoma redivivum	California thrasher	None	Native
Ardea herodias	Great blue heron	None	Native
Pelecanus occidentalis	Brown pelican	None	Native
Leuconotopicus villosus	Hairy woodpecker	None	Native
Aechmophorus occidentalis	Western grebe	None	Native
Phalacrocorax auritus	Double-crested cormorant	None	Native
Mammals			
Odocoileus hemionus	Mule deer	None	Native
Lynx rufus	Bobcat	None	Native
Taxidea taxus	American Badger*	SSC	Native
Mephitis mephitis	Striped skunk*	None	Native
Procyon lotor	Northern raccoon*	None	Native
Puma concolor	Mountain Lion*	None	Native
Neotoma fuscipes luciana	Monterey dusky-footed woodrat*	SSC	Native
Otospermophilus beecheyi	California ground squirrel	None	Native
Reptiles			
Sceloporus occidentalis	Western fence lizard	None	Native
Pituophis catenifer catenifer	Gopher snake	None	Native
Phrynosoma coronatum	Blainville's horned lizard	SSC	Native
Crotalus oreganus	Northern pacific rattlesnake	None	Native
Amphibians			

Scientific Name	Common Name	Status	Native or Introduced
Pseudacris sierra	Sierran treefrog	None	Native

Sources; Unless otherwise noted, species were observed during reconnaissance field surveys. An * indicates sign was observed, not indeviduals.

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Appendix E

Special Status Species Evaluation Tables

Special Status Plant Species in the Regional Vicinity of the Project Site

Scientific Name Common Name	Status Fed/State ESA CRPR	Habitat Requirements	Potential to Occur	Rationale
Agrostis lacuna-vernalis vernal pool bent grass	None/None G1 / S1 1B.1	Vernal pools. In mima mound areas or on the margins of vernal pools. 125-150 m. annual herb. Blooms Apr-May	Moderate Potential	This species is known to occur on the former Fort Ord (3 known occurrences) and a vernal pool was mapped on the Trail alignment just south of Watkins Gate Road (NWI), no vernal pool species were observed in this area however.
Allium hickmanii Hickman's onion	None/None G2 / S2 1B.2	Closed-cone coniferous forest, chaparral, coastal scrub, coastal prairie, cismontane woodland. Sandy loam, damp ground and vernal swales; mostly in grassland though can be associated with chaparral or woodland. 5-200 m. perennial bulbiferous herb. Blooms Mar-May	Present	This species is known to occur on the former Fort Ord (2 known populations) and a vernal pool was mapped on the Trail alignment just south of Watkins Gate Road (NWI). This species was observed during surveys.
Arctostaphylos hookeri ssp. *hookeri* Hooker's manzanita	None/None G3T2 / S2 1B.2	Chaparral, coastal scrub, closed-cone coniferous forest, cismontane woodland. Sandy soils, sandy shales, sandstone outcrops. 30-550 m. perennial evergreen shrub. Blooms Jan-Jun	High Potential	A known occurrence covers most of the eastern side of the former Fort Ord and extends across the Trail alignment along 8th Avenue just south of Giggling Road.
Arctostaphylos montereyensis Toro manzanita	None/None G2? / S2? 1B.2	Chaparral, cismontane woodland, coastal scrub. Sandy soil, usually with chaparral associates. 45-765 m. perennial evergreen shrub. Blooms Feb-Mar	High Potential	Known occurrences cover most of the eastern side of the former Fort Ord and extend across the Trail alignments: along 8th Avenue just south of Giggling Road; at the CSUMB campus between Eighth Avenue and General Jim Moore Boulevard; northwest of the airport east of Tallmon Street; and just south of Watkins Gate Road.
Arctostaphylos pajaroensis Pajaro manzanita	None/None G1 / S1 1B.1	Chaparral. Sandy soils. 30-155 m. perennial evergreen shrub. Blooms Dec-Mar	High Potential	There are 6 known occurrences within 5 miles, including one which crosses the Trail alignment at the intersection of Daivarty Street and Beach Range Road.

Scientific Name Common Name	Status Fed/State ESA CRPR	Habitat Requirements	Potential to Occur	Rationale
Arctostaphylos pumila sandmat manzanita	None/None G1 / S1 1B.2	Closed-cone coniferous forest, chaparral, cismontane woodland, coastal dunes, coastal scrub. On sandy soil with other chaparral associates. 3-210 m. perennial evergreen shrub. Blooms Feb-May	Present	Known occurrences cover most of the former Fort Ord including former bunkers south of the City of Marina. These occurrences extend across the Trail alignments for most of the reach within the former Fort Ord. This species was observed during surveys.
Astragalus tener var. *tener* alkali milk-vetch	None/None G2T1 / S1 1B.2	Alkali playa, valley and foothill grassland, vernal pools. Low ground, alkali flats, and flooded lands; in annual grassland or in playas or vernal pools. 0-168 m. annual herb. Blooms Mar-Jun	Not Expected	A vernal pool was mapped on the Trail alignment just south of Watkins Gate Road, however no vernal pool species were observed and there are no known occurrences within 5 miles.
Astragalus tener var. *titi* coastal dunes milk-vetch	Endangered/ Endangered G2T1 / S1 1B.1	Coastal bluff scrub, coastal dunes, coastal prairie. Moist, sandy depressions of bluffs or dunes along and near the Pacific Ocean; one site on a clay terrace. 1-45 m. annual herb. Blooms Mar-May	Not Expected	Suitable dune habitats are present, however there are no known occurrences within 5 miles.
Bryoria spiralifera twisted horsehair lichen	None/None G3 / S1S2 1B.1	North coast coniferous forest. Usually on conifers. 0-30 m. fruticose lichen (epiphytic).	Not Expected	Suitable habitats are present, however there are no known occurrences within 5 miles.
Castilleja ambigua var. *insalutata* pink Johnny-nip	None/None G4T2 / S2 1B.1	Coastal bluff scrub, coastal prairie. 0-100 m. annual herb (hemiparasitic). Blooms May-Aug	High Potential	There are 5 known occurrences within 5 miles, including one which crosses the Trail alignment along Inter Garrison Road.
Centromadia parryi ssp. *congdonii* Congdon's tarplant	None/None G3T1T2 / S1S2 1B.1	Valley and foothill grassland. Alkaline soils, sometimes described as heavy white clay. 0-230 m. annual herb. Blooms May-Oct(Nov)	High Potential	Suitable habitats are present, and there are 10 known occurrences within 5 miles.
Chorizanthe minutiflora Fort Ord spineflower	None/None G1 / S1 1B.2	Coastal scrub, chaparral (maritime). Sandy, openings. 60-145 m. annual herb. Blooms Apr-Jul	High Potential	There are 5 known occurrences within 5 miles, all of which are on the former Fort Ord

Scientific Name Common Name	Status Fed/State ESA CRPR	Habitat Requirements	Potential to Occur	Rationale
Chorizanthe pungens var. *pungens* Monterey spineflower	Threatened/ None G2T2 / S2 1B.2	Coastal dunes, chaparral, cismontane woodland, coastal scrub, valley and foothill grassland. Sandy soils in coastal dunes or more inland within chaparral or other habitats. 0-170 m. annual herb. Blooms Apr-Jun(Jul-Aug)	Present	Known occurrences cover most of the former Fort Ord, the Marina airport, and dunes west of Highway 1. These occurrences extend across the Trail alignments for most of the reach within the former Fort Ord. This species was observed during surveys.
Chorizanthe robusta var. *robusta* robust spineflower	Endangered/ None G2T1 / S1 1B.1	Cismontane woodland, coastal dunes, coastal scrub, chaparral. Sandy terraces and bluffs or in loose sand. 9-245 m. annual herb. Blooms Apr-Sep	High Potential	No occurrences have been reported to the CNDDB within 5 miles, however several individuals were observed in dune habitat on the former Fort Ord and this species was included in the HMP and BO but has not been seen since and may have been misidentified (USACE 2018).
Clarkia jolonensis Jolon clarkia	None/None G2 / S2 1B.2	Cismontane woodland, chaparral, coastal scrub, riparian woodland. 10-1280 m. annual herb. Blooms Apr-Jun	Moderate Potential	There are 3 known historic (most recent is 1912) occurrences of this species within 5 miles, from Monterey Peninsula and coastal Seaside including one which overlaps the Trail near Laguna del Rey.
Collinsia multicolor San Francisco collinsia	None/None G2 / S2 1B.2	Closed-cone coniferous forest, coastal scrub. On decomposed shale (mudstone) mixed with humus; sometimes on serpentine. 30-275 m. annual herb. Blooms (Feb)Mar-May	Moderate Potential	Suitable habitats are present and there are two known historic (1903) occurrences within 5 miles.
Cordylanthus rigidus ssp. *littoralis* seaside bird's-beak	None/ Endangered G5T2 / S2 1B.1	Closed-cone coniferous forest, chaparral, cismontane woodland, coastal scrub, coastal dunes. Sandy, often disturbed sites, usually within chaparral or coastal scrub. 30-520 m. annual herb (hemiparasitic). Blooms Apr-Oct	High Potential	Suitable habitats are present and 13 known or historic occurrences are within 5 miles.

Scientific Name Common Name	Status Fed/State ESA CRPR	Habitat Requirements	Potential to Occur	Rationale
Delphinium californicum ssp. *interius* Hospital Canyon larkspur	None/None G3T3 / S3 1B.2	Cismontane woodland, chaparral, coastal scrub. In wet, boggy meadows, openings in chaparral and in canyons. 195-1095 m. perennial herb. Blooms Apr-Jun	Moderate Potential	Suitable habitats are present and there is 1 known occurrence within 5 miles.
Delphinium hutchinsoniae Hutchinson's larkspur	None/None G2 / S2 1B.2	Broadleafed upland forest, chaparral, coastal prairie, coastal scrub. On semi-shaded, slightly moist slopes, usually west-facing. 15-535 m. perennial herb. Blooms Mar-Jun	Low Potential	Suitable habitats are present and 1 known historic occurrences is within 5 miles in Pacific Grove.
Delphinium umbraculorum umbrella larkspur	None/None G3 / S3 1B.3	Cismontane woodland, chaparral. Mesic sites. 215-2075 m. perennial herb. Blooms Apr-Jun	Low Potential	Suitable habitat is present, however there are no known occurrences within 5 miles.
Ericameria fasciculata Eastwood's goldenbush	None/None G2 / S2 1B.1	Closed-cone coniferous forest, chaparral (maritime), coastal scrub, coastal dunes. In sandy openings. 30-215 m. perennial evergreen shrub. Blooms Jul-Oct	High Potential	There are 10 known occurrences within 5 miles, several of which are on Fort Ord and overlap most of the General Jim Trail segment.
Eriogonum nortonii Pinnacles buckwheat	None/None G2 / S2 1B.3	Chaparral, valley and foothill grassland. Sandy soils; often on recent burns; western Santa Lucias. 90-975 m. annual herb. Blooms (Apr)May-Aug(Sep)	Low Potential	Suitable habitat is present, however there are no known occurrences within 5 miles.
Erysimum ammophilum sand-loving wallflower	None/None G2 / S2 1B.2	Chaparral (maritime), coastal dunes, coastal scrub. Sandy openings. 5-130 m. perennial herb. Blooms Feb-Jun	High Potential	Suitable habitat is present and there are 19 known occurrences within 5 miles, including some from former Fort Ord
Erysimum menziesii Menzies' wallflower	Endangered/ Endangered G1 / S1 1B.1	Coastal dunes. Localized on dunes and coastal strand. 1-25 m. perennial herb. Blooms Mar-Sep	Moderate Potential	Limited coastal dune or coastal strand habitat is present, and there are 8 known occurrences within 5 miles.
Fritillaria liliacea fragrant fritillary	None/None G2 / S2 1B.2	Coastal scrub, valley and foothill grassland, coastal prairie, cismontane woodland. Often on serpentine; various soils reported though usually on clay, in grassland. 3-400 m. perennial bulbiferous herb. Blooms Feb-Apr	Not Expected	Serpentine habitat is not present. There is 1 known occurrence within 5 miles.

Scientific Name Common Name	Status Fed/State ESA CRPR	Habitat Requirements	Potential to Occur	Rationale
Galium clementis Santa Lucia bedstraw	None/None G2 / S2 1B.3	Lower montane coniferous forest, upper montane coniferous forest. Forming soft mats in shady rocky patches; on granite or serpentine; mostly on exposed peaks. 975-1645 m. perennial herb. Blooms (Apr)May-Jul	Not Expected	Suitable habitats are present, however there are no known occurrences within 5 miles.
Gilia tenuiflora ssp. *arenaria* Monterey gilia	Endangered/ Threatened G3G4T2 / S2 1B.2	Coastal dunes, coastal scrub, chaparral (maritime), cismontane woodland. Sandy openings in bare, wind-sheltered areas. Often near dune summit or in the hind dunes; two records from Pleistocene inland dunes. 5-245 m. annual herb. Blooms Apr-Jun	Present	This species is known from 28 occurrences within 5 miles and one large population is mapped on the Trail alignment just north of Watkins Gate Road. This species was observed during surveys.
Hesperocyparis goveniana Gowen cypress	Threatened/ None G1 / S1 1B.2	Closed-cone coniferous forest, chaparral. Coastal terraces; usually in sandy soils; sometimes with Monterey pine, bishop pine. 100-125 m. perennial evergreen tree.	Not Expected	Two known occurrences are within 5 miles from the Del Monte Forest. Suitable habitat occurs along the Trail alignment, however this species was not observed during surveys.
Hesperocyparis macrocarpa Monterey cypress	None/None G1 / S1 1B.2	Closed-cone coniferous forest. Granitic soils. 10-20 m. perennial evergreen tree.	Present (landscaped)	This species is present in the BSA as a commonly cultivated species.
Holocarpha macradenia Santa Cruz tarplant	Threatened/ Endangered G1 / S1 1B.1	Coastal prairie, coastal scrub, valley and foothill grassland. Light, sandy soil or sandy clay; often with nonnatives. 10-220 m. annual herb. Blooms Jun-Oct	Not Expected	Suitable habitats are present, however there are no known occurrences within 5 miles.
Horkelia cuneata var. *sericea* Kellogg's horkelia	None/None G4T1? / S1? 1B.1	Closed-cone coniferous forest, coastal scrub, coastal dunes, chaparral. Old dunes, coastal sandhills; openings. Sandy or gravelly soils. 5-430 m. perennial herb. Blooms Apr-Sep	High Potential	The species is known from 17 occurrences within 5 miles, three of which overlap the BSA, near General Moore Blvd., near Parker Flats Cutoff Rd. and near 8th Ave.
Horkelia marinensis Point Reyes horkelia	None/None G2 / S2 1B.2	Coastal dunes, coastal prairie, coastal scrub. Sandy flats and dunes near coast; in grassland or scrub plant communities. 2-775 m. perennial herb. Blooms May-Sep	Moderate Potential	Suitable habitat is present and there is one known occurrence within 5 miles, west of the Marina Trail segments.

Scientific Name Common Name	Status Fed/State ESA CRPR	Habitat Requirements	Potential to Occur	Rationale
Lasthenia conjugens Contra Costa goldfields	Endangered/ None G1 / S1 1B.1	Valley and foothill grassland, vernal pools, alkaline playas, cismontane woodland. Vernal pools, swales, low depressions, in open grassy areas. 1-450 m. annual herb. Blooms Mar-Jun	Moderate Potential	Suitable habitat is present and there are 3 known occurrences east of the general Jim Trail segment.
Layia carnosa beach layia	Endangered/ Endangered G2 / S2 1B.1	Coastal dunes, coastal scrub. On sparsely vegetated, semi-stabilized dunes, usually behind foredunes. 0-30 m. annual herb. Blooms Mar-Jul	Low Potential	Suitable habitat is present and there are 2 known occurrences, at Pt Pinos and Asilomar.
Legenere limosa legenere	None/None G2 / S2 1B.1	Vernal pools. In beds of vernal pools. 1-1005 m. annual herb. Blooms Apr-Jun	Not Expected	Suitable habitat is not present, there is 1 known occurrence east of the General Jim Trail segment.
Lupinus tidestromii Tidestrom's lupine	Endangered/ Endangered G1 / S1 1B.1	Coastal dunes. Partially stabilized dunes, immediately near the ocean. 4-25 m. perennial rhizomatous herb. Blooms Apr-Jun	Low Potential	Suitable habitat is present and there are 5 known occurrences within 5 miles, at Pt Pinos, Asilomar and Spanish Bay.
Malacothamnus palmeri var. *involucratus* Carmel Valley bush-mallow	None/None G3T2Q / S2 1B.2	Cismontane woodland, chaparral, coastal scrub. Talus hilltops and slopes, sometimes on serpentine. Fire dependent. 5-520 m. perennial deciduous shrub. Blooms Apr-Oct	Low Potential	Suitable habitat is present and there are 13 known occurrences within 5 miles, primarily from Carmel Valley.
Malacothamnus palmeri var. *palmeri* Santa Lucia bush-mallow	None/None G3T2Q / S2 1B.2	Chaparral. Dry rocky slopes, mostly near summits, but occasionally extending down canyons to the sea. 3-670 m. perennial deciduous shrub. Blooms May-Jul	Not Expected	Suitable habitat is present, however there are no known occurrences within 5 miles.
Malacothrix saxatilis var. *arachnoidea* Carmel Valley malacothrix	None/None G5T2 / S2 1B.2	Chaparral, coastal scrub. Rock outcrops or steep rocky roadcuts. 30-1040 m. perennial rhizomatous herb. Blooms (Mar)Jun-Dec	Low Potential	Suitable habitat is present, and there are 3 known occurrences are mapped along Carmel Valley Rd within 5 miles.
Meconella oregana Oregon meconella	None/None G2G3 / S2 1B.1	Coastal prairie, coastal scrub. Open, moist places. 60-640 m. annual herb. Blooms Mar-Apr	Moderate Potential	Suitable habitat is present and there are 2 known occurrences within 5 miles, east of the General Jim Trail segment.

Scientific Name Common Name	Status Fed/State ESA CRPR	Habitat Requirements	Potential to Occur	Rationale
Microseris paludosa marsh microseris	None/None G2 / S2 1B.2	Closed-cone coniferous forest, cismontane woodland, coastal scrub, valley and foothill grassland. 3-610 m. perennial herb. Blooms Apr-Jun(Jul)	Moderate Potential	Suitable habitat is present but limited and there are 8 known occurrences within 5 miles, 3 of which occur east of the General Jim Trail segment.
Monardella sinuata ssp. *nigrescens* northern curly-leaved monardella	None/None G3T2 / S2 1B.2	Coastal dunes, coastal scrub, chaparral, lower montane coniferous forest. Sandy soils. 10-245 m. annual herb. Blooms (Apr)May-Jul(Aug-Sep)	High Potential	Suitable habitat is present and there are 8 known occurrences within 5 miles, 3 of which overlap the BSA at the General Jim Trail segment, and the CSUMB South Trail segment.
Monolopia gracilens woodland woollythreads	None/None G3 / S3 1B.2	Chaparral, valley and foothill grassland, cismontane woodland, broadleafed upland forest, North Coast coniferous forest. Grassy sites, in openings; sandy to rocky soils. Often seen on serpentine after burns, but may have only weak affinity to serpentine. 120-975 m. annual herb. Blooms (Feb)Mar-Jul	Not Expected	Suitable habitat is present, however there are no known occurrences within 5 miles.
Pinus radiata Monterey pine	None/None G1 / S1 1B.1	Closed-cone coniferous forest, cismontane woodland. Three primary stands are native to California. Dry bluffs and slopes. 60-125 m. perennial evergreen tree.	Present (landscaped)	This species is present in the BSA as a commonly cultivated species.
Piperia yadonii Yadon's rein orchid	Endangered/ None G1 / S1 1B.1	Closed-cone coniferous forest, chaparral, coastal bluff scrub. On sandstone and sandy soil, but poorly drained and often dry. 10-505 m. perennial herb. Blooms (Feb)May-Aug	High Potential	Suitable habitat is present and there are 11 known occurrences within 5 miles, and this species is known to occur on the Former Fort Ord.
Plagiobothrys chorisianus var. *chorisianus* Choris' popcornflower	None/None G3T1Q / S1 1B.2	Chaparral, coastal scrub, coastal prairie. Mesic sites. 2-705 m. annual herb. Blooms Mar-Jun	Moderate Potential	Suitable habitat is present but limited and there are 2 known occurrences within 5 miles, both of which occur east of the General Jim Trail segment.
Plagiobothrys diffusus San Francisco popcornflower	None/ Endangered G1Q / S1 1B.1	Valley and foothill grassland, coastal prairie. Historically from grassy slopes with marine influence. 45-360 m. annual herb. Blooms Mar-Jun	Not Expected	Suitable habitat is present, however there are no known occurrences within 5 miles.

Scientific Name Common Name	Status Fed/State ESA CRPR	Habitat Requirements	Potential to Occur	Rationale
Plagiobothrys uncinatus hooked popcornflower	None/None G2 / S2 1B.2	Chaparral, cismontane woodland, valley and foothill grassland. Sandstone outcrops and canyon sides; often in burned or disturbed areas. 210-855 m. annual herb. Blooms Apr-May	Not Expected	Suitable habitat is present, however there are no known occurrences within 5 miles.
Potentilla hickmanii Hickman's cinquefoil	Endangered/ Endangered G1 / S1 1B.1	Coastal bluff scrub, closed-cone coniferous forest, meadows and seeps, marshes and swamps. Freshwater marshes, seeps, and small streams in open or forested areas along the coast. 5-125 m. perennial herb. Blooms Apr-Aug	Moderate Potential	Suitable habitat is present but limited and there are 2 known occurrences within 5 miles, both of which occur in Pacific Grove.
Ramalina thrausta angel's hair lichen	None/None G5 / S2? 2B.1	North coast coniferous forest. On dead twigs and other lichens. 75-430 m. fruticose lichen (epiphytic).	Moderate Potential	Suitable habitat is present but limited and there is 1 known occurrence within 5 miles, from the Del Monte Forest.
Rosa pinetorum pine rose	None/None G2 / S2 1B.2	Closed-cone coniferous forest, cismontane woodland. 5-1090 m. perennial shrub. Blooms May-Jul	Moderate Potential	Suitable habitat is present but limited and there are 5 known occurrences within 5 miles, one of which overlaps the Del Ray Oaks/218 Trail segment.
Stebbinsoseris decipiens Santa Cruz microseris	None/None G2 / S2 1B.2	Broadleafed upland forest, closed-cone coniferous forest, chaparral, coastal prairie, coastal scrub, valley and foothill grassland. Open areas in loose or disturbed soil, usually derived from sandstone, shale or serpentine, on seaward slopes. 90-750 m. annual herb. Blooms Apr-May	Moderate Potential	Suitable habitat is present and there are 2 known occurrences within 5 miles, one of which occurs south of the Ryan Ranch Trail segment.
Trifolium buckwestiorum Santa Cruz clover	None/None G2 / S2 1B.1	Coastal prairie, broadleafed upland forest, cismontane woodland. Moist grassland. Gravelly margins. 30-550 m. annual herb. Blooms Apr-Oct	Moderate Potential	Suitable habitat is present but limited and there are 6 known occurrences within 5 miles, 4 of which occur east of the General Jim Trail segment.

Scientific Name Common Name	Status Fed/State ESA CRPR	Habitat Requirements	Potential to Occur	Rationale
Trifolium hydrophilum saline clover	None/None G2 / S2 1B.2	Marshes and swamps, valley and foothill grassland, vernal pools. Mesic, alkaline sites. 1-335 m. annual herb. Blooms Apr-Jun	Moderate Potential	Suitable habitat is present but limited and there are 3 known occurrences within 5 miles, 1 to the south in Pacific Grove and 2 north of the Marina Trail segments near the mouth of the Salinas River.
Trifolium polyodon Pacific Grove clover	None/Rare G1 / S1 1B.1	Closed-cone coniferous forest, meadows and seeps, coastal prairie, valley and foothill grassland. Along small springs and seeps in grassy openings. 5-260 m. annual herb. Blooms Apr-Jun(Jul)	Moderate Potential	Suitable habitat is present and there are 8 known occurrences within 5 miles, 2 of which occur south of the Del Rey Oaks/218 and Ryan Ranch Trail segments.
Trifolium trichocalyx Monterey clover	Endangered/ Endangered G1 / S1 1B.1	Closed-cone coniferous forest. Openings, burned areas, and roadsides. Sandy soils. 60-210 m. annual herb. Blooms Apr-Jun	Low Potential	Suitable habitat is present but limited and there are 8 known occurrences within 5 miles, all of which occur in the Del Monte Forest.

Regional Vicinity refers to within a 12-quad search radius of site.

FE = Federally Endangered FT = Federally Threatened FC = Federal Candidate Species

SE = State Endangered ST = State Threatened SC = State Candidate SR = State Rare

CRPR (CNPS California Rare Plant Rank):

1A=Presumed Extinct in California

1B=Rare, Threatened, or Endangered in California and elsewhere

2A=Plants presumed extirpated in California, but more common elsewhere

2B=Plants Rare, Threatened, or Endangered in California, but more common elsewhere

CRPR Threat Code Extension:

.1=Seriously endangered in California (over 80% of occurrences threatened / high degree and immediacy of threat)

.2=Fairly endangered in California (20-80% occurrences threatened)

.3=Not very endangered in California (<20% of occurrences threatened)

Special Status Animal Species in the Regional Vicinity of the Project Site

Scientific Name Common Name	Status Fed/State ESA CDFW	Habitat Requirements	Potential to Occur	Rationale
Invertebrates				
Danaus plexippus pop. 1 monarch - California overwintering population	None/None G4T2T3 / S2S3	Winter roost sites extend along the coast from northern Mendocino to Baja California, Mexico. Roosts located in wind-protected tree groves (eucalyptus, Monterey pine, cypress), with nectar and water sources nearby.	Not Expected	No roost sites are located within the BSA. The species is known from 5 occurrences within 5 miles.
Euphilotes enoptes smithi Smith's blue butterfly	Endangered/ None G5T1T2 / S1S2	Most commonly associated with coastal dunes & coastal sage scrub plant communities in Monterey & Santa Cruz counties. Hostplant: *Eriogonum latifolium* and *Eriogonum parvifolium* are utilized as both larval and adult food plants.	Moderate Potential	Suitable habitat is present and there are 6 known occurrences with 5 miles, 4 of which occur along the beaches and dunes west of the BSA.
Reptiles				
Anniella pulchra northern California legless lizard	None/None G3 / S3 SSC	Sandy or loose loamy soils under sparse vegetation. Soil moisture is essential. They prefer soils with a high moisture content.	High Potential	Suitable habitat is present and there are 39 known occurrences with 5 miles, most of which occur along the beaches west of the BSA.
Emys marmorata western pond turtle	None/None G3G4 / S3 SSC	A thoroughly aquatic turtle of ponds, marshes, rivers, streams and irrigation ditches, usually with aquatic vegetation, below 6000 ft elevation. Needs basking sites and suitable (sandy banks or grassy open fields) upland habitat up to 0.5 km from water for egg-laying.	High Potential	Suitable habitat is present in the BSA at Laguna Grande and the Frog Pond, and there are 5 known occurrences with 5 miles, 1 of which occurs just west of the Marina Trail segment.
Phrynosoma blainvillii coast horned lizard	None/None G3G4 / S3S4 SSC	Frequents a wide variety of habitats, most common in lowlands along sandy washes with scattered low bushes. Open areas for sunning, bushes for cover, patches of loose soil for burial, and abundant supply of ants and other insects.	Present	Though there are no reported occurrences within 5 miles suitable habitat is present, and this species was observed in the General Jim Trail segment.
Thamnophis hammondii two-striped gartersnake	None/None G4 / S3S4 SSC	Coastal California from vicinity of Salinas to northwest Baja California. From sea to about 7,000 ft elevation. Highly aquatic, found in or near permanent fresh water. Often along streams with rocky beds and riparian growth.	High Potential	Suitable habitat is present in the BSA at Laguna Grande and the Frog Pond, and there are 5 known occurrences with 5 miles, 1 of which occurs just west of the Marina Trail segment.
Amphibians				

Scientific Name Common Name	Status Fed/State ESA CDFW	Habitat Requirements	Potential to Occur	Rationale
Ambystoma californiense California tiger salamander	Threatened/ Threatened G2G3 / S2S3 WL	Central Valley DPS federally listed as threatened. Santa Barbara and Sonoma counties DPS federally listed as endangered. Need underground refuges, especially ground squirrel burrows, and vernal pools or other seasonal water sources for breeding.	High Potential	Suitable habitat is present and there are 29 known occurrences with 5 miles, most of which occur west of the General Jim and Northern Loop Trail alignments. One occurrence overlapping the BSA was reported at the intersection of Inter-Garrison Rd and Reservation Rd, where breeding was observed at a detention basin.
Ambystoma macrodactylum croceum Santa Cruz long-toed salamander	Endangered/ Endangered G5T1T2 / S1S2 FP	Wet meadows near sea level in a few restricted locales in Santa Cruz and Monterey counties. Aquatic larvae prefer shallow (<12 inches) water, using clumps of vegetation or debris for cover. Adults use mammal burrows.	Not Expected	Suitable habitat is absent and the species is not known to occur within 5 miles.
Rana boylii foothill yellow-legged frog	None/Candidate Threatened G3 / S3 SSC	Partly-shaded, shallow streams and riffles with a rocky substrate in a variety of habitats. Needs at least some cobble-sized substrate for egg-laying. Needs at least 15 weeks to attain metamorphosis.	Not Expected	Suitable habitat is absent and the species is not known to occur within 5 miles.
Rana draytonii California red-legged frog	Threatened/None G2G3 / S2S3 SSC	Lowlands and foothills in or near permanent sources of deep water with dense, shrubby or emergent riparian vegetation. Requires 11-20 weeks of permanent water for larval development. Must have access to estivation habitat.	Moderate Potential	Suitable habitat is present and there are 29 known occurrences with 5 miles, most of which occur along the Carmel River. One occurrence was reported from the Salinas River, north of the Marina Trail segment.
Taricha torosa Coast Range newt	None/None G4 / S4 SSC	Coastal drainages from Mendocino County to San Diego County. Lives in terrestrial habitats & will migrate over 1 km to breed in ponds, reservoirs & slow moving streams.	Moderate Potential	Suitable habitat is present but limited and there are no occurrences reported to the CNDDB within 5 miles, however this species is known to occur on the former Fort Ord and the regional vicinity.
Fish				

Scientific Name Common Name	Status Fed/State ESA CDFW	Habitat Requirements	Potential to Occur	Rationale
Eucyclogobius newberryi tidewater goby	Endangered/ None G3 / S3 SSC	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.	Not Expected	Brackish water habitats are not present
Oncorhynchus mykiss irideus pop. 9 steelhead - south-central California coast DPS	Threatened/None G5T2Q / S2	Federal listing refers to runs in coastal basins from the Pajaro River south to, but not including, the Santa Maria River.	Not Expected	The culverts and outfall (sand bar) below Roberts Lake likely block movement for anadromous fish.
Spirinchus thaleichthys longfin smelt	Candidate/ Threatened G5 / S1 SSC	Euryhaline, nektonic & anadromous. Found in open waters of estuaries, mostly in middle or bottom of water column. Prefer salinities of 15-30 ppt, but can be found in completely freshwater to almost pure seawater.	Not Expected	Brackish water habitats are not present
Birds				
Accipiter cooperii Cooper's hawk	None/None G5 / S4 WL	Woodland, chiefly of open, interrupted or marginal type. Nest sites mainly in riparian growths of deciduous trees, as in canyon bottoms on river flood-plains; also, live oaks.	High Potential	Suitable habitat is present and this species was observed during surveys of the Del Ray Oaks Trail segment.
Agelaius tricolor tricolored blackbird	None/Threatened G2G3 / S1S2 SSC	Highly colonial species, most numerous in Central Valley & vicinity. Largely endemic to California. Requires open water, protected nesting substrate, and foraging area with insect prey within a few km of the colony.	Moderate Potential	Suitable habitat is present at Laguna Grande and Roberts lake, and there are 9 known occurrences within 5 miles.
Aquila chrysaetos golden eagle	None/None G5 / S3 FP, WL	Rolling foothills, mountain areas, sage-juniper flats, and desert. Cliff-walled canyons provide nesting habitat in most parts of range; also, large trees in open areas.	Moderate Potential	Although there are no occurrences recorded on the CNDDB within 5 miles numerous reports have been documented on eBird, and suitable nest trees occur within 0.25 miles of the Trail alignment.

Scientific Name Common Name	Status Fed/State ESA CDFW	Habitat Requirements	Potential to Occur	Rationale
Asio flammeus short-eared owl	None/None G5 / S3 SSC	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.	Not Expected	One occurrence of this species is known from the mouth of the Salinas River, however suitable nesting habitat is not present along the Trail alignment
Athene cunicularia burrowing owl	None/None G4 / S3 SSC	Open, dry annual or perennial grasslands, deserts, and scrublands characterized by low-growing vegetation. Subterranean nester, dependent upon burrowing mammals, most notably, the California ground squirrel.	High Potential	Suitable habitat is present in annual grassland, low scrub, and open spaces, and there are 5 known occurrences within 5 miles, including 2 overlapping the Marina and CSUMB North Trail segments.
Buteo regalis ferruginous hawk	None/None G4 / S3S4 WL	Open grasslands, sagebrush flats, desert scrub, low foothills and fringes of pinyon and juniper habitats. Eats mostly lagomorphs, ground squirrels, and mice. Population trends may follow lagomorph population cycles.	High Potential	Suitable habitat is present in annual grassland, low scrub/woodlands, and open spaces, and there is 1 known occurrence within 5 miles, overlapping the Marina Trail segment.
Buteo swainsoni Swainson's hawk	None/Threatened G5 / S3	Breeds in grasslands with scattered trees, juniper-sage flats, riparian areas, savannahs, & agricultural or ranch lands with groves or lines of trees. Requires adjacent suitable foraging areas such as grasslands, or alfalfa or grain fields supporting rodent populations.	Not Expected	There are no occurrences recorded on the CNDDB within 5 miles. Reports have been documented on eBird, however these are likely migrants.
Charadrius alexandrinus nivosus western snowy plover	Threatened/None G3T3 / S2S3 SSC	Sandy beaches, salt pond levees & shores of large alkali lakes. Needs sandy, gravelly or friable soils for nesting.	Not Expected	Although there are 8 known occurrences within 5 miles suitable sandy beach habitat or alkali lakes are not present. This species is restricted to the dunes west of highway 1.
Circus cyaneus northern harrier	None/None G5 / S3 SSC	Coastal salt & 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.	Present	Suitable habitat is present at the Marina Trail segment and this species was observed foraging over fields north of the Marina Airport.

Scientific Name Common Name	Status Fed/State ESA CDFW	Habitat Requirements	Potential to Occur	Rationale
Coturnicops noveboracensis yellow rail	None/None G4 / S1S2 SSC	Summer resident in eastern Sierra Nevada in Mono County. Freshwater marshlands.	Not Expected	Suitable habitat is present at Laguna Grande and the Frog Pond and there are 2 known occurrences within 5 miles, however this species is rarely observed in Monterey County.
Cypseloides niger black swift	None/None G4 / S2 SSC	Coastal belt of Santa Cruz and Monterey counties; central & southern Sierra Nevada; San Bernardino & San Jacinto mountains. Breeds in small colonies on cliffs behind or adjacent to waterfalls in deep canyons and sea-bluffs above the surf; forages widely.	Not Expected	Suitable nesting habitat is not present, and there are no known occurrences within 5 miles.
Elanus leucurus white-tailed kite	None/None G5 / S3S4 FP	Rolling foothills and valley margins with scattered oaks & river bottomlands or marshes next to deciduous woodland. Open grasslands, meadows, or marshes for foraging close to isolated, dense-topped trees for nesting and perching.	High Potential	Although there are no occurrences recorded on the CNDDB within 5 miles, numerous reports have been documented on eBird, and this species was observed foraging over sections of the northern loop and Marina Trail segments during the reconnaissance survey.
Eremophila alpestris actia California horned lark	None/None G5T4Q / S4 WL	Coastal regions, chiefly from Sonoma County to San Diego County. Also main part of San Joaquin Valley and east to foothills. Short-grass prairie, "bald" hills, mountain meadows, open coastal plains, fallow grain fields, alkali flats.	High Potential	Suitable habitat is present in annual grassland, low scrub/woodlands, and open spaces, and there are 2 known occurrences within 5 miles, overlapping the Marina and northern loop Trail segments.
Falco mexicanus prairie falcon	None/None G5 / S4 WL	Inhabits dry, open terrain, either level or hilly. Breeding sites located on cliffs. Forages far afield, even to marshlands and ocean shores.	Not Expected	No occurrences recorded on the CNDDB within 5 miles, numerous reports have been documented on eBird however cliffs suitable for nesting are not present.
Falco peregrinus anatum American peregrine falcon	Delisted/Delisted G4T4 / S3S4 FP	Near wetlands, lakes, rivers, or other water; on cliffs, banks, dunes, mounds; also, human-made structures. Nest consists of a scrape or a depression or ledge in an open site.	Not Expected	There are no occurrences recorded on the CNDDB within 5 miles, numerous reports have been documented on eBird and a pair is known to roost on the Embassy Suites in Seaside adjacent to Laguna Grande, however no suitable buildings or cliffs occur in the BSA.

Scientific Name Common Name	Status Fed/State ESA CDFW	Habitat Requirements	Potential to Occur	Rationale
Laterallus jamaicensis coturniculus California black rail	None/Threatened G3G4T1 / S1 FP	Inhabits freshwater marshes, wet meadows and shallow margins of saltwater marshes bordering larger bays. Needs water depths of about 1 inch that do not fluctuate during the year and dense vegetation for nesting habitat.	Not Expected	Suitable habitat is present at Laguna Grande and there are 2 known occurrences within 5 miles, however this species is rarely observed in Monterey County.
Pelecanus occidentalis californicus California brown pelican	Delisted/Delisted G4T3T4 / S3 FP	Colonial nester on coastal islands just outside the surf line. Nests on coastal islands of small to moderate size which afford immunity from attack by ground-dwelling predators. Roosts communally.	Not Expected	There are no occurrences recorded on the CNDDB within 5 miles, several reports have been documented on eBird however no suitable nesting habitat occurs within the BSA.
Rallus obsoletus obsoletus California Ridgway's rail	Endangered/Endangered G5T1 / S1 FP	Salt water and brackish marshes traversed by tidal sloughs in the vicinity of San Francisco Bay. Associated with abundant growths of pickleweed, but feeds away from cover on invertebrates from mud-bottomed sloughs.	Not Expected	There are no occurrences recorded on the CNDDB within 5 miles and no suitable salt marsh habitat occurs within the BSA.
Riparia riparia bank swallow	None/Threatened G5 / S2	Colonial nester; nests primarily in riparian and other lowland habitats west of the desert. Requires vertical banks/cliffs with fine-textured/sandy soils near streams, rivers, lakes, ocean to dig nesting hole.	Not Expected	There are 2 occurrences recorded on the CNDDB within 5 miles, however no suitable nesting habitat occurs within the BSA.
Vireo bellii pusillus least Bell's vireo	Endangered/Endangered G5T2 / S2	Summer resident of Southern California in low riparian in vicinity of water or in dry river bottoms; below 2000 ft. Nests placed along margins of bushes or on twigs projecting into pathways, usually willow, Baccharis, mesquite.	Not Expected	There are no occurrences recorded on the CNDDB within 5 miles and this species is rarely observed in Monterey County.
Mammals				
Antrozous pallidus pallid bat	None/None G5 / S3 SSC	Deserts, grasslands, shrublands, woodlands and forests. Most common in open, dry habitats with rocky areas for roosting. Roosts must protect bats from high temperatures. Very sensitive to disturbance of roosting sites.	Low Potential	Suitable grasslands and scrublands are present, however there are no known occurrences within 5 miles.

Scientific Name Common Name	Status Fed/State ESA CDFW	Habitat Requirements	Potential to Occur	Rationale
Corynorhinus townsendii Townsend's big-eared bat	None/None G3G4 / S2 SSC	Throughout California in a wide variety of habitats. Most common in mesic sites. Roosts in the open, hanging from walls and ceilings. Roosting sites limiting. Extremely sensitive to human disturbance.	Low potential	Suitable habitats and mesic sites are present, however there are no known occurrences within 5 miles.
Taxidea taxus American badger	None/None G5 / S3 SSC	Most abundant in drier open stages of most shrub, forest, and herbaceous habitats, with friable soils. Needs sufficient food, friable soils and open, uncultivated ground. Preys on burrowing rodents. Digs burrows.	High Potential	There are no occurrences recorded on the CNDDB within 5 miles however this species is known to occur on the former Fort Ord, and evidence of badger excavations was observed during the reconnaissance survey.

Regional Vicinity refers to within a 12-quad search radius of site.
FE = Federally Endangered FT = Federally Threatened FC = Federal Candidate Species FS=Federally Sensitive
SE = State Endangered ST = State Threatened SC = State Candidate SS=State Sensitive
SSC = CDFW Species of Special Concern SFP = State Fully Protected