Attachment G

BIOLOGICAL RESOURCES ASSESSMENT

199 Arbor Lane
Moss Beach, California
APN 037-123-043

Prepared for:
Carlos Zubieta, Architect
1725-A Abbot Kinney Boulevard
Venice, CA 90291

May 9, 2015

Prepared by:
Kopitov Environmental LLC
POB 7380
Santa Cruz, CA 95061

KOPITOV
ENVIRONMENTAL

Attachment G

Table of Contents

Attachment G

Attachment G

APPLICANT/OWNER

Carlos Zubieta, Architect
1725-A Abbot Kinney Boulevard
Venice, California 90291

PROJECT ADDRESS

199 Arbor Lane
Moss Beach, San Mateo County, California

ASSESSOR'S PARCEL NUMBER

037-123-430

SUMMARY

Report Summary (briefly state the results of the report, habitat type, rare, endangered, or unique species present, anticipated impacts, and proposed mitigation measures.)

At the request of Carlos Zubieta, Architect, Kopitov Environmental LLC conducted an assessment of biological resources on 1.04 acres biological study area centered on 199 Arbor Lane (approximately 14,320 square feet) in Moss Beach, San Mateo County, California. The proposed project is the construction of a single- family residence. This report assesses the potential environmental effects of the project pursuant to the County of San Mateo Local Coastal Program.

The study area consists of five plant communities or habitats: non-native grassland/ruderal, Monterey cypress, poison oak/California blackberry, herbaceous/ruderal and riparian/wetland. A grove of Monterey cypress (*Cupressus macrocarpa*), designated a Class 1 Heritage Tree by LCP Policy 7.50, was found on the study area. California blackberry (*Rubus ursinus*), a community designated as rare by the California Department of Fish and Wildlife, was observed on the study area including the proposed work area. The work area community included dense patch of poison oak (*Toxicodendron diversilobum*). Beach strawberry (*Fragaria chiloensis*), protected by County of San Mateo Local Coastal Program (LCP) Policy 7.49, was found within the proposed work area. No other special status plant species or natural communities were observed within the study area. The proposed project would result clearing of the beach strawberry and California blackberry on the work area and removal of one or more Monterey Cypress trees. Monterey cypress tree impacts would be subject to the County of Monterey Significant Tree Ordinance requires permits for tree removal. An expert in strawberry breeding determined that there would be no impact, thus no mitigation, for clearing the beach strawberry patch. California blackberry was found throughout the arroyo, thus, impacts would be less than significant.

Four special status plant species have historic populations within 3 miles of the project area. Potentially suitable habitat may be present on Dean Creek for coastal marsh milk-vetch (*Astragalus pycnostachyus var. pycnostachyus*) and Hickman's cinquefoil (*Potentilla hickmanii*). Potentially suitable habitat for rose leptosiphon (*Leptosiphon rosaceus*) and yellow leptosiphon (*Leptosiphon croceus*) was found on the coastal bluff; however, *Leptosiphon* species were not detected during the field surveys conducted in the peak blooming period. The project would not affect the arroyo or the coastal bluff, thus, these species would not be impacted by the proposed

Attachment G

project.

Based on the presence of potentially suitable habitat (such as Dean Creek, cypress grove, and poison oak/blackberry scrub) and proximity to known occurrences, there is potential for California red-legged frog (*Rana draytonii*), San Francisco garter snake (*Thamnophis sirtalis tetrataenia*), San Francisco dusky-footed woodrat (*Neotoma fuscipes annectens*), salt marsh common yellowthroat (*Geolthypis trichas sinuosa*), bats and the monarch butterfly (*Danaus plexippus*) to occur or pass through the project area. Nesting migratory birds have the potential to nest in all of the habitats found on the study area. The proposed project has the potential to significantly impact these species resulting in mortality. Implementation of mitigation measures including, but not limited to, pre-construction surveys, exclusionary fencing and stormwater best management practices would reduce impacts to less than significant (table 1).

There would be no impacts to Dean Creek, an intermittent stream, located approximately 30 feet south of the project area. Implementation of minimum stormwater best management practices and a 20-foot scenic easement would meet and/or exceed LCP minimum intermittent stream 30-foot buffer and required stormwater mitigation measures.

Attachment G

INTRODUCTION

At the request of the Carlos Zubieta, Kopitov Environmental LLC conducted an assessment of biological resources for a proposed single-family residence located on 199 Arbor Lane, Moss Beach, San Mateo County, California.

This report presents the results and analysis of potential project-related effects on special-status plant and wildlife species and sensitive habitats consistent with the LCP Sensitive Habitats Component, General Policies, 7.5 Permit Conditions (County of San Mateo LCP, 2013). This report also provides recommendations for avoidance and mitigation measures to reduce effects to special-status plants, wildlife and sensitive habitats.

PROJECT SETTING

Project and property description (describe the proposed project and property, including the size, topographic characteristics, water resources, soil types, and land uses on the property and in the vicinity up to a radius of one-quarter mile. Include a map of the area from the USGS 7.5-minute quadrangle series.)

PROJECT DESCRIPTION AND LOCATION

The project area was located on 199 Arbor Lane (a cul-de-sac) approximately 0.17 miles west of Highway 1 (The Cabrillo Highway) in Moss Beach, an unincorporated area of San Mateo County (figure 1). The project area encompasses the entirety of APN 037-123-430.

The proposed project is the construction of a single-family residence covering an estimated area of 3,400 square feet, plus a two-car garage of approximately 400 square feet. The single story home would be a concrete slab on grade construction. Other features include a concrete driveway (or a more permeable surface if permitted by local building officials), concrete decks surrounding a spa and BBQ area, and a pedestrian approach or walkway from Arbor Lane. The project would include a 20-foot scenic easement from the edge of the southern boundary (figure 2).

REGIONAL SETTING

The unincorporated community of Moss Beach is located along the San Mateo County coastline and encompasses 2.25 square miles. It has a population of approximately 3,103 (USDOC 2010). The communities of El Granada, and Princeton-by-the Sea were south and Montara and the City of Pacifica were north of the Moss Beach. The City of San Francisco was approximately 20 miles north. The Moss Beach climate was characterized by cool summer Mediterranean climate with an annual precipitation average of 30 inches.

BIOLOGICAL RESOURCES STUDY AREA

The project area was defined as the entirety of APN 037-123-430. The biological resources study area (study area) is defined as the project area and accessible areas bordering the project area (figure 2). The total study area encompasses approximately 1.04 acres.

ENVIRONMENTAL SETTING

SURROUNDING LAND USES AND SETTING

Attachment G

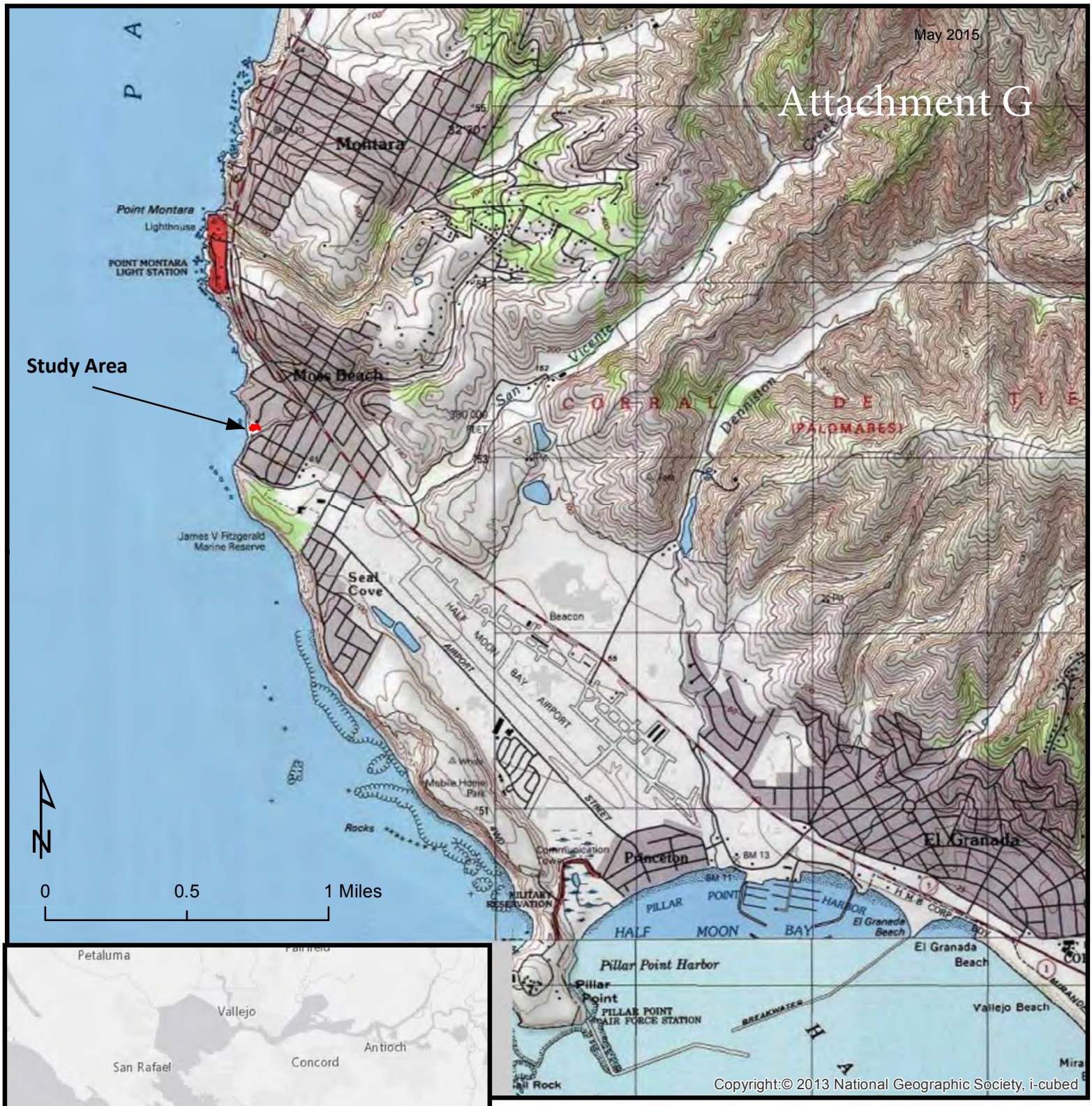


Figure 1
Vicinity Map and Region Map
USGS 7.5 Minute Quad

KOPITOV ENVIRONMENTAL

Biological Resource Assessment
199 Arbor Lane
Moss Beach, California

Date: 05/07/2015

The immediate surrounding land use includes single-family residences, Fitzgerald Marine Reserve, and a steep gully (arroyo) containing an intermittent creek. The project is bordered to the east by a single-family residence, to the north by an open space/vacant lot owned by the homeowners association and to the south by a steep gully containing Dean Creek. The Fitzgerald Marine Reserve and the Pacific Ocean were to the west (including Kelp Cove lagoons and beaches).

Land use along the Cabrillo Highway and within ¼ mile of the project area includes single-family residences and businesses, such as restaurants, offices.

TOPOGRAPHY

The project was located on a coastal bluff approximately 40 to 50 feet landward of the bluff edge. The elevation was approximately 66 feet (20 meters) above mean sea level. The topography was generally flat with an arroyo located along the southern boundary. The arroyo was characterized by near vertical slopes.

HYDROLOGY

The project was located within the Dean Creek Watershed with Dean Creek on the southern boundary of the project. This creek was characterized as an intermittent creek (USGS 2015). Intermittent creeks were depicted with dotted or dashed blue lines on the USGS NHD maps. Other hydrological features mapped nearby include:

- San Vicente Creek, approximately 530 feet south;
- Montara Creek, approximately 0.8 mile north;
- Pillar Point Marsh, approximately 0.75 mile south of the project and west of the Half Moon Bay Airport.
- Three ponds, east of Cabrillo Highway.
    - approximately 0.8 mile northeast and near Montara Creek;
    - approximately 1 mile southeast near San Vicente Creek (2 ponds).

SOILS

The study area is composed of two NRCS soils mapping units, Beaches and Typic Argiustolls/loamy Urban Land association. (Soil Survey Staff 2015). Beaches was listed as a County of San Mateo hydric soil. Typic Argiustolls/loamy Urban Land Association was described as setting on fluviomarine terraces with a slope of 5 to 15 percent. Parent materials include coastal alluvium derived from sedimentary rock. There were no serpentine soils that could provide habitat for special status species present on site.

REGULATORY SETTING

This section provides an overview of the regulations that may apply to the project. Additional regulations may apply.

POTENTIALLY JURISDICTIONAL WATERS OF THE STATE AND US

Potentially jurisdictional waters include aquatic resources, such riparian areas, streams, rivers, wetlands, and associated aquatic vegetation communities. These areas are considered sensitive

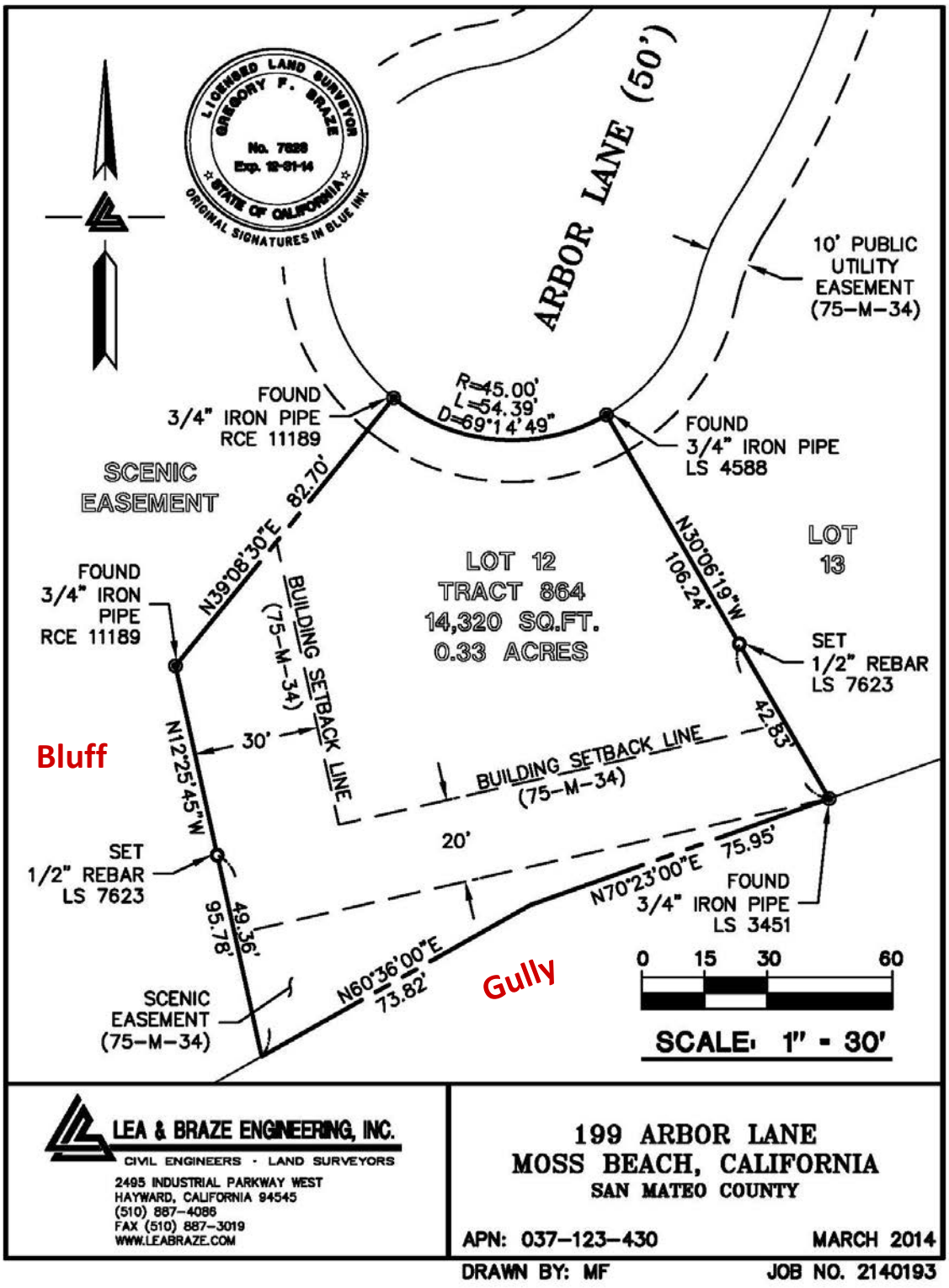


Figure 2
Project Area Survey depicting proposed buffer areas along the arroyo and bluff.

biological resources and could fall under the jurisdiction of local, state and federal regulatory agencies, as described below. Final jurisdictional determinations should be determined by the appropriate regulatory agency.

County of San Mateo Local Coastal Program

This project located within the Coastal Zone of San Mateo County, thus, subject to compliance with the County of San Mateo Local Coastal Program. Compliance would include applying for a Coastal Development Permit (CDP). In order for the CDP to be issued, the project must comply with the policies of the LCP and all ordinances adopted to implement the LCP. LCP jurisdictional waters include all perennial and intermittent streams and their tributaries, coastal tidelands and marshes, wetlands, lakes and ponds and adjacent shore habitat, riparian corridors, sea cliffs, and marine habitats.

Waters of the State

The California Coastal Commission (CCC), in partnership with coastal cities and counties, plans and regulates the use of land and water in the coastal zone. Development activities, which are broadly defined by the Coastal Act to include (among others) construction of buildings, divisions of land, and activities that change the intensity of use of land or public access to coastal waters, generally require a coastal permit from either the Coastal Commission or the local government. The County of San Mateo administers the Local Coastal Program in partnership with the CCC.

Stream channels consisting of a defined bed and bank are considered waters of the State and regulated by the California Fish and Game Code (CFGC) (Section 1600 et seq). In addition to the stream channel, the bed and banks, and adjacent riparian and/or hydrophytic vegetation (wetlands), extending to the outer drip-line of the vegetation, may be considered waters of the State. Wetlands are defined by the State as lands that are transitional between terrestrial and aquatic systems where the water table is usually at or near the surface or the land is covered by shallow water, or periodically support hydrophytic dominant vegetation, or in which soils are hydric in nature (CERES 2011).

Additional applicable state laws may include California Porter-Cologne Water Quality Control Act the State Water Resources Control Board (SWRCB) that may require permits ("waste discharge requirements" [WDRs]) for the fill or alteration of "Waters of the State". The term "Waters of the State" is defined as "any surface water or groundwater, including saline waters, within the boundaries of the state" (California Water Code, Section 13050[e]).

Waters of the US

Section 404 of the Clean Water Act (CWA) prohibits the discharge of dredged or fill material into "waters of the United States" without a permit from the US Army Corps of Engineers (Corps). These include all waters that are subject to the ebb and flow of tides, wetlands, lakes, rivers, streams (including intermittent or ephemeral streams), mudflats, sandflats, sloughs, prairie potholes, vernal pools, wet meadows, playa lakes, natural ponds, and tributaries of the above features. The extent of waters of the U.S. is generally defined as that portion which falls within the limits of “ordinary high water.” Field indicators of ordinary high water include clear and natural lines on opposite sides of the banks, scouring, sedimentary deposits, drift lines, exposed roots, shelving, destruction of terrestrial vegetation, and the presence of litter or debris.

THREATENED, ENDANGERED, SPECIAL STATUS SPECIES INCLUDING UNIQUE SPECIES

Special-status species and their habitats were defined, for this report, as those species and habitats (1) listed as threatened or endangered by Local, State and Federal agencies, (2) proposed for listing as threatened or endangered by Federal and State agencies, or (3) designated as candidate or fully protected species under the Federal Endangered Species Act of 1973 (ESA), as amended (Code of Federal Regulations, Title 50, Section 17), California Endangered Species Act (CESA)(California Code of Regulations Title 14, Section 670.5), CFGC (Sections 1901, 2062, 2067, 3511, 4700, 5050 and 5515), (4) plants regulated by the Native Plant Protection Act of 1977 and included in lists 1 through 4 of the California Native Plant Society (CNPS) online inventory, (5) plants that qualify as "rare" in the California Environmental Quality Act (CEQA), section 15380, and (6) plants and animals considered "rare and endangered" in the County of San Mateo LCP.

Section 2080 of the CFGC prohibits "take" of any species that the commission determines to be an endangered or threatened species. CFGC Section 86, as to "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill defines take." Take is prohibited for California Department of Fish and Wildlife (CDFW) fully protected species and no licenses or permits may be issued for take of fully protected species except for collection for scientific research.

County of San Mateo

Endangered and rare species and their habitats are regulated by the County's LCP. The following species and their habitats are included: San Francisco garter snake (*Thamnophis sirtalis tetrataenia*), San Francisco tree lupine moth (*Graptholitha edwardsiana*), brackish water snail (*Tryonia imitator*), sea otter (*Enhydra lutris nereis*), and globose dune beetle (*Coelus globosus*). Unique species includes the following species and habitats elephant seal (*Mirounga angustirostris*), Monterey pine (*Pinus radiata*), California wild strawberry (*Fragaria californica*), Champion Monterey cypress (*Cupressus macrocarpa*).

The project would be subject to the requirements of the County of San Mateo Significant Tree Ordinance should the project include removal or pruning of significant and/or heritage trees.

Other Regulated Sensitive and Locally Rare Wildlife Species

Monarch Butterflies. The monarch butterfly (*Danaus plexippus*) is not a state of federally listed species; however, it is given special consideration under the California Environmental Quality Act (CEQA) review process due to their sensitive life history and habitat requirements. Monarch butterflies depend upon winter roost sites that extend along the western coast. Roost habitats consist of wind-protected tree groves, including Monterey Cypress.

Bats. Various agencies have established status designations providing guidelines for the most sensitive and threatened bat species. The Townsend's big-eared bat (*Corynorhinus townsendii*) is under review for protected status under CESA. During the review period, species are afforded protection under CESA. Bat species and their habitats also are afforded consideration under CEQA if potential significant adverse effects on the environment are determined. Sections 2000 and 4150 of the CFGC states that it unlawful to take or possess a number of species, including bats, without a license or permit as required by CFGC Section 3007. Title 14 of the California Code of Regulations (CCR) states it is unlawful to harass, herd, or drive a number of species, including bats. To harass is defined as "an intentional act, which disrupts an animal's normal

behavior patterns, which includes, but is not limited to, breeding, feeding or sheltering."

Migratory Birds. Most bird species, breeding, migratory or of limited distribution, are protected by federal and state regulations. The Migratory Bird Treaty Act of 1918 (MBTA)(16 USC §703-712) federally listed (50 CFR §10), protects migratory bird species, their nests and their eggs from injury or death. The California Fish and Game Code (CFGC) §3503 prohibits the take, possession, or needless destruction of the nest or eggs of any bird; CFGC §3503.5 prohibits the take, possession, or needless destruction of any nests, eggs or birds in the orders Falconiformes (new world vultures, hawks, eagles, ospreys and falcons, among others) or Strigiformes (owls); CFGC §3511 prohibits the take or possession of fully protected birds; and CFGC §3513 prohibits the take or possession of any migratory nongame bird or part thereof as designated in the MBTA.

Birds of Prey. Birds of prey are also protected in California under provisions of the CFGC Section 3503.5, which states that it is "unlawful to take, possess, or destroy any birds in the order Falconiformes or Strigiformes (birds of prey) or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by this code or any regulation adopted pursuant thereto." Disturbance that causes nest abandonment and/or loss of reproductive effort is considered "taking" by the CDFW.

MIGRATION, TRAVEL CORRIDORS AND HABITAT FRAGMENTATION

Wildlife corridors are included in Standards of Significance in Appendix G of the CEQA guidelines and are also regulated by the City's Municipal Code. Wildlife movement corridors function to connect habitats used by native wildlife for purposes including, but not limited to, foraging, shelter, breeding, dispersal and migration. Studies suggest that habitat corridors provide connectivity for and are used by wildlife, and as such an important conservation component (Beier and Noss 1998). Proposed development that threatens to disrupt these natural movement patterns is required to evaluate the environmental impacts of these disruptions and address effects. Movement corridors in California include with valleys, rivers and creeks, riparian vegetation, and ridgelines. Maintaining movement corridors to allow access to the different biotic resources are essential to supporting various species. Evaluating the importance of an area that may function as a "movement corridor" depends on the species that occur in the area and that are dependent upon the natural resources or habitats in the area. While no detailed study of animal movements has been conducted for the study area, evaluating the site, its habitats, and understanding the life history of species potentially occurring on the site and in its vicinity provides sufficient information to infer the types of movements occurring in the region and whether or not proposed development would constitute a significant impact on animal movements.

METHODS

(briefly describe the survey methods used in preparing the report and show on an appropriately scaled map the location of sample points, transects, and any additional areas surveyed in the vicinity of the project.)

Aerial photographs were reviewed prior to background research and field surveys to identify potential habitat types, migration corridors, habitat connectivity, and potentially sensitive biological resources of the area, including but not limited to wetlands and streams.

BACKGROUND RESEARCH

Existing special-status species databases were reviewed to compile a list of sensitive natural communities and special-status species potentially occurring in the vicinity of each project area. Database queries included observations found in six USGS 7 ½ -minute quadrangles (quads) (collectively referred to as a six-quad search area). The six-quad search area was centered on the Montara Mountain quad and included the bordering quads of Half Moon Bay, San Mateo, Woodside, Hunters Point and San Francisco South.

The following data sources were queried:

- US Fish and Wildlife Service (USFWS) Sacramento Field Office Web Site: An official list of federal candidate, proposed, threatened, and endangered plant and wildlife species having the potential to occur in a six- quad search area (USFWS 2015).

- California Natural Diversity Database (CNDDB): A list of federal and State special-status, proposed, threatened, and endangered plant and wildlife species, California Department of Fish and Wildlife (CDFW) designated sensitive natural communities, and California Native Plant Society (CNPS) listed special-status plant species was generated using a six-quad search area (CDFW 2015).

- CNPS Online Inventory of Rare and Endangered Plants of California: A list of CNPS special- status plant species that may occur in the project vicinity was generated using a nine-quad search (CNPS 2015).

- U.S. Geological Survey (USGS) National Hydrography Dataset (NHD): This national dataset depicts surface water features such as rivers, streams, lakes, ponds, drainage basins, and coastlines. This data was used to identify water features within the vicinity of the study area (USGS 2015).

FIELD SURVEYS

A reconnaissance level pedestrian survey of the study area was conducted on April 24, 2015 by Anna Kopitov, Senior Biologist and Neal Kramer, Senior Botanist and Wetland Specialist. Accessible areas were surveyed in a manner to ensure total survey coverage with special focus given to identifying areas with the potential to support sensitive habitats, rare, endangered, special-status and unique species. The weather was calm with clear skies and the temperature in the low to mid 50 degrees Fahrenheit.

Potentially Jurisdictional Waters and Other Regulated Habitats

Kopitov Environmental biologists evaluated the study area to determine if any areas met the definition of waters of the US, state and/or the County's zoning code and LCP. Field biologists generally followed the wetland determination methodology as described in the 1987 U.S. Army Corps of Engineers Wetlands Delineation Manual (Environmental Laboratory 1987) and Arid West Supplement (USACE 2008). Kopitov Environmental L.L.C. biologists also assessed the surrounding habitat and land use types to evaluate potential effects on wildlife movement corridors and breeding habitats.

Special Status Species

The entire study area was accessed on foot with the exception of portions that were on private

land or in areas that were inaccessible as described below. Private lands and other inaccessible areas were visually assessed from nearby vantage points (i.e. roads, arroyo edge). All plant species in bloom, or otherwise recognizable, were identified to a level necessary to determine their regulatory status. All wildlife species observed or recognized by diagnostic sign (e.g., scat, tracks, prey remains, burrows, etc.) were recorded and identified.

Based on the findings of the field surveys, special status species lists were updated to include an assessment of the potential to support special-status species and to determine whether subsequent protocol-level surveys are recommended (appendix A, tables 2 and 3). Potential for occurrence is defined using the following categories.

1. None - Habitat requirements do not occur in the project area. No further surveys recommended.
2. Not Expected - Existing conditions or poor habitat quality make it unlikely that the species is present.
3. Possible - Suitable habitat present and documented occurrences recorded in the survey area or nearby.
4. Present - Species or species' sign was observed on the project area.

Botanical taxonomy and nomenclature in this report conforms to The Jepson Manual: Vascular Plants of California, 2nd Edition (Baldwin et. al. 2012). Common names of plant species were derived from The Calflora Database (Calflora 2015). Nomenclature for special-status plants conforms to the Online CNPS Inventory of Rare and Endangered Plants, 8th Edition (CNPS 2015) and Special Vascular Plants, Bryophytes and Lichens List (CDFW 2015). Wetland plant indicator status listings conform to the 2015 National Wetland Plant List (Lichvar 2013).

Limitation

Protocol-level plant and wildlife surveys were not conducted during the field survey. Negative survey findings may not indicate absence; however, determination of presence/absence within the study area was possible for some special-status plant and animal species referencing the following, but not limited to, blooming periods corresponding to the 2015 site visit, or the direct observation or presence of diagnostic signs for wildlife species.

Wetlands, waters, and/or riparian areas under the purview of state and local regulatory agencies may have broader jurisdictional scope and/or overlapping jurisdictions with that of the USACE. Final judgment of potentially jurisdictional wetlands, waters of the state and U.S., should be confirmed by the appropriate federal, state or local regulatory agency. Wetland and ordinary high water mark delineations were not completed due to topographic constraints (i.e. steep arroyo).

RESULTS

(at length, describe the botanical and zoological resources of the project site. To the extent possible, describe the food chain of the habitat and how the proposed project will impact those resources.

Kopitov Environmental L.L.C. senior biologists Anna Kopitov and Neal Kramer conducted a field survey of the study area on April 24, 2015. Background research of the above databases was conducted in April, 2015 for special status species and communities. Background research results appear in Appendix A.

FOOD CHAIN RESOURCES

The study area includes an undeveloped parcel, a grove of Monterey cypress trees, poison oak/blackberry and non-native grasses/ruderal vegetation with beach strawberry. These habitat types provide poor to moderate habitat for native plant species, and moderate habitat for native wildlife species. Wildlife species that likely utilize the site include raccoon (*Procyon lotor*), striped skunk (*Mephitis mephitis*), and Virginia opossum (*Didelphis marsupialis*). Amphibian and reptile species that may seek shelter or forage within the brush and riparian corridor nearby include California slender salamander (*Batrachoseps attenuatus*), Pacific tree frog (*Pseudacris regilla*), western fence lizard (*Sceloporus occidentalis*), and coast garter snake (*Thamnophis elegans*). Bird species that may utilize the ruderal vegetation for nesting, forage and shelter, poison oak scrub and Monterey cypress grove on site include migratory passerines such as house finch (*Carpodacus mexicanus*), song sparrow (*Melospiza melodia*), Bewick's wren (*Thryomanes bewicki*), and black phoebe (*Sayornis nigricans*), and raptors such as red-tailed hawk (*Buteo jamaicensis*).

POTENTIALLY JURISDICTIONAL WATERS

There were no potentially jurisdictional waters of the state or US on the project area. Dean Creek and associated riparian habitat are potentially jurisdictional waters of the County, State and US.

Dean Creek, an intermittent stream, flows adjacent to the project area at the bottom of a steep gully (arroyo) on the south boundary. A portion of Dean Creek flows through underground pipes and a portion flows on open channel (ESA 2014). The arroyo along the south boundary of the property was too steep to safely traverse; however, biologists examined the mouth of Dean Creek that flows to Kelp Cove, Fitzgerald Marine Reserve. An old, rusted, and broken metal pipe was observed on the bed of the creek. It could not be determined how far this pipe continued upstream but it is presumed this pipe may run the length of the creek until it is undergrounded. The creek bed was damp with no standing water observed in the accessible portion of the creek bed (approximately 60-100 feet from mouth); a shallow amount of water (<1-inch deep) was observed inside the pipe at about 100 feet upstream of mouth.

Hydrophytic plants on the creek bed and bank approximately 60 - 75 feet upstream of the creek mouth included arroyo willow (*Salix lasiolepis*), *Typha species* (*sp.*), hoary stinging nettle (*Urtica dioica ssp. holosericea*), watercress (*Nasturtium officinale*), water parsley (*Oenanthe sarmentosa*), silver weed cinquefoil (*Potentilla anserine*) and curly dock (*Rumex crispus*). Hydrophytic plants appeared to be restricted to the creek bed around the pipe. Typha sp. was also observed further upstream covering a larger area possibly indicating a potential wetland or a wider stream bed.

Other plant species observed at the toe of the arroyo and within the creek bed and bank included Italian stone pine (*Pinus pinea*), garden nasturtium (*Tropaeolum majus*), cape ivy (*Delairea odorata*), pampas grass (*Cortaderia selloana*), periwinkle (*Vinca species*), wild radish (*Raphanus sp.*), and iceplant/hottentot fig (*Carpobrotus edulis*).

Monterey cypress lined the top of the arroyo and continued down the slope. A portion of the arroyo adjacent to the project boundary was degraded by human use (i.e. rope swings on the cypress trees). There was no visible understory.

VEGETATION COMMUNITIES, SENSITIVE HABITATS AND SPECIAL STATUS SPECIES

Plant Communities

The study area consisted of five general vegetative communities described below (figure 2). Refer to Appendix B for a complete list of plants observed during the field surveys.

Non-native Grassland/Ruderal. Non-native Grassland/Ruderal vegetation covers the majority of the project site. "Ruderal" refers to areas that have been heavily impacted by human disturbance, such as roadsides and old fields/vacant lots, and support vegetation that is adapted to that type of environment. Ruderal species recorded within the study area were primarily non-native. The dominant species included non-native gazania and non-native grasses. Few native grass species detected included California brome (*Bromus carinatus var. carinatus*) and California hairgrass (*Deschampsia cespitosa ssp. holciformis*). Beach strawberry (*Fragaria chiloensis*) was observed on this community, concentrated mostly around a Monterey cypress and bordering the dense poison oak/California blackberry patch. Iceplant (*Carpobrotus edulis*) was also present on the study area.

Monterey Cypress. Cypress trees line the southern boundary of the parcel, along and downward on the arroyo slopes. The understory was characterized by bare ground and non-native plants. A single cypress tree, growing apart from the grove, was observed on the southern portion of the project area.

Poison Oak/California Blackberry. A poison oak/California blackberry was on the southern portion of the parcel (Figure 2). The poison oak/California blackberry habitat included common yarrow, bee plant, wild radish and stinging nettle. This community was adjacent to the cypress grove and bordering the arroyo. California blackberry was also found throughout the arroyo.

Herbaceous/Ruderal. A dense cover, dominated by non-native species, was observed on the arroyo slopes and bottom. Dominant species included periwinkle (*Vinca sp.*), nasturtium, cape ivy, California blackberry, and iceplant.

Wetland/Riparian. Hydrophytic plants were observed along the sides of the pipe on the creek bed. Species included Typha species, watercress, water parsley, and stinging nettle.

Sensitive Habitats

The Section 7.1 of the County of San Mateo LCP 7.1 defines Sensitive Habitats

> "as any area in which plant or animal life or their habitats are either rare or especially valuable and any area which meets one of the following criteria: (1) habitats containing or supporting "rare and endangered" species as defined by the State Fish and Game Commission, (2) all perennial and intermittent streams and their tributaries, (3) coastal tide lands and marshes, (4) coastal and offshore areas containing breeding or nesting sites and coastal areas used by migratory and resident water-associated birds for resting areas and feeding, (5) areas used for scientific study and research concerning fish and wildlife, (6) lakes and ponds and adjacent shore habitat, (7) existing game and wildlife refuges and reserves, and (8) sand dunes. Sensitive habitat areas include, but are not limited to, riparian corridors, wetlands, marine habitats, sand dunes, sea cliffs, and habitats supporting rare, endangered, and unique species. In addition to the intermittent creek discussed above, the study includes sea cliffs (bluffs)."

Four sensitive habitats were observed on the study area: habitats supporting rare and endangered

May 2015

Attachment G

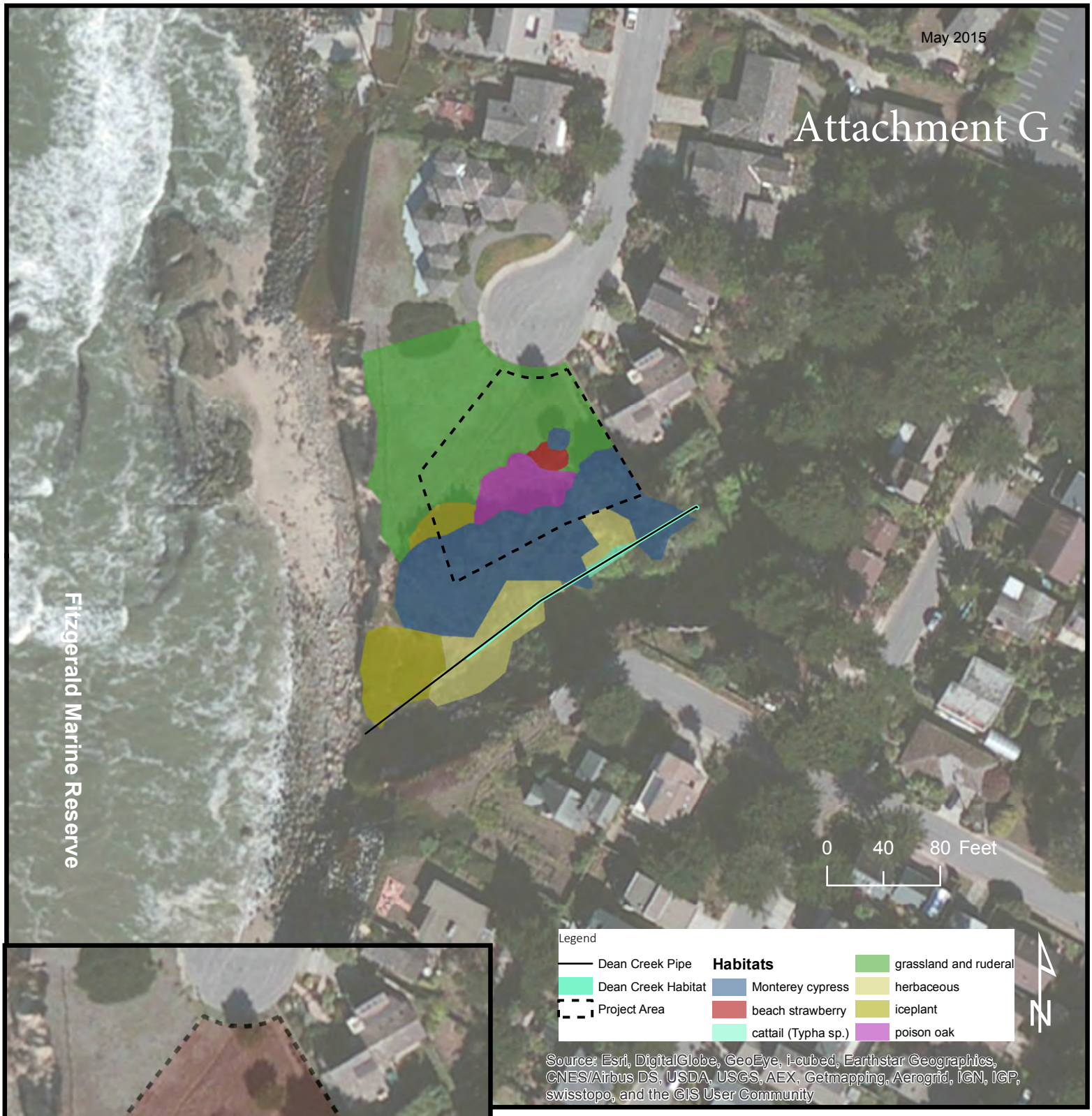


Figure 3
Study Area Vegetation
and Habitats

KOPITOV ENVIRONMENTAL

Biological Resource Assessment
199 Arbor Lane
Moss Beach, California

Date: 05/07/2015

species; Dean Creek; Fitzgerald Marine Reserve, an existing game and wildlife refuges and reserves; and sea cliffs (bluffs). Dean Creek, Fitzgerald Marine Reserve and vegetation communities of the study area have the potential to

Dean Creek

Dean Creek is an intermittent stream that provides potentially suitable habitat for rare, endangered and special status species. Per San Mateo County Local Coastal Program Policy 7.1, all intermittent streams are defined as sensitive habitats. Policy 7.3 (b) Protection of Sensitive Habitats states: "Development in areas adjacent to sensitive habitats shall be sited and designed to prevent impacts that could significantly degrade the sensitive habitats. All uses shall be compatible with the maintenance of biologic productivity of the habitats." The required buffer zone, pursuant to 7.11 Establishment of Buffer Zones (b), requires a 30-foot buffer zone from the midpoint of intermittent streams where no riparian vegetation exists along both sides of riparian corridors.

The project would have no impact on the intermittent stream or associated wetland vegetation. Dean Creek elevation ranges from 10 feet to 62 feet (creek mouth to Cabrillo Highway). The stream's elevation south of the project site is approximately 35 feet. The stream's centerline was approximately 28 to 40 feet from the project area. The proposed scenic easement would exceed the LCP intermittent stream buffer zone of 30-feet. The mid-point was based on the observed pipe located on the streambed and a review of the USGS NHD.

Fitzgerald Marine Reserve

The Fitzgerald Marine Reserve is managed by the County of San Mateo Parks Department. It is an Ecological Reserve by State of California designation authorized by the Marine Resources Protection Act of 1990 (California Fish and Game Code, Article 4, Section 1580-1584) (County Parks Department 2015). The ecological reserve is intended to protect natural areas with use restricted to scientific research relating to the management and enhancement of marine resources. Except as authorized in conjunction with scientific research approved by the California Department of Fish and Game and the San Mateo County Department of Parks, no disturbance or taking of marine life, archaeological resources or geological formations is allowed, and no fishing or collecting is permitted (County Parks Department 2015). The project would not impact the marine reserve.

Sea Cliffs

The project would not impact the sea cliff with the implementation of the required 50-foot setback.

List and discuss all probable impacts to threatened, rare, endangered or unique species either listed or proposed by the Local Coastal Program, a Federal or State agency, or the California Native Plant Society, both on-site and within an area of one- quarter mile radius from the project location.

Special Status Plants

Based on the review of available databases and literature for the six-quad search area, 56 special-status vascular and non-vascular plant species were identified with the potential to occur (CDFW 2015; CNPS 2015; USFWS 2015). Table 2 in appendix A describes each species, its habitat requirements, regional occurrences, listing status and potential to occur in the study area. Special status plant species known to occur within 3 miles the vicinity of the study area are shown in figure 3. Representative photographs of the study area appear in appendix B.

No special status species were detected during the field visit. Suitable habitat may be present for (*Potentilla hickmanii*) and coastal marsh milk-vetch on the Dean Creek habitat. Two CNPS listed species, coast yellow leptosiphon (*Leptosiphon croceus)* and rose leptosiphon (*L. rosaceus*), could have the potential to occur on the study area based on background research. However, these were deemed absent with no potential to occur because none were detected during the survey that was conducted in the peak blooming period. The peak blooming period was confirmed by visiting to two reference populations located within 1 mile of the project.

There were no USFWS-designated critical habitats for plant species within 5 miles of the project area. A complete list of plant species observed during the field survey is included with this report as appendix C. Hydrophytic plants are classified according to the *Arid West, 2013 Regional Wetland Plant List* (Lichvar 2013).

Special Status Wildlife

Based on a six-quad query of special-status wildlife, a total of 32 special status wildlife species were considered to have potential to occur (appendix A). CNDDB special-status wildlife species recorded within five miles of the study area are shown in figure 4. A summary of the formal status, habitat affinities, and potential for occurrence within the study area for each of the wildlife species assessed is presented in appendix A, table 3. No special-status species or signs of special status species were detected during the field survey. Species dependent upon ocean and beach habitat are not included in this analysis because the project would have no impact to salt water and beach habitats.

Six special-status or unique species have the potential to occur in the study area: monarch butterfly (*Danaus plexippus*), California red-legged frog (*Rana draytonii*), San Francisco garter snake (*Thamnophis sirtalis tetrataenia*), salt marsh common yellowthroat (*Geothlypis trichas sinuosa*), San Francisco dusky-footed woodrat (*Neotoma fuscipes annectens*), and hoary bat (*Lasiurus cenereus*). These species have the potential to occur in the study area due to nearby occurrences and/or potentially suitable habitat.

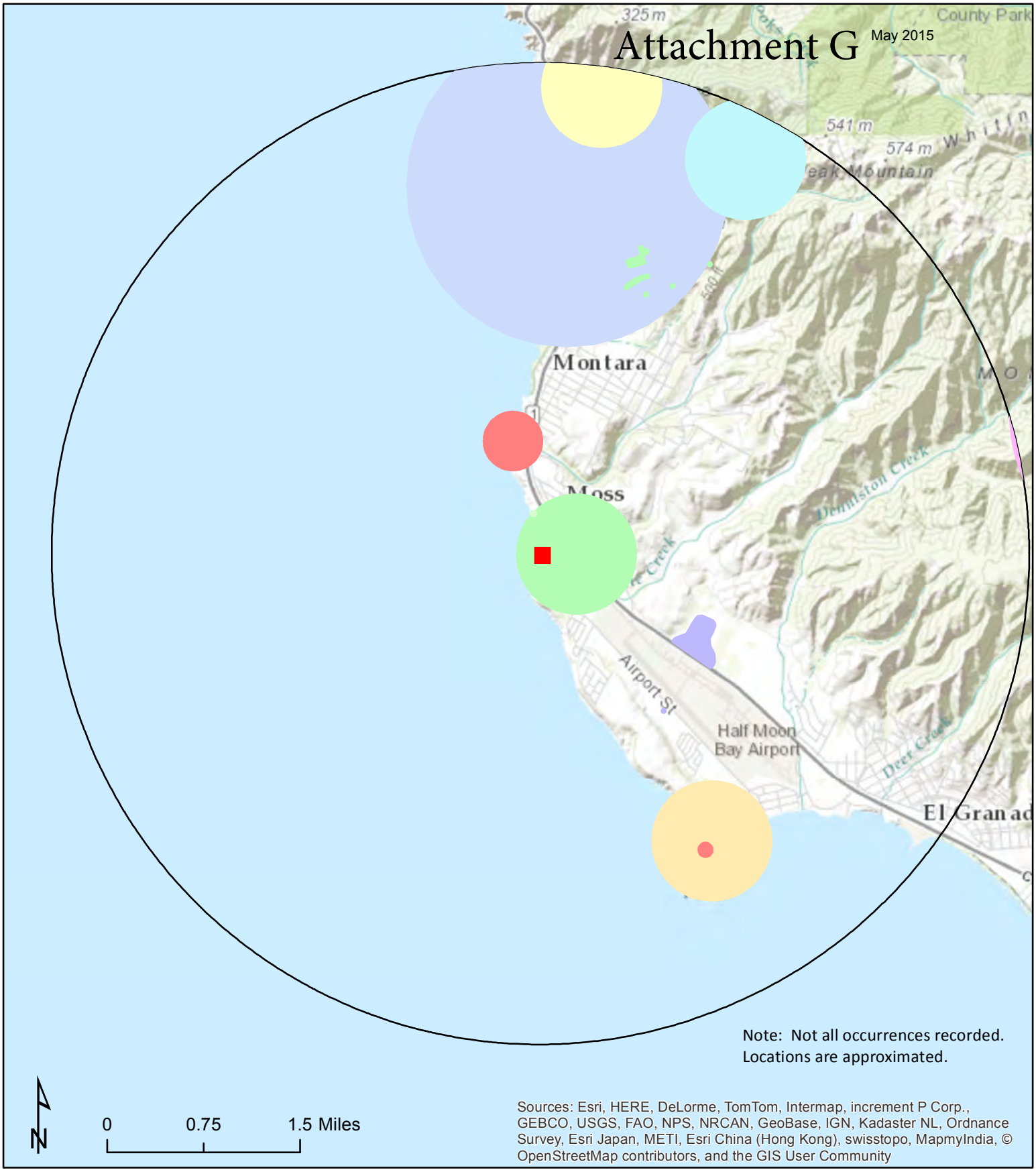
Monarch Butterfly (*Danaus plexippus*)
The nearest known roost site is located approximately 2 miles east of the project. The Monterey cypress, on the project area, has the potential to provide winter roosting habitat. Threats to monarch butterflies include loss of winter roost habitat. Tree removal on the project area could result in a less than significant impact to potential winter roosting habitat as the majority of the cypress grove would not be affected by the project.

California red-legged frog *(Rana draytonii)*
The California red-legged frog (CRF) is a federally threatened species and a California Species of Special Concern. These ranids spend the majority of their lives in or near ponds, marshes, springs, streams, and reservoirs. Aquatic areas characterized by deep pools and associated dense stands of overhanging willows and cattails are considered optimal habitat. CRF have been documented to breed in artificial ponds (i.e. stock and agricultural ponds) as well as natural ponds and wetlands. Breeding occurs generally between November and March and frogs often lay their eggs during or shortly after large rainfall events in late winter or early spring. Their eggs require 11-20 weeks for larval development (Stebbins and McGinnis 2011).

CRF were recorded moving long distances over land between water sources during winter rains

Attachment G

May 2015



Legend

- Project
- Three mile buffer
- Franciscan thistle
- Hickman's cinquefoil
- Kings Mountain manzanita
- Ornduff's meadowfoam
- San Francisco campion
- San Francisco gumplant
- coast yellow leptosiphon
- coastal marsh milk-vetch
- rose leptosiphon

Figure 4

CNDDB Special Status Plants within a 3-mile radius

KOPITOV ENVIRONMENTAL

Biological Resource Assessment
199 Arbor Lane
Moss Beach, California
Date 5/07/2015

with movements occurring mostly at night. Bulger et al. (2003) documented adult California red-legged frog moving more than 2 miles "without apparent regard to topography, vegetation type, or riparian corridors" in northern Santa Cruz County. Upland habitat requirements include a blend of riparian, upland dispersal habitats with downed woody vegetation, leaf litter, and small mammal burrows, which provide protection from predation and desiccation.

The USFWS has designated four primary constituent elements (PCEs) considered to be essential for the conservation or survival of this species. These include aquatic breeding habitat, non-breeding aquatic habitat, upland habitat, and dispersal habitat (USFWS 2006). Dispersal habitat includes accessible upland or riparian habitats between occupied locations within 0.7 miles of each other that allow for movement between sites. Moderate to high density urban or industrial developments, large reservoirs and heavily traveled roads without bridges or culverts are considered barriers to dispersal (USFWS 2006).

Critical Habitat. Federally designated critical habitat is located within approximately 0.5 miles east of the study area.

Habitat assessment and occurrence in the study area. CRF adults or juveniles were not observed during the site visit; however, CRF have been found within approximately 1.5 miles to the south near ponds located west of the Half Moon Bay Airport and a sighting was reported during the construction of the nearby Fitzgerald Marine Reserve Dardenelle Trail in 2012. Since the study area was within species' dispersal range, the potential for occurrence in study area remains. Breeding habitat was not observed on the project area.

Threats. California red-legged frogs are threatened by a variety of human caused actions such as urban development, wetland habitat loss and habitat fragmentation. CRF also fall prey to species such as domestic cats, raccoons, snakes and bullfrogs.

San Francisco garter snake (*Thamnophis sirtalis tetrataenia*)

The San Francisco garter snake (SFGS) is a federal and state listed endangered species and it is a fully protected species under Section 5050 of the CFGC. Historically, SFGS's range was restricted to the San Francisco Peninsula from just south of the San Francisco-San Mateo County border along the eastern and western base of the Santa Cruz Mountains. While some local populations may have been either extirpated or diminishing, the species' range may not have changed (USEPA 2010).

Prime habitats include aquatic habitats with dense vegetation, preferably near open hillsides, and with shallow water edges (EPA 2010). The SFGS's peak activity occurs during spring and early summer when they are typically found near ephemeral ponds hunting Pacific tree frogs (*Pseudacris regilla*) that use the shallow ponds for breeding. As the ephemeral ponds dry, SFGS move to more permanent aquatic habitats where CRF breed, another valuable prey source. Other prey species include California newts (*Taricha torosa*), western toads (*Anaxyrus boreas*), and mosquito fish (*Gambusia affinis*). SFGS also requires suitable upland habitats for basking, shelter and hibernacula (Stebbins 2011; EPA 2010).

Upland habitat characteristics include, but are not limited to, open grassy habitat, coyote bush (*Bacharis pilularis*), wild oat (*Avena fatua*), wild barley (*Hordeum spp.*) and various brome species (*Bromus spp.*) (USFWS 2006; Larsen 1994). Shrub species likely provide sufficient cover from predators and grasses provide exposed surfaces for basking (USFWS 2006). San Francisco garter snake also retreat to shelters for dormant periods (hibernacula); upland habitats inhabited by fossorial mammals, such as Botta's pocket gopher, provide

important hibernacula.

Mating occurs generally during early warm days of spring as snakes emerge from hibernacula and disperse to nearby aquatic habitat (EPA 2010). Females retain fertilized eggs inside their body until hatching, generally in July and August, so that SFGS offspring are born live and independent (EPA 2010). A single female may produce 12-24 offspring (EPA 2010).

Threats. San Francisco garter snakes are threatened by a variety of human caused actions such as urban development, wetland habitat loss and habitat fragmentation. San Francisco garter snake also fall prey to species such as domestic cats, raccoons and bullfrogs.

Critical Habitat. Critical habitat has not been designated for this species.

Habitat assessment and occurrence in the study area. The historic range for SFGS includes the entirety of San Mateo County (USFWS 2006). The nearest occurrence was approximately 1.5 miles south of the study area. Since the project area was within species' dispersal range, there was the potential for Dean Creek and the study area could provide dispersal and upland habitat for this species.

San Francisco dusky-footed woodrat (*Neotoma fuscipes annectens*)
The San Francisco dusky-footed woodrat is a CDFW species of special concern. This species typically inhabits brushy and forested habitats in California. The woodrat builds mounded, multi-chambered stick complexes, often referred to as lodges, which range from 4 to 8 feet in diameter and up to 6 feet in height.

San Francisco dusky-footed woodrat structures were not observed on the study area but since the creek habitat was inaccessible it was not possible to eliminate the species potential for occurrence in the arroyo. The study area provided potential for San Francisco dusky-footed woodrat to use the poison oak and Monterey cypress habitat for forage and nesting.

Threats. Habitat loss and anthropogenic disturbance threaten this species.

Salt marsh common yellowthroat (*Geothlypis trichas sinuosa*)

The salt marsh common yellowthroat is a California species of special concern. It is a year round resident of San Mateo County. Its primary habitat includes dense vegetation of wetlands, marshes, estuaries, prairies and riparian areas that are used for nesting and foraging. The nearest recorded occurrence was approximately 1.8 miles south of the project in Princeton Marsh (CNDDB 2012). This species was not detected during the site visit; however, Dean Creek has potentially suitable habitat to support this species.

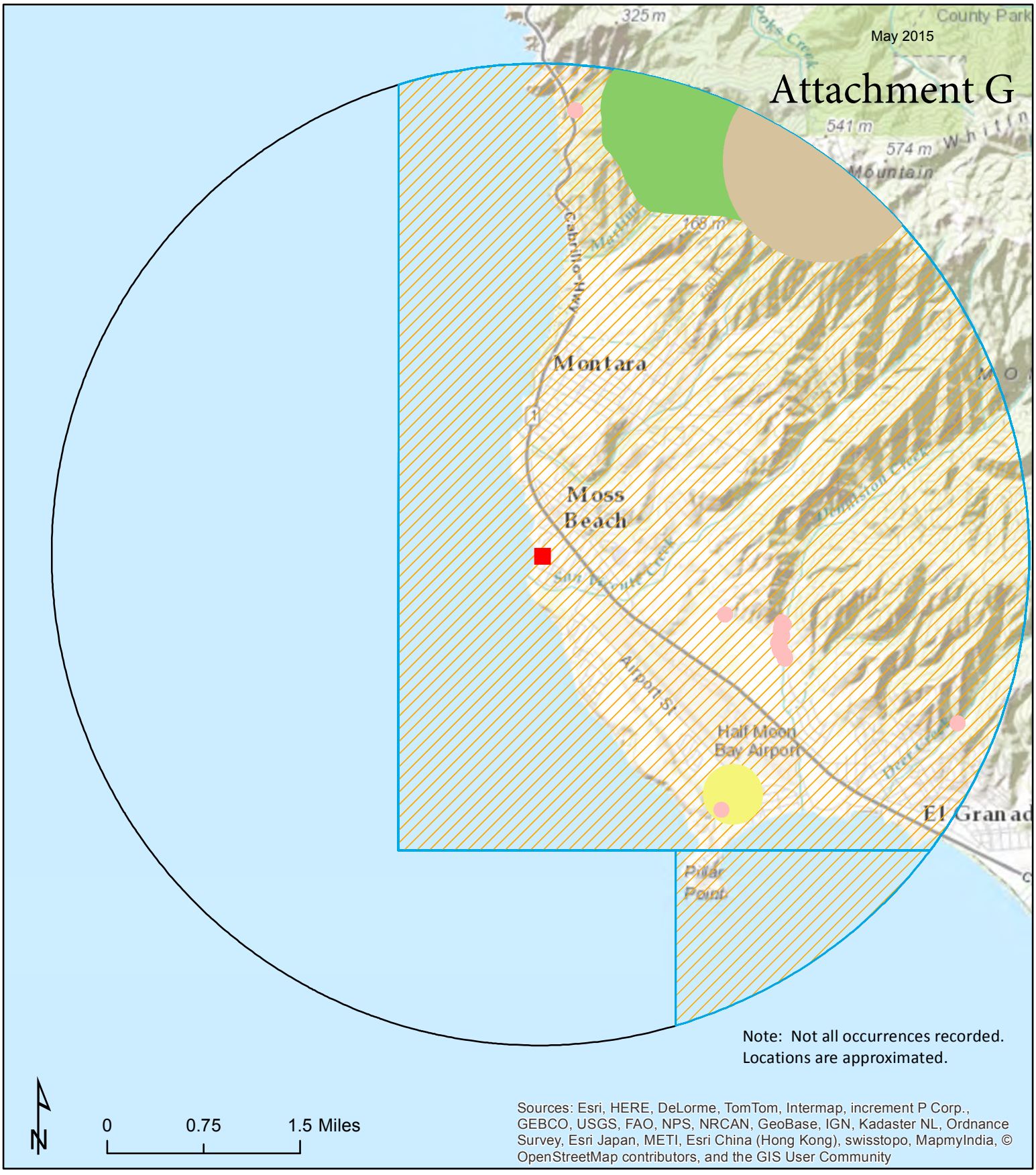
Bats

All bat species are given special consideration under CEQA. Bats could roost in nearby structures and Monterey cypress and may forage over the site. Threats include loss of habitat and mortality due to human activities.

Migratory Nesting Birds and Raptors

May 2015

Attachment G



Legend

- Project
- Three mile buffer
- American badger
- California red-legged frog
- San Bruno elfin butterfly
- San Francisco garter snake
- monarch - California overwintering population
- saltmarsh common yellowthroat

Figure 5
CNDDB Special Status Wildlife within a 3-mile radius

KOPITOV ENVIRONMENTAL

Biological Resource Assessment
199 Arbor Lane
Moss Beach, California
Date 5/07/2015

The Monterey cypress and poison oak provide suitable nesting and foraging habitat for migratory nesting birds and raptors.

Migration, Travel Corridors and Habitat Fragmentation

The project would result in the loss of some habitat that could potentially be sued for migration and travel corridors; however, the project would likely result in less than significant adverse effects to the movement of native resident species or migratory wildlife species or corridors. The arroyo, sea cliffs and adjacent vacant lot would continue to provide connectivity to migration and travel corridors.

The following wildlife species, or signs of wildlife, were detected during the 2015 field survey: American bushtit (*Psaltriparus minimus*), chestnut-backed chickadee (*Poecile rufescens*), house finch (*Carpodacus mexicanus*), killdeer (*Charadrius vociferous*) and California towhee (*Pipilo crissalis*). Signs of Botta's pocket gopher (*Thomomys bottae*), domestic dog (*Canis lupus familiaris*), and domestic cat (*Felis catus*) were detected on the study area.

DISCUSSION, IMPACT ANALYSIS AND MITIGATION MEASURES

The impact assessment was based on the project information provided by Carlos Zubieta, architect, standard building practices for single-family residences, and the standards of significance described below. The impact assessment discusses impacts to the study area. Avoidance and mitigation measures are presented in table 1.

STANDARDS OF SIGNIFICANCE

The following thresholds for measuring a project's environmental impacts are based on Appendix G of the CEQA Guidelines and previous standards of significance used by the City (California Code of Regulations, Title 14, Division 6, Chapter 3, Section 15000 et seq.).

For the purpose of this report, impacts are considered significant if the following could result from implementation of the proposed project:

- Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, endangered, threatened, or other special status in local or regional plans, policies and regulations, or by the CDFW or USFWS;

- 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 CDFW or USFWS;

- Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, coastal, riverine, stream, marsh, vernal pool, etc.) as a result of direct removal, filling, hydrological interruption, or other means;

- 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;

- Conflict with any local polices or ordinances protecting biological resources, such as tree preservation policy; or

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

- CEQA Guidelines Section 15380 further provides that a plant or wildlife species may be treated as "rare or endangered" even if not on one of the official lists if it is likely to become endangered in the foreseeable future.

An evaluation of the significance of potential impact on biological resources must consider both direct effects to the resource as well as indirect effect in a local or regional context. Potentially significant impacts would generally result in the loss of a biological resource or obviously conflict with local, state, or federal agency conservation plans, goals, policies, or regulations. Actions that would potentially result in a significant impact locally may not be considered significant under CEQA if the action would not substantially affect the resource on a population-wide or region-wide basis. Impacts are denoted by BIO-IMP and mitigation measures are denoted by BIO-MM.

IMPACTS AND MITIGATION MEASURES

Wetlands and Sensitive Habitats. The Project would not result in substantial adverse effects to any County, State or Federally protected wetlands or streams through direct removal, filling, hydrological interruption, or other means provided appropriate buffer areas and construction best management practices are implemented. However, construction activities could increase stormwater runoff to Dean Creek. Implementation of mitigation measures such as sediment and erosion control best management practices would reduce impacts to less than significant. See table 1, BIO-IMP 1 and BIO-MM1.

Special Status Species.

The project would result in no impacts to special status plants. Although some special status plants occur within one mile of the project area, field surveys conducted during peak blooming period found no special status plants on the project area or no potentially suitable habitat on the project area.

Beach strawberries were observed on the project area and would be impacted by the project clearing. California wild strawberry is regulated by the LCP as stated below.

> Policy 7.49 Require any development, within one-half mile of the coast, to mitigate against the destruction of any California wild strawberry in one of the following ways:
>
> a) Prevent any development, trampling, or other destructive activity which would destroy the plant; or
>
> b) After determining specifically if the plants involved are of particular value, successfully transplant them or have them successfully transplanted to some other suitable site. Determination of the importance of the plants can only be made by a professional doing work in strawberry breeding.

This California wild strawberry population was determined to be of no significant value by a professional doing work with strawberry breeding (Mark Bolda, personal communication, May 7, 2015). Thus, mitigation would not be required for population.

Special status plant species occurring within a 3-mile radius were identified. Coastal marsh milk-vetch, Hickman's cinquefoil, rose leptosiphon and yellow leptosiphon habitat characteristics include the stream habitat and coastal bluff observed on the study area. The project would have no impact on the stream habitat, with implementation of stormwater best management practices to the stream habitat, thus, no impact to these species. There would be no impact to coastal bluff species because these species were deemed absent from the project area.

Construction activities could result substantial adverse effects to California red-legged frog and San Francisco garter snake in the form of direct mortality from construction activities and indirectly by interfering with dispersal. Both species have the potential for dispersal and movement from breeding ponds and creeks into the study area during significant rain events. Construction activities include, but are not limited to, vegetation removal, grading, staging and other construction related activities related to the proposed project. Implementation of mitigation measures would reduce potential adverse effects to less than significant.

At no time should California red-legged frog and San Francisco garter snake be handled, harassed or approached (i.e. picked up, trapped, or any action altering the natural behavior, etc.). If the species are observed, work shall stop until it leaves the worksite on its own, or if it does not leave, coordination with the USFWS and CDFW shall be implemented.

Implementation of BIO-MM2 would reduce impacts to less than significant.

Impacts to Nesting Migratory Birds and Raptors including salt marsh common yellowthroat. If the project activities coincide with the typical nesting bird season (February 15 to September 15), the project has the potential to result in substantial adverse effects to nesting birds as a result of nest abandonment or direct take of birds, young, nests, and eggs. Vegetation removal should occur, if possible, during the non-nesting period. Implementation of BIO-MM3 would reduce impacts to less than significant.

Impacts to San Francisco Dusky-footed Woodrat. The project could result in significant adverse effects to San Francisco dusky-footed woodrat if woodrats are nesting in the poison oak habitat. Implementation of BIO-MM4 would reduce effects to less than significant.

Impacts to Movement of Native Resident or Migratory Wildlife Species or Migratory Corridors. Although the project would eliminate some habitat, the arroyo, cypress grove and undevelopable adjacent lot will continue to provide movement corridors for native resident and migratory wildlife. The project would result in no impact to this resource.

Table 1 Impacts and Mitigation Measures

Impact	Mitigation Measure	Result
BIO-IMP 1: *Potential impacts to County, State or Federally protected wetlands or streams.* Less than significant with implementation of mitigation measures.	**BIO-MM1: Implement stormwater best management practices to reduce stormwater related erosion in accordance with the County's LCP**. Where sediment erosion control materials are installed, repaired or removed (i.e. wattles, silt fences, etc.), a qualified biologist should check the work area to ensure that sensitive species are not present or entrapped. Polymesh and/or other similar materials should not be used as these can entrap or snag reptiles, amphibians, or other small animals.	Implementing the mitigation measures would reduce any potential effects to wetlands or streams to less than significant by controlling sediment and erosion.
BIO-IMP 2: *Impacts to California red-legged frog and San Francisco garter snake.* Project could result in substantial adverse effects to CRF and SFGS in the form of direct mortality from construction activities, and indirectly by interfering with dispersal.	**BIO-MM2: Avoid, minimize and mitigate for impacts to CRF and SFGS and their habitat.** Within 48 hours prior to the onset of any project-related project activities qualified biologist should conduct pre-construction surveys of the project area to ensure that no CRF or SFGS are present. Immediately prior to vegetation removal or other construction activities, a biologist familiar with the habitat requirements of California red-legged frog and San Francisco garter snake shall conduct a preconstruction survey to determine whether any of these species is within the project area. A minimum 3-foot high exclusion fence shall be installed around the limits of construction, including clearing, grading, and staging, or the entire to create a barrier that would prevent CRF and SFGS from entering the project site unless otherwise directed by the County, USFWS or CDFW. No polymesh or similar materials should be used as fencing materials. The fencing should be removed only when all construction equipment is removed from the site. Fencing shall be inspected and any opening shall be repaired immediately. If openings are found, the project area shall be inspected by a biological monitor to ensure special status species have not entered the project area. If California red-legged frog or San Francisco garter snake are identified in the work area during preconstruction surveys or at any subsequent time during construction, construction activities in the immediate area shall halt until the species has left the area without interference. Vegetation or other materials should not be stockpiled at the worksite as it provides potential hiding areas for CRF and SFGS (and other wildlife species). Vegetation should be placed directly into a disposal container and removed from the area, as is practicable. If vegetation is stockpiled on the ground, removal should be conducted under the	Implementing mitigation measures would avoid or reduce adverse affects to California red-legged frog and San Francisco garter snake.

Table 1 Impacts and Mitigation Measures

Impact	Mitigation Measure	Result
	supervision of a qualified biologist. A worker education program and/or education materials prepared by a qualified biologist shall be provided to all workers on site prior to onset of activities. If required by the County, CDFW or USFWS, a biological monitor shall inspect the project area prior to the beginning of construction activities to ensure CRF and SFGS have not entered the project area. The designated biological monitor could be a construction team manager or supervisor trained in the identification of special-status species. Under no circumstances should CRF and SFGS be handled, relocated or otherwise harmed or harassed at any time. The County, USFWS and CDFW shall be notified immediately upon discovery of this species on the project areas.	
BIO-IMP 3: *Impacts to nesting migratory birds and raptors*. The project could result in nest destruction or nest abandonment during construction activities.	**BIO-MM3: Pre-construction nesting bird surveys and buffer zones.** If the project activities coincide with the nesting bird season (February 1 to September 15), pre-construction nesting bird surveys shall be conducted by a CDFW-approved biologist no more than 10 days prior to planned construction activities in order to locate nests within and adjacent to the proposed work area. For all migratory bird species, the survey will include nesting birds within an area 100 feet from the project. If no active nests are detected, construction activities can take place as scheduled. If an active nest is observed, the following shall be implemented: The project should be modified as necessary to avoid direct take of identified nest, eggs, and/or young. Modifications may include establishment of protective buffer as determined by a qualified biologists. Typical protective buffer zones are 50-feet for passerine nests and 250-feet for raptors. If construction activities are significantly impacted by the buffer zones, CDFW should be contacted to request a reduced buffer that would still protect nesting birds.	Nesting birds, including salt marsh common yellowthroat, would be protected from disturbance and harm.

Table 1 Impacts and Mitigation Measures

Impact	Mitigation Measure	Result
BIO-IMP 4: *Impacts to San Francisco Dusky-footed Woodrat.* The project could result in adverse effects to San Francisco dusky-footed woodrat in the form of nest destruction.	**BIO-MM4: Pre-construction survey, Flag and Relocate Dusky-footed Woodrat Nests.** Prior to the start of vegetation removal, a biologist familiar with the species and its habitat requirements shall survey for San Francisco dusky-footed woodrat nests within or immediately adjacent to the potential habitat (i.e. poison oak scrub). If no nests observed, then no further mitigation would be required. If nests are observed but would not be directly impacted by project activities, the biologist shall establish a 10-foot buffer around the nests using exclusion fencing to ensure they are not accidentally destroyed by construction activities. Exclusion fencing shall remain in place until project completion. If a nest is found within the vegetation clearing area, a qualified biologist shall disassemble the nest by hand and relocate/reconstruct it beyond the work area.	Mitigation measures would protect San Francisco dusky-footed woodrats by reducing potential for harm.
BIO-IMP 5: Potential impacts to roosting bats. Bats may roost in cypress trees on the project site. Tree removal or pruning could result in bat mortality.	**BIO-MM5**: **Preconstruction surveys**. If trees are not removed or pruned, no further action is necessary. If trees are removed or pruned, a qualified biologist shall conduct a pre-construction bat roost survey to determine if bats are present in the trees. If bats are detected, suitable measures to avoid and/or exclude bats shall be determined by CDFW.	Mitigation measures would avoid injury to roosting bats.

Attachment G

REFERENCES

Baldwin, B. G., D. H. Goldman, D. J. Keil, R. Patterson, T. J. Rosatti, and D. H. Wilken, editors. 2012. The Jepson manual: Vascular Plants of California, Second Edition. University of California Press, Berkeley

Beier, P. and R.F. Noss. 1998. Do Habitat Corridors Provide Connectivity? Conservation Biology 12(6): 1241-1252. December.

Bulger J. B., J. S. Norman, and R. B. Seymour. 2003. Terrestrial activity and conservation of adult California red-legged frogs Rana aurora draytonii in coastal forests and grasslands. Biological Conservation 110:85-95

Calflora: Information on California plants for education, research and conservation. [web application]. 2014. Berkeley, California: The Calflora Database [a non-profit organization]. Available: http://www.calflora.org/ Accessed online in April, 2015 at http://www.calflora.org.

California Code of Regulations, Title 14, Division 6, Chapter 3, Section 15000 et seq. CEQA Statutes and Guidelines.

California Department of Fish and Wildlife. 2015. California Natural Diversity Data Base. Accessed online April, 2015, at http://www.dfg.ca.gov/biogeodata/cnddb/pdfs/spanimals.pdf.

California Native Plant Society (CNPS). 2015. Inventory of Rare and Endangered Plants (online edition, v8-02). California Native Plant Society. Sacramento, CA. Accessed on April, 2015 at http://www.rareplants.cnps.org.

CERES 2015. California Natural Resources Agency. Accessed: April 2015 at www.ceres.ca.gov.

County of San Mateo. 2013. Local Coastal Program Policies (Amended through August 8, 2012). Available online at: http://www.co.sanmateo.ca.us/Attachments/planning/PDFs/LCP/SMC_Midcoast_LCP_2013.pdf. Accessed May 4, 2015.

County of San Mateo. 2015. Fitzgerald Marine Reserve. Available online at https://parks.smcgov.org/fitzgerald-marine-reserve. Accessed May 2015.

Environmental Laboratory. 1987. Corps of Engineers Wetland Delineation Manual. January 1987. Final Report. Department of the Army Waterways Experiment Station. Vicksburg, Mississippi.

ESA. 2014. Seal Cove/Moss Beach Area Road Improvement Project. County of San Mateo Department of Public Works. February 2014.

Holland, V.L. and D.J. Keil. 2009. California Vegetation. Kendall/Hunt Pub. Co. Dubuque, Iowa.

Larsen, S. 1994. Life history aspects of the San Francisco garter snake at the Millbrae habitat site.

Unpublished M.S., Calif. State Univ., Hayward.

Lichvar, R.W. 2013. *Arid West 2013 Regional Wetland Plant List.* The National Wetland Plant List: 2013 wetland ratings. Photoneuron 2013-49: 1-241.

Soil Survey Staff, Natural Resources Conservation Service, United States Department of Agriculture. Web Soil Survey. Accessed April, 2015 online at http://websoilsurvey.nrcs.usda.gov/.

Stebbins, R.C. and S.M. McGinnis. 2011. Amphibians and Reptiles of California. University of California Press, Berkeley.

US Army Corps of Engineers (USACE). 2008a. Interim Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region. ed. J.S. Wakely, R.W. Lichvar, and C.V. Noble. ERDC/EL TR-06-16.MS: U.S. Army Engineer Research and Development Center.

US Department of Commerce, Census Bureau. Accessed online on April 2015 at http://quickfacts.census.gov/qfd/states/06/0631708.html.

US Environmental Protection Agency. 2010. Endangered Species Facts: San Francisco Garter Snake. Accessed online April, 2015 athttp://www.epa.gov/espp/factsheets/sf-garter-snake.pdf,

US Fish and Wildlife Service. 2014. Threatened and Endangered Species System (TESS) Candidate Species. Accessed on April 2015, at http://ecos.fws.gov/tess_public.

US Fish and Wildlife Service. 2006. Designation of Critical habitat for the California Red-legged Frog, and Special Rule Exemption Associated with Final Listing for Existing Routine Ranching Activities; Final Rule. Federal Register 71(71):19243-19346.

USGS. National Hydrography Dataset (NHD). 2015. Accessed online April 2015 at http://viewer.nationalmap.gov/viewer/nhd.html?p=nhd

Attachment G

APPENDIX A

SPECIAL STATUS SPECIES

TABLES 2 AND 3

Table 2 Special Status Plant Species – Potential to Occur				
Scientific Name Common Name	**STATUS**		**Elevation (meters) Blooms (period) Habitat (general description)**	**Potential for Occurrence**
	CDFW/CNPS	**FEDERAL, STATE**		
Acanthomintha duttonii San Mateo thorn-mint	1B.1	FE, CE	**Elevation:** 50-300 **Bloom Period:** Apr-Jun **Habitat:** Chaparral, Valley Grassland	**None.** Project was outside of elevation range for species. Species was not observed during field surveys conducted within bloom period.
Allium peninsulare var. franciscanum Franciscan onion	1B.2	--	**Elevation:** 50-300 **Bloom Period:** May-Jun **Habitat:** Cismontane Woodland, Valley and Foothill Grassland	**None.** Project was outside of elevation range for species. Habitat was greatly disturbed by human activity.
Amsinckia lunaris bent-flowered fiddleneck	1B.2	--	**Elevation:** 50-500 **Bloom Period:** Mar-Jun **Habitat:** Valley Grassland, Foothill Woodland	**None.** Project was outside of elevation range for species. Species was not observed during field surveys conducted within bloom period.
Arctostaphylos andersonii Anderson's manzanita	1B.2		**Elevation:** 60-760 **Bloom Period:** Nov-May **Habitat:** Chapparal, Mixed Evergreen Forest, Redwood Forest	**None.** Project was outside of elevation range for species and potentially suitable habitat was absent.
Arctostaphylos franciscana Franciscan manzanita	1B.1	FE	**Elevation:** 60-300 **Bloom Period:** Feb-Apr **Habitat:** Chaparral	**None.** Project was outside of elevation range for species and potentially suitable habitat was absent.
Arctostaphylos imbricata San Bruno Mountain manzanita	1B.1	CE	**Elevation:** 275-365 **Bloom Period:** Feb-May **Habitat:** Chaparral	**None.** Project was outside of elevation range for species and potentially suitable habitat is not present.
Arctostaphylos montana ssp. ravenii Presidio manzanita	1B.1	FE, CE	**Elevation:** 20-215 **Bloom Period:** Feb-Mar **Habitat:** Open rocky serpentine slopes, Coastal Scrub, Coastal Prairie, Chaparral	**None**. Suitable habitat was not present. Manzanitas were not observed on the project area.
Arctostaphylos montaraensis Montara manzanita	1B.2	--	**Elevation:** 150-500 **Bloom Period:** Jan-Feb **Habitat:** Chaparral, Northern Coastal Scrub	**None.** Project was outside of elevation range for species. Manzanitas were not observed on the project area.
Arctostaphylos pacifica Pacific manzanita	1B.2	CE	**Elevation:** not available **Bloom Period:** Feb-Apr **Habitat:** Coastal Scrub	**None**. Suitable habitat was not present. Manzanitas were not observed on the project area
Arctostaphylos	1B.2	--	**Elevation:** 305-730	**None.** Project was outside of elevation

Table 2 Special Status Plant Species – Potential to Occur				
Scientific Name Common Name	**STATUS**		**Elevation (meters) Blooms (period) Habitat (general description)**	**Potential for Occurrence**
	CDFW/CNPS	**FEDERAL, STATE**		
regismontana Kings Mountain manzanita			**Bloom Period:** Jan-Apr **Habitat:** Chaparral, Mixed Evergreen Forest, North Coastal Coniferous Forest	range for species and potentially suitable habitat is not present. Manzanitas were not observed on the project area.
Astragalus pycnostachyus var. pycnostachyus coastal marsh milk vetch	1B.2	--	**Elevation:** 0-30 **Bloom Period:** Apr-Oct **Habitat:** wetland-riparian	**Possible**. Potentially suitable habitat present near Dean Creek. Nearest recorded occurrences within the Crystal Springs Reservoir area approximately 9 miles east.
Astragalus tener var. tener alkali milk vetch	1B.2	--	**Elevation:** 1-170 **Bloom Period:** Mar-Jun **Habitat:** Valley Grassland, alkali sink, freshwater wetlands, wetland-riparian, playas, vernal pools	**None**. Suitable habitat absent. Last recorded occurrence approximately 15 northeast, in 1868, possibly extirpated (CNDDB 2015).
Carex comosa *bristly sedge*	2B.1	--	**Elevation:** 5-1005 **Bloom Period:** May-Sept **Habitat:** Freshwater Wetlands, wetland-riparian	**None.** Suitable habitat absent. Last recorded occurrence approximately 15 northeast, in 1868, possibly extirpated (CNDDB 2015).
Centromadia parryi ssp. parryi Pappose tarplant	1B.2	--	**Elevation:** 2-420 **Bloom Period:** May-Nov **Habitat:** Coastal Prairie, Meadows, and Seeps, Coastal Salt Marsh, Valley and Foothill Grassland	**Not. Expected**. Suitable habitat (grassland) was highly disturbed by human use. Single recorded occurrence north within approximately 6 miles.
Chloropyron maritimum ssp. palustre Point Reyes salty bird's - beak	1B.2	--	**Elevation:** 0-10 **Bloom Period:** Jun-Oct **Habitat:** Coastal Salt Marsh	**None.** Suitable habitat was not present.
Chorizanthe cuspidata var. cuspidata San Francisco Bay spineflower	1B.2	--	**Elevation:** 3-215 **Bloom Period:** Apr-Jul **Habitat:** Coastal strand, Coastal Prairie, Northern Coastal Scrub.	**None.** Suitable habitat was not present. Nearest recorded occurrences approximately 6 miles north. Species was not observed during field visit within bloom period.

Table 2 Special Status Plant Species – Potential to Occur				
Scientific Name Common Name	**STATUS**		**Elevation (meters) Blooms (period) Habitat (general description)**	**Potential for Occurrence**
	CDFW/CNPS	**FEDERAL, STATE**		
Chorizanthe robusta var. robusta Robust spineflower	1B.1	FE	**Elevation:** 3-120 **Bloom Period:** Apr-Sep **Habitat:** Coastal strand, Foothill Woodland, Northern Coastal Scrub	**None.** Suitable habitat was not present. Nearest recorded occurrences approximately 11 miles north from 1913. Species not observed on site.
Cirsium andrewsii Franciscan thistle	1B.2	--	**Elevation:** 0-150 **Bloom Period:** Mar-Jul **Habitat:** Mixed Evergreen Forest, Northern Coastal Scrub, wetland-riparian	**Not expected**. Habitat was greatly disturbed. Species not observed during surveys conducted during bloom period. Nearest recorded occurrence approximately 2.25 miles north.
Cirsium fontinale var. fontinale Crystal Springs fountain thistle	1B.1	FE, CE	**Elevation:** 45-175 **Bloom Period:** May-Oct **Habitat:** Chaparral, Valley Grassland, wetland-riparian	**None.** Habitat was greatly disturbed. Project was below minimum elevation range for species.
Cirsium occidentale var. compactum Compact cobwebby thistle	1B.2	--	**None.**	**Not expected**. Habitat was greatly disturbed. Nearest recorded occurrence from 1957 approximately 13 miles north project.
Collinsia multicolor San Francisco collinsia	1B.2	--	**Elevation:** 30-250 **Bloom Period:** Mar-May **Habitat:** Northern Coastal Scrub, Closed-cone Pine Forest	**Not expected**. Habitat was greatly disturbed by human use. Nearest recorded occurrence approximately 4 miles north. Species was not observed during field surveys conducted during bloom period.
Dirca occidentalis Western leatherwood	1B.2	--	**Elevation:** 25-4425 **Bloom Period:** Jan-Mar **Habitat:** Chaparral, Foothill Woodland, Mixed Evergreen Forest, Closed-cone Pine Forest, North Coastal Coniferous Forest, wetland-riparian	**None**. Suitable habitat was not present.
Eriophyllum latilobum San Mateo woolly sunflower	1B.1	FE, CE	**Elevation:** 45-150 **Bloom Period:** May-Jun **Habitat:** Foothill Woodland	**None.** Project was outside of elevation range for species and potentially suitable habitat is not present.

Table 2 Special Status Plant Species – Potential to Occur				
Scientific Name Common Name	**STATUS**		**Elevation (meters) Blooms (period) Habitat (general description)**	**Potential for Occurrence**
	CDFW/CNPS	**FEDERAL, STATE**		
Fritillaria biflora var. ineziana Hillsborough chocolate lily	1B.1	--	**Elevation:** 90-160 **Bloom Period:** Mar-Apr **Habitat:** Valley and Foothill Grassland	**None.** Project was outside of elevation range for species.
Fritillaria liliacea fragrant fritillary	1B.2	--	**Elevation:** 3-410 **Bloom Period:** Feb-Apr **Habitat:** Coastal Prairie, Valley Grassland, Northern Coastal Scrub, wetland-riparian	**None**. Suitable habitat was not present. Fritillaries were not observed on the project area.
Gilia capitata ssp. chamissonis blue coast gilia	1B.1	--	**Elevation:** 2-200 **Bloom Period:** Apr-Jul **Habitat:** Coastal Dunes, Coastal Scrub	**None**. Suitable habitat was not present.
Grindelia hirsutula var. maritima San Francisco gumplant	3.2	--	**Elevation:** 15-400 **Bloom Period:** Jun-Sep **Habitat:** Valley Grassland, Northern Coastal Scrub, Coastal Sage Scrub, wetland-riparian	**Not expected/Possible**. Suitable habitat present but greatly disturbed by human use. Nearest recorded occurrence within approximately 1.5 miles north.
Helianthella castanea Diablo helianthella	1B.2	--	**Elevation:** 25-1150 **Bloom Period:** Mar-Jun **Habitat:** Chaparral, Foothill Woodland, Northern Coastal Scrub, Valley Grassland	**None**. Suitable habitat was not present or greatly disturbed. Nearest recorded occurrence 12 miles northeast..
Hemizonia congesta ssp. congesta congested-headed hayfield tarplant	1B.2	--	**Elevation:** 20-560 **Bloom Period:** Apr-Nov **Habitat:** Northern Coastal Scrub, Valley Grassland	**None**. Suitable habitat was not present. Species was not observed on the project area.
Hesperevax sparsiflora var. brevifolia short-leaved evax	1B.2	--	**Elevation:** 0-215 **Bloom Period:** Mar-Jun **Habitat:** Coastal Strand, Northern Coastal Scrub	**None**. Suitable habitat was not present. Species not observed on the project area.
Hesperolinon congestum Marin western flax	1B.1	FT, CE	**Elevation:** 5-370 **Bloom Period:** Apr-Jul **Habitat:** Chaparral, Valley Grassland	**None**. Suitable habitat was not present or greatly disturbed by human use. Species not observed during field surveys conducted during blooming period. Nearest recorded occurrence

Table 2 Special Status Plant Species – Potential to Occur				
Scientific Name Common Name	**STATUS**		**Elevation (meters) Blooms (period) Habitat (general description)**	**Potential for Occurrence**
	CDFW/CNPS	**FEDERAL, STATE**		
				approximately 9 miles east.
Heteranthera dubia water star-grass	2B.2	--	**Elevation:** 30-1495 **Bloom Period:** Jul-Aug **Habitat:** wetland-riparian	**None**. Habitat not present.
Horkelia cuneata var. sericea Kellog's horkelia	1B.1	--	**Elevation:** 10-200 **Bloom Period:** Feb-Jul **Habitat:** Northern Coastal Scrub, Costal Sage Scrub, Closed-cone Pine Forest	**None**. Suitable habitat was not present. Horkelia was not observed on the project area.
Horkelia marinensis Point Reyes horkelia	1B.2	--	**Elevation:** 5-30 **Bloom Period:** May-Sep **Habitat:** Coastal Strand, Coastal Prairie, Northern Coastal Scrub, (dunes, coastal)	**None**. Suitable habitat was not present. Nearest recorded occurrence greater than 10 miles east.
Layia carnosa beach layia	1B.1	FE, CE	**Elevation:** 0-60 **Bloom Period:** Mar-Jul **Habitat:** Coastal Strand, (dunes, coastal)	**None**. Suitable habitat was not present. Species not observed during field survey conducted during bloom period.
Leptosiphon croceus coast yellow leptosiphon	1B.1	--	**Elevation:** 10-150 **Bloom Period:** Apr-May **Habitat:** Coastal Bluff Scrub, Coastal Prairie	**Not expected**. Habitat greatly disturbed. Reference population in Moss Beach was reviewed same day as field surveys to determine bloom status (full bloom). Species was not observed during field surveys thus not expected on study area.
Leptosiphon rosaceus rose leptosiphon	1B.1	--	**Elevation:** 0-100 **Bloom Period:** Apr-Jul **Habitat:** Coastal Bluff Scrub	**Not expected**. Habitat greatly disturbed. Reference population in Moss Beach, just south of project, was reviewed same day as field surveys; this population was in bloom. It was not observed during field surveys conducted during bloom period.
Lessingia germanorum San Francisco lessingia	1B.1	FE, CE	**Elevation:** 20-110 **Bloom Period:** Jul-Nov **Habitat:** Northern Coastal Scrub	**None - Not expected.** Dune habitat not present. Nearest recorded occurrence greater than 10 miles north of project.

Table 2 Special Status Plant Species – Potential to Occur				
Scientific Name Common Name	**STATUS**		**Elevation (meters) Blooms (period) Habitat (general description)**	**Potential for Occurrence**
	CDFW/CNPS	**FEDERAL, STATE**		
			(dunes)	
Limnanthes douglasii var. ornduffi (Ornduff's meadowfoam)	1B.1	--	**Elevation:** 10-20 **Bloom Period:** Nov-May **Habitat:** Agricultural fields, Meadows, Seeps	**None**. Potentially suitable habitat is not present.
Malacothamnus aboriginum Indian Valley bush-mallow	1B.2	--	**Elevation:** 150-1700 **Bloom Period:** Apr-Oct **Habitat:** Rocky, granitic, Chaparral, Cismontane Woodland	**None.** Project is outside of elevation range for species and potentially suitable habitat is not present.
Malacothamnus arcuatus arcuate bush-mallow	1B.2	--	**Elevation:** 15-355 **Bloom Period:** Apr-Sep **Habitat:** Chaparral, Cismontane Woodland	**None.** Potentially suitable habitat is not present.
Malacothamnus davidsonii Davidson's bush-mallow	1B.2	--	**Elevation:** 185-855 **Bloom Period:** Jun-Jan **Habitat:** Chaparral, Cismontane woodland, Coastal Scrub, Riparian Woodland	**None.** Project is outside of elevation range for species.
Malacothamnus hallii Hall's bush-mallow	1B.2	--	**Elevation:** 10-550 **Bloom Period:** May-Oct **Habitat:** Chaparral, Coastal Scrub, riparian	**None**. Habitat is greatly disturbed. Nearest recorded occurrence, 1902 and 1891, approximately 5 miles east on Montara Mountain.
Monardella sinuata ssp. nigrescens northern curly-leaved monardella	1B.2	--	**Elevation:** 0-300 **Bloom Period:** Apr-Sept **Habitat:** Dunes, openings in coastal scrub	**None**. Habitat highly degraded. Nearest recorded occurrence, from 1933, was possibly extirpated and located greater than 10 miles north of project.
Monolopia gracilens woodland woollythreads	1B.2	--	**Elevation:** 100-1200 **Bloom Period:** **Habitat:** Chaparral, Coastal Dunes, Coastal Scrub, Lower Montane Coniferous Forest	**None.** Project is below of elevation range for species. Nearest recorded occurrence is approximately 4 miles east of project.
Pentachaeta bellidiflora white-rayed pentachaeta	1B.1	FE, CE	**Elevation:** 35-620 **Bloom Period:** Mar-May **Habitat:** Cismontane Woodland,	**None.** Potentially suitable habitat is not present.

Table 2 Special Status Plant Species – Potential to Occur				
Scientific Name Common Name	**STATUS**		**Elevation (meters) Blooms (period) Habitat (general description)**	**Potential for Occurrence**
	CDFW/CNPS	**FEDERAL, STATE**		
			Valley and Foothill Grassland (often serpentinite	
Plagiobothrys chorisianus var. chorisianus Choris' popcornflower	1B.2	--	**Elevation:** 15-160 **Bloom Period:** Mar-Jun **Habitat:** Chaparral, Coastal Prairie, Coastal Scrub	**None - Not expected**. Habitat greatly disturbed. Species not observed during field survey conducted during bloom period. Nearest recorded species approximately 6 miles south of project.
Polemonium carneum Oregon polemonium	2B.2	--	**Elevation:** 0-1830 **Bloom Period:** Apr-Sep **Habitat:** Coastal Prairie, Coastal Scrub, Lower Montane Coniferous Forest	**None** Habitat greatly disturbed. Species not observed during field survey conducted during bloom period. Nearest recorded occuurence approximately 5 miles east from 1916.
Polygonum marinense Marin knotweed	3.1	--	**Elevation:** 0-10 **Bloom Period:** Apr-Oct **Habitat:** Marshes and Swamps (coastal salt or brackish)	**None.** Potentially suitable habitat is not present.
Potentilla hickmanii Hickman's cinquefoil	1B.1	FE, CE	**Elevation:** 10-149 **Bloom Period:** Apr-Aug **Habitat:** Coastal Bluff Scrub, Closed-cone Coniferous Forest, Meadows and Seeps, Marshes and Swamps (freshwater)	**Possible**. Potentially suitable habitat may present on the creek bed and the nearest recorded occurrence within the Moss Beach area. Species was not observed during field surveys conducted during bloom period.
Sanicula maritima adobe sanicle	1B.1	CR	**Elevation:** 30-240 **Bloom Period:** Feb-May **Habitat:** Chaparral, Coastal Prairie, Meadows and Seeps, Valley and Foothill Grassland	**None.** Potentially suitable habitat is not present/highly degraded. Last recorded occurrence from 1896 was greater than 10 miles north of project.
Silene verecunda ssp. verecunda San Francisco companion	1B.2	--	**Elevation:** 30-645 **Bloom Period:** Mar-Aug **Habitat:** Sandy, Coastal Bluff Scrub, Chaparral, Coastal Prairie, Coastal Scrub, Valley and Foothill Grassland	**None - Not expected**. Habitat is greatly disturbed. Species not observed during field survey conducted within bloom period. Nearest recorded occurrence approximately 4 miles east on Montara Mountain.
Suaeda californica California seablite	1B.1	FE	**Elevation:** 0-15 **Bloom Period:** Jul-Oct	**None.** Potentially suitable habitat is not present.

Table 2 Special Status Plant Species – Potential to Occur				
Scientific Name Common Name	**STATUS**		**Elevation (meters) Blooms (period) Habitat (general description)**	**Potential for Occurrence**
	CDFW/CNPS	**FEDERAL, STATE**		
			Habitat: Marshes and swamps (coastal salt)	
Trifolium amoenum showy rancheria clover	1B.1	FE	**Elevation:** 5-415 **Bloom Period:** Apr-Jun **Habitat:** Coastal Bluff Scrub, Valley and Foothill Grassland (often serpentinite)	**None - Not expected**. Habitat is greatly disturbed by human use. Nearest recorded occurrence was approximately 10 miles north from 1907.
Trifolium hydrophilum saline clover	1B.2	--	**Elevation:** 0-300 **Bloom Period:** Apr-Jun **Habitat:** Marshes and Swamps, Valley and Foothill Grassland, vernal pools	**None.** Potentially suitable habitat is not present or greatly disturbed by human use. Last observed in 1886 approximately 14 miles east.
Triphysaria floribunda San Francisco owl's-clover	1B.2	--	**Elevation:** 10-160 **Bloom Period:** Apr-Jun **Habitat:** Coastal Prairie, Coastal Scrub, Valley and Foothill Grassland	**None**. Habitat was greatly disturbed by human use. Nearest recorded occurrence approximately 7 miles east. Species not observed on field survey conducted during bloom period.
Triquetrella californica coastal triquetrella	1B.2	--	Elevation: 10-100 Bloom Period: not applicable Habitat: Coastal Bluff Scrub, Coastal Scrub	**Not expected**. Habitat was greatly disturbed by human use. Nearest recorded occurrence approximately 6 miles north.

TABLE 3 Special Status Wildlife Species – Potential to Occur				
Species	**Status**		**Habitat Association**	**Potential for Occurrence**
	Federal	**State**		
Invertebrates				
Callophrys mossii bayensis San Bruno elfin butterfly	FE	--	Valley and Foothill Grassland. Coastal, mountainous areas with grassy ground cover, mainly in the vicinity of San Bruno Mountain, San Mateo County. Larval host plant is *Sedum spathulifolium*	**None**. Species is restricted to San Bruno Mountain area. Larval host plant was not present.
Danaus plexippus Monarch butterfly	--		Closed-coniferous forest. Roosts located in wind-protected tree groves (eucalyptus, Monterey pine, cypress), with nectar and water sources nearby.	**Possible.** Cypress trees located on arroyo and project site could provide overwintering roosting habitat, although these trees may not be wind protected.
Euphydryas editha bayensis Bay checkerspot butterfly	FT	--	Coastal dunes, Valley and Foothill Grassland, ultramafic. Restricted to native grasslands on outcrops of serpentine soil in the vicinity of San Francisco Bay. *Plantago erecta* is the primary host plant; *Orthocarpus densiflorus* & *O. purpurscens* are the	**None.** Species restricted to Crystal Springs area and near San Francisco Bay. Host plants were absent from site.
Plebejus icarioides missionensis Mission blue butterfly	FE	--	Coastal prairie. Inhabits grasslands of the S Francisco peninsula. Three larval host plant *Lupinus albifrons*, *L. variicolor*, and *L. formo* of which *L. albifrons* is favored.	**None.** Potentially suitable habitat was absent. Nearest population is within San Bruno Mountain area.
Speyeria callipe callipe callipe silverspot butterfly	FE	--	Coastal scrub. Restricted to the northern co scrub of the San Francisco peninsula. Hostp *Viola pedunculata*. Most adults found on E- slopes; males congregate on hilltops in sea females.	**None.** Potentially suitable habitat was not present. Only known population is on San Bruno Mountain.

TABLE 3 Specialt Status Wildlife Species – Potential to Occur				
Species	**Status**		**Habitat Association**	**Potential for Occurrence**
	Federal	**State**		
Speyeria zerene myrtleae Myrtle's silverspot butterfly	FE	--	Coastal dunes. Restricted to the foggy, coastal dunes/hills of the Point Reyes peninsula. Larval food plant thought to be *Viola adunca*.	**None**. Potentially suitable habitat was absent. Populations south of Golden Gate Bridge thought to be extirpated.
Fish				
Eucyclogobius newberryi tidewater goby	FE	SSC	Brackish water habitats along the Calif coast from Agua Hedionda Lagoon, San Diego Co. to the mouth of the Smith	**None.** Potentially suitable habitat is not preset.
Mylopharadon conocephalus hardhead	--	SSC	Low to mid-elevation streams in the Sacramento-San Joaquin drainage. Also present in the Russian River.	**None**. Potentially suitable habitat is not present.
Oncorhynchus mykiss irideus Steelhead -Central Coast DPS	FT	--	From Russian River, south to Soquel Cr & to, but not including, Pajaro River. Also San Francisco & San Pablo Bay basins.	**None.** Potentially suitable habitat is not present. Dean Creek mouth has no evident direct connection to Pacific Ocean or any other creeks or
Spirinchus thaleichthys Longfin smelt	FC	CT	Euryhaline, nektonic & anadromous. Found in open waters of estuaries, mostly in middle or bottom of water column.	**None**. Potentially suitable habitat was absent.
Amphibians				

TABLE 3 Special Status Wildlife Species – Potential to Occur				
Species	**Status**		**Habitat Association**	**Potential for Occurrence**
	Federal	**State**		
Ambystoma californiense California tiger salamander	FT	CT, SSC	Cismontane woodland, Meadow & seep, Riparian woodland, Valley & foothill grassland, Vernal pool, Wetland. Central Valley DPS federally listed as threatened. Santa Barbara & Sonoma counties DPS federally listed as endangered. Need underground refuges, especially ground squirrel burrows, & vernal pools or other seasonal water sources for breeding	**None**. Potentially suitable habitat was absent. There are no coastal occurrences and the nearest recorded occurrences are near Stanford University.
Rana draytonii California red-legged frog	FT	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 aestivation habitat.	**Possible**. Nearest recorded occurrence within 1 mile of project west of Half Moon Bay Airport. Site may provide dispersal habitat. Breeding habitat was absent on project site. Aestivation habitat was low quality with low density of pocket gopher burrows.
Reptiles				
Actinemys marmorata Western pond turtle	--	SSC	Ponds, marshes rivers, streams, and irrigation ditches that have emergent or riparian vegetation and sunny basking sites. Upland nesting habitat consists of friable soil exposed to full sun.	**None**. Potentially suitable habitat was absent.
Thamnophis sirtalis tetrataenia San Francisco garter snake	FE	CE, FP	Vicinity of freshwater marshes, ponds and slow-moving streams in San Mateo County & extreme northern Santa Cruz County. Prefers dense cover & water depths of at least one foot. Upland areas near water are also very important.	**Possible**. Site may provide dispersal habitat. Nearest recorded occurrence within 1.5 miles. Aestivation habitat was low quality with low density of pocket gopher burrows.
Birds				

TABLE 3 Special Status Wildlife Species – Potential to Occur				
Species	**Status**		**Habitat Association**	**Potential for Occurrence**
	Federal	**State**		
Athene cunicularia burrowing owl	BCC	SSC	Open, dry annual or perennial grasslands, deserts & scrublands characterized by low-growing vegetation. Subterranean nester, dependent upon burrowing mammals, most notably, the California ground squirrel.	**None**. Potentially suitable habitat was absent.
Charadrius alexandrius nivosus western snowy plover	FT	SSC	Sandy beaches, salt pond levees & shores of large alkali lakes.	**None**. Potentially suitable nesting habitat was absent. May
Falco columbarius merlin	--	WL	Seacoast, tidal estuaries, open woodlands, savannahs, edges of grasslands & deserts, farms & ranches. Clumps of trees or windbreaks are required for roosting in open country.	**Not expected**. Nesting habitat was not present. May pass through site during hunting.
Falco perigrinus anatum peregrine falcon	BCC	CS, 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 lodge in an open site.	**Not expected**. Nesting habitat was not present. May pass through site during hunting.
Geothlypis trichas sinuosa Saltmarsh common yellowthroat	--	SSC	Resident of the San Francisco Bay region, in fresh and salt water marshes. Requires thick, continuous cover down to water surface for foraging; tall grasses, tule patches, willows for nesting.	**Possible.** Potentially suitable marsh habitat was not present; however, the Dean Creek habitat may provide suitable nesting habitat. Nearest occurrence within 1.5 miles at the Pillar Point Marsh.
Laterallus jamaicensis coturniculus California black rail	BCC	CT, FP	Inhabits freshwater marshes, wet meadows & shallow margins of saltwater marshes bordering larger bays. Needs water depths of about 1 inch that do not fluctuate during the year & dense vegetation for nesting habitat.	**None**. Potentially suitable habitat was absent.

TABLE 3 Special Status Wildlife Species – Potential to Occur				
Species	**Status**		**Habitat Association**	**Potential for Occurrence**
	Federal	**State**		
Melispoza melodia pusillula Alameda song sparrow	BCC	SSC	Resident of salt marshes bordering south arm of San Francisco Bay. Inhabits Salicornia marshes; nests low in Grindelia bushes (high enough to escape high tides) and in Salicornia.	**None**. Potentially suitable habitat was absent.
Phalacrocorax auratus double-crested cormorant	--	WL	Colonial nester on coastal cliffs, offshore islands, & along lake margins in the interior of the state. Nests along coast on sequestered islets, usually on ground with sloping surface, or in tall trees along lake margins	**None**. Potentially suitable nesting habitat was absent.
Rallus longirostris obsoletus *California clapper rail*	FE	CE, FP	Salt-water & 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-	**None**. Potentially suitable habitat was absent.
Riparia riparia bank swallow	--	CT	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.	**None**. Potentially suitable habitat was absent.
Mammals				
Antrozous pallidus Pallid bat	--	SSC	Deserts, grasslands, shrublands, woodlands & forests. Most common in open, dry habitats with rocky areas for roosting	**None.** Potentially suitable habitat was absent.
Corynorhinus townsendii Townsend's big-eared bat	--	WL	Throughout California in a wide variety of habitats. Most common in mesic sites. Roosts in the open, hanging from walls & ceilings. Roosting sites limiting. Extremely sensitive to human disturbance.	**Not expected.** Nearest recorded occurrence approximately 14 miles northeast.

TABLE 3 Special Status Wildlife Species – Potential to Occur				
Species	**Status**		**Habitat Association**	**Potential for Occurrence**
	Federal	**State**		
Lasiurus cenereus *hoary bat*	--	--	Prefers open habitats or habitat mosaics, with access to trees for cover & open areas or habitat edges for feeding. Roosts in dense foliage of medium to large trees. Feeds primarily on moths. Requires water.	**Possible.** Potentially suitable foraging habitat present. May roost on cypress trees.
Myotis thysanodes *fringed myotis*	--	--	In a wide variety of habitats, optimal habitats are pinyon-juniper, valley foothill hardwood & hardwood-conifer. Uses caves, mines, buildings or crevices for maternity colonies and roosts	**Not expected.** Potentially suitable habitat absent. Nearest recorded occurrence approximately 6 miles east of project.
Neotoma fuscipes annectens San Francisco dusky footed rat	--	SSC	Forest habitats of moderate canopy & moderate to dense understory. May prefer chaparral & redwood habitats. Constructs nests of shredded grass, leaves & other material. May be limited by availability of nest-building materials.	**Possible.** Potentially suitable nest habitat was present among the poison oak/California blackberry habitat and Dean Creek habitat.
Nyctinomops macrotis big free-tailed bat	--	SSC	Low-lying arid areas in Southern California. Rare in California. Prefers rugged, rocky canyons.	**None**. Potentially suitable habitat was low quality. Only recorded unconfirmed occurrence was approximately 5 miles north in 1985.
Reithrodontomys raviventris salt-marsh harvest mouse	FE	CE, FP	Only in the saline emergent wetlands of San Francisco Bay and its tributaries.	**None**. Restricted to saline emergent wetlands. Potentially suitable habitat was absent.
Taxidea taxus American badger	--	SSC	Most abundant in drier open stages of most shrub, forest, and herbaceous habitats, with friable soils.	**None**. Potentially suitable habitat was absent.

Status Legend

Federal:

FE - Listed as endangered under the Federal Endangered Species Act
FT - Listed as threatened under the Federal Endangered Species Act
FC - Listed as candidate species under the Federal Endangered Species Act
BCC - USFWS Bird of Conservation Concern

State:

CE - Listed as an endangered under the California Endangered Species Act
CT - Listed as a threatened under the California Endangered Species Act
CS - Listed as a candidate species under the California Endangered Species Act
SSC - Species of special concern under the California Endangered Species Act
FP – California fully protected species under the California Endangered Species Act

CNPS Rank:

1A Rare in California and elsewhere; presumed extirpated or extinct
1B Rare in California and elsewhere; rare, threatened, or endangered
2A Rare in California, but not elsewhere; presumed extirpated or extinct
2B Rare in California, but not elsewhere; rare, threatened, or endangered

Attachment G

APPENDIX B

PHOTOGRAPHS OF THE STUDY AREA

Photo 1 View of project area from northwest to northeast.

Photo 2 View of project area from northeast to northwest.

Photo 3 View of project area from west to north.

Photo 4 View of project area from north to west.

Photo 5 View from south to west.

Photo 6 Poison oak/California blackberry patch.

Photo 7 View of Dean Creek herbaceous cover from midslope of arroyo. Potentilla species visible running from the mid-right to upper left. Garden nasturtium, stinging nettle and wild radish visible.

Photo 8 View of Monterey cypress understory from top of the arroyo.

Photo 9 View of pipe on streambed. Typha sp. visible; garden nasturtium, cape ivy and wild radish are the dominant plants in photo.

Photo 10 View of Dean Creek upstream.

Photo 11 Beach strawberry on the proposed work area.

APPENDIX C

VASCULAR PLANT SPECIES OF 199 ARBOR LANE STUDY AREA

Plant Species List for 199 Arbor Lane, Moss Beach, California

The plant species listed below were observed on the project site during surveys conducted on April 24, 2015. Scientific nomenclature follows *The Jepson Manual (*Baldwin 2012).

* Indicates introduced non-native species.

Common Name	Scientific Name
AIZOACEAE - Fig-Marigold Family	
hottentot fig, iceplant	*Carpobrotus edulis**
showy dewflower	*Drosanthemum floribundum**
ANACARDIACEAE - Sumac or Cashew Family	
poison oak[4]	*Toxicodendron diversilobum*
APIACEAE – Carrot Family	
water parsley[1]	*Oenanthe sarmentosa*
APOCYNACEAE - Dogbane Family	
periwinkle sp.	*Vinca sp.*
ASTERACEAE - Sunflower Family	
common soliva[4]	*Soliva sessilis**
common sow thistle[5]	*Sonchus oleraceus**
cotton-batting plant[3]	*Pseudognaphalium stramineum*
gazania	*Gazania linearis**
German/cape ivy	*Delairea odorata**
pacific/coastal gumplant	*Grindelia stricta var. platyphylla*
prickly sow thistle	*Sonchus asper ssp. asper**
rough cat's-ear[4]	*Hypochaeris radicata**
purple cudweed	*Gamochaeta ustulata*
Common yarrow[4]	*Achillea millefolium*
BRASSICACEAE - Mustard Family	
Watercress[1]	*Nasturtium officinale*
wild radish	*Raphanus sativus**
CARYOPHYLLACEAE - Pink Family	
common catchfly, windmill pink	*Silene gallica**
mouse-eared chickweed[5]	*Cerastium glomeratum**
CUCURBITACEAE - Gourd Family	
California man-root	*Marah fabaceus*
CUPRESSACEAE - Cypress Family	
Monterey cypress	*Hesperocyparis macrocarpa**
FABACEAE - Legume Family	
bird's foot trefoil[3]	*Lotus corniculatus**
Burclover[4]	*Medicago polymorpha**
common vetch[4]	*Vicia sativa**
little hop clover[5]	*Trifolium dubium**
sour clover[4]	*Melilotus indicus**
GERANIACEAE - Geranium Family	
cut-leaved geranium	*Geranium dissectum**
red-stemmed filaree	*Erodium cicutarium**
white-stemmed storksbill	*Erodium moschatum**
LINACEAE - Flax Family	
narrowleaf flax	*Linum bienne**
MALVACEAE - Mallow Family	
Cretian mallow	*Malva pseudolavatera**

Common Name	Scientific Name
MYRSINACEAE - Myrsine Family	
scarlet pimpernel	*Anagallis arvensis**
OXALIDACEAE - Oxalis Family	
Bermuda buttercup	*Oxalis pes-caprae**
yellow/ creeping wood sorrel[4]	*Oxalis corniculata**
PAPAVERACEAE - Poppy Family	
California poppy	*Eschscholzia californica*
PINACEAE - Pine Family	
Italian stone pine	*Pinus pinea**
PLANTAGINACEAE - Plantain Family	
cut-leaved plantain[2]	*Plantago coronopus**
English plantain[3]	*Plantago lanceolata**
POACEAE - Grass Family	
annual false brome	*Brachypodium distachyon**
barnyard foxtail, foxtail barley	*Hordeum murinum ssp. leporinum**
California brome	*Bromus carinatus var. carinatus*
California hairgrass	*Deschampsia cespitosa ssp. holciformis*
California oatgrass[4]	*Danthonia californica var. californica*
pampas grass[4]	*Cortaderia jubata**
ripgut brome	*Bromus diandrus**
rye grass	*Festuca perennis**
six-week fescue	*Festuca bromoides**
slender wild oat	*Avena barbata**
soft chess[4]	*Bromus hordeaceus**
upright veldtgrass	*Ehrharta erecta**
POLYGONACEAE - Buckwheat Family	
curly dock[3]	Rumex crispus
fiddle dock[3]	*Rumex pulcher**
sheep sorrel[4]	*Rumex acetosella**
ROSACEAE - Rose Family	
beach strawberry[4]	*Fragaria chiloensis*
California blackberry[3]	*Rubus ursinus*
cotoneaster	*Cotoneaster sp.**
silverweed cinquefoil[1]	*Potentilla anserina*
RUBIACEAE - Madder Family	
goose grass, bedstraw[4]	*Galium aparine*
SALICACEAE – Willow Family	
arroyo willow[2]	*Salix lasiolepis*
SCROPHULARIACEAE - Figwort Family	
California figwort, bee plant[3]	*Scrophularia californica*
TROPAEOLACEAE – Nasturtium Family	
garden nasturtium[4]	*Tropaeolum majus L.**
TYPHACEAE – Cattail Familly	
cattail sp.[1]	*Typha sp.*
URTICACEAE - Nettle Family	
hoary stinging nettle[2]	*Urtica dioica ssp. holosericea*

Arid West Indicator categories

Indicator Code	Indicator Status	Designation	Comment
OBL	Obligate Wetland	Hydrophyte	Almost always occur in wetlands
FACW	Facultative Wetland	Hydrophyte	Usually occur in wetlands, but may occur in non-wetlands
FAC	Facultative	Hydrophyte	Occur in wetlands and non-wetlands
FACU	Facultative Upland	Nonhydrophyte	Usually occur in non-wetlands, but may occur in wetlands
UPL	Obligate Upland	Nonhydrophyte	Almost never occur in wetlands