

APPENDIX C

2017 BIOLOGICAL RESOURCES ASSESSMENT

Biological Resources Assessment

SANDRA-HAYNE CULVERT REPLACEMENT PROJECT HILLSBOROUGH, SAN MATEO COUNTY, CALIFORNIA

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TABLE OF CONTENTS

EXECUTIVE SUMMARY	iv
1.0 INTRODUCTION	1
2.0 REGULATORY BACKGROUND.....	1
2.1 Sensitive Biological Communities.....	1
2.1.1 Waters of the United States.....	1
2.1.2 Waters of the State.....	2
2.1.3 Streams, Lakes, and Riparian Habitat	2
2.2 Special-status Species	2
2.2.1 Critical Habitat.....	3
2.2.2 Essential Fish Habitat.....	4
2.2.3 Wildlife Corridors.....	4
2.2.4 Other Sensitive Biological Communities	4
2.3 Local Policies, Ordinances, Regulations.....	4
3.0 METHODS.....	4
3.1 Biological Communities	5
3.1.1 Non-Sensitive Biological Communities	5
3.1.2 Sensitive Biological Communities.....	5
3.2 Special-status Species	6
3.2.1 Critical Habitat.....	7
3.2.2 Essential Fish Habitat.....	7
3.2.3 Wildlife Corridors.....	8
4.0 RESULTS.....	8
4.1 Biological Communities	8
4.1.1 Non-Sensitive Biological Communities	9
4.1.2 Sensitive Biological Communities/Sensitive Natural Communities.....	9
4.2 Special-status Species	10
4.2.1 Special-status Plants.....	10
4.2.2 Special-status Wildlife	10
4.2.3 Critical Habitat.....	14
4.2.4 Essential Fish Habitat.....	14
4.2.5 Wildlife Corridors.....	14
5.0 PROJECT DESCRIPTION, POTENTIAL IMPACTS AND RECOMMENDED AVOIDANCE, MINIMIZATION, AND MITIGATION MEASURES	15
5.1 Project Description	15
5.2 Potential Project Impacts and Avoidance Measures.....	15
5.2.1 Sensitive Biological Communities.....	15
5.2.2 Candidate, Sensitive, or Special-status Plant Species.....	16
5.2.3 Candidate, Sensitive, or Special-status Wildlife Species	16
5.2.4 Wildlife Corridors.....	17
5.2.5 Local Policies and Ordinances	18
6.0 REFERENCES	19

LIST OF TABLES

Table 1. Description of CNPS ranks and threat codes.....	3
Table 2. Summary of Biological Communities within the Project Area.....	8

LIST OF APPENDICES

Appendix A	Figures
	Figure 1.
	Figure 2.
	Figure 3.
	Figure 4.
Appendix B	List of Observed Plant Species
Appendix C	Representative Photographs
Appendix D	Potential for Special-Status Species to Occur in the Project Area

LIST OF ACRONYMS AND ABBREVIATIONS

BIOS	Biogeographic Information and Observation System
CCC	Central California Coast
CCR	California Code of Regulations
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CFGF	California Fish and Game Code
CFR	Code of Federal Regulations
CNDDDB	California Natural Diversity Database
CNPS	California Native Plant Society
Corps	U.S. Army Corps of Engineers
CRLF	California Red-legged Frog
CWA	Clean Water Act
EFH	Essential Fish Habitat
FAC	Facultative
FACW	Facultative Wetland
FESA	Federal Endangered Species Act
Inventory	CNPS Inventory of Rare and Endangered Plants
MBTA	Migratory Bird Treaty Act
NMFS	National Marine Fisheries Service
NOAA	National Oceanic and Atmospheric Administration
NRCS	Natural Resources Conservation Science
OBL	Obligate
OHWM	Ordinary High Water Mark
PG&E	Pacific Gas and Electric
Rank	California Rare Plant Rank
RWQCB	Regional Water Quality Control Board
SFGS	San Francisco Garter Snake
SOC	Species of Concern
SSC	Species of Special Concern
USDA	U.S. Department of Agriculture
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
WBWG	Western Bat Working Group
WRA	WRA, Inc.

EXECUTIVE SUMMARY

The purpose of this report is to provide an analysis of natural biological communities and special-status species at the Sandra-Hayne Culvert Replacement Project (Project) located at the intersection of Sandra Road and Hayne Road in Hillsborough, San Mateo County, California. On July 31 and August 8, 2017, WRA, Inc. (WRA) conducted an assessment of biological resources within the Project Area. Biological communities identified within the Project Area include coast live oak woodland, developed/landscaped, a perennial stream (Cherry Creek), and riparian coast live oak woodland totaling approximately 0.49 acre. Two of the identified communities are considered sensitive: Cherry Creek and riparian coast live oak woodland. The portion of Cherry Creek within the Project Area totals approximately 0.03 acre and approximately 320 linear feet. Riparian coast live oak woodland occupies approximately 0.15 acre of the Project Area. Based on a review of relevant resources and the types and condition of the biological communities observed at the site, it was determined that no special-status plant species are likely to occur in the Project Area. However, it was determined that two special-status wildlife species have moderate potential to occur within the Project Area including Nuttall's woodpecker (*Picoides nuttallii*), and Oak titmouse (*Baeolophus inornatus*), both U.S. Fish and Wildlife Service (USFWS) Birds of Conservation Concern (BCC). Additionally, one special status species was present within the Project, the San Francisco dusky-footed woodrat (*Neotoma fuscipes annectens*), (California Department of Fish and Wildlife (CDFW) Species of Special Concern (SSC)).

The proposed Project work involves repairs and replacements to culverts, tunnels, inlet and outfall structures, and a trash rack to improve Cherry Creek's stormwater capacity within the Project Area. This will potentially involve dewatering the sections of Cherry Creek and removal of sediment and emergent vegetation from the basin. The proposed work may require permits from the U.S. Army Corps of Engineers under Section 404 of the Clean Water Act (CWA), the Regional Water Quality Control Board (RWQCB) under Section 401 of the CWA, and the CDFW under Section 1602 of the California Fish and Game Code (CFGF). With the implementation of the recommended avoidance, minimization, and mitigation measures, the Project is not expected to affect any listed, candidate, or other special-status plant or wildlife species.

1.0 INTRODUCTION

On July 31, and August 8 2017, WRA, Inc. (WRA) performed assessments of biological resources at the site of the proposed Sandra-Hayne Culvert Replacement Project (Project) located at the intersection of Sandra Road and Hayne Road in Hillsborough, San Mateo County, California (Figure 1). The Project Area is located west of Black Mountain road, south of Pinehill road, north of the Lookout road terminus, and east of Interstate 280 and consists of both upstream and downstream reaches of Cherry Creek, both approximately 100 linear feet, adjacent oak woodland, and a network of culverts running underneath Sandra Road . This report describes the results of the site visits, which assessed the Project Area for (1) the potential to support special-status plant or wildlife species and (2) presence of other sensitive biological resources protected by local, state, or federal laws and regulations.

A biological resources assessment provides general information on the potential presence of sensitive species and habitats. The biological assessment is not an official protocol-level survey for listed species; however, if special-status species were observed during the site visit, their presence was recorded. Specific findings on the habitat suitability or presence of special-status species or sensitive habitats may require that protocol-level surveys be conducted for Project approval by local, state, or federal agencies. This assessment is based on information available at the time of the study and on site conditions that were observed on the dates of the site visits.

2.0 REGULATORY BACKGROUND

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

2.1 Sensitive Biological Communities

Sensitive biological communities include habitats that fulfill special functions or have special values, such as wetlands, streams, or riparian habitat. These habitats are protected under federal regulations such as the Clean Water Act (CWA); state regulations such as the Porter-Cologne Act, the California Fish and Game Code (CFGF), and the California Environmental Quality Act (CEQA); or local ordinances and policies such as city or county Tree Ordinances, Special Habitat Management Areas, General Plans, and Habitat Conservation Plans.

2.1.1 Waters of the United States

The U.S. Army Corps of Engineers (Corps) regulates “Waters of the United States” under Section 404 of the CWA. Waters of the U.S. are defined in the Code of Federal Regulations (CFR) as waters susceptible to use in commerce, including interstate waters and wetlands, all other waters (intrastate waterbodies, including wetlands), and their tributaries (33 CFR 328.3). Potential wetland areas, according to the three criteria used to delineate wetlands as defined in the *Corps of Engineers Wetlands Delineation Manual* (Corps Manual; Environmental Laboratory 1987), *A Field Guide to Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the United States* (“OHWM Guide;” Corps 2005), and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region Supplement* (Arid West Supplement; Corps 2008), are identified by the presence of (1) hydrophytic vegetation, (2) hydric soils, and (3) wetland hydrology. Areas that are inundated at a sufficient depth and for a sufficient duration to exclude growth of hydrophytic vegetation are subject to Section 404 jurisdiction as “other waters”

and are often characterized by an ordinary high water mark (OHWM). Other waters, for example, generally include lakes, rivers, and streams. The placement of fill material into Waters of the U.S generally requires an individual or nationwide permit from the Corps under Section 404 of the CWA.

2.1.2 Waters of the State

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

2.1.3 Streams, Lakes, and Riparian Habitat

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

2.2 Special-status Species

Special-status species include those plants and wildlife species that have been formally listed, are proposed as endangered or threatened, or are candidates for such listing under the federal Endangered Species Act (FESA) or California Endangered Species Act (CESA). These Acts afford protection to both listed and proposed species. In addition, CDFW Species of Special Concern (SSC), and National Marine Fisheries Service (NMFS) Species of Concern (SOC), are species that face extirpation if current population and habitat trends continue. U.S. Fish and Wildlife Service (USFWS) Birds of Conservation Concern, which have the potential to nest within the area, sensitive species included in USFWS Recovery Plans, and CDFW special-status invertebrates, are also considered special-status species. Although CDFW SSC generally have no special legal status, they are given special consideration under the CEQA.

In addition to regulations for special-status species, most birds in the United States, including non-status species, are protected by the Migratory Bird Treaty Act of 1918 (MBTA). Under this legislation, destroying active nests, eggs, and young is illegal. Bat species designated as “High Priority” by the Western Bat Working Group (WBWG) qualify for legal protection under Section 15380(d) of CEQA Guidelines. Species designated “High Priority” are defined as “imperiled or are at high risk of imperilment based on available information on distribution, status, ecology and known threats”.

Plant species listed in the California Native Plant Society (CNPS) Rare and Endangered Plant Inventory (Inventory) with California Rare Plant Ranks (Rank) of 1 and 2 are also considered special-status plant species and must be considered under CEQA. Rank 3 and Rank 4 species are afforded reduced to no protection under CEQA, but are included in this analysis for completeness. A description of the CNPS Ranks and associated threat codes are provided below in Table 1.

Table 1. Description of CNPS ranks and threat codes

California Rare Plant Ranks (formerly known as CNPS Lists)	
Rank 1A	Presumed extirpated in California and either rare or extinct elsewhere
Rank 1B	Rare, threatened, or endangered in California and elsewhere
Rank 2A	Presumed extirpated in California, but more common elsewhere
Rank 2B	Rare, threatened, or endangered in California, but more common elsewhere
Rank 3	Plants about which more information is needed - A review list
Rank 4	Plants of limited distribution - A watch list
Threat Ranks	
0.1	Seriously threatened in California
0.2	Moderately threatened in California
0.3	Not very threatened in California

2.2.1 Critical Habitat

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

2.2.2 Essential Fish Habitat

Essential Fish Habitat (EFH) is regulated through the NMFS, a division of the National Oceanic and Atmospheric Administration (NOAA). Protection of EFH is mandated through changes implemented in 1996 to the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act) to protect the loss of habitat necessary to maintain sustainable fisheries in the United States. The Magnuson-Stevens Act defines EFH as "those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity" [16 USC 1802(10)]. The NMFS further defines essential fish habitat as areas that "contain habitat essential to the long-term survival and health of our nation's fisheries" (NMFS 2007). Essential Fish Habitat can include the water column, certain bottom types such as sandy or rocky bottoms, vegetation such as eelgrass or kelp, or structurally complex coral or oyster reefs. Under regulatory guidelines issued by the NMFS, any federal agency that authorizes, funds, or undertakes action that may affect EFH is required to consult with the NMFS (50 CFR 600.920).

2.2.3 Wildlife Corridors

Wildlife movement between suitable habitat areas typically occurs via wildlife movement corridors. The primary function of wildlife corridors is to connect two larger habitat blocks, also referred to as core habitat areas (Beier 1992, Soulé and Terbough. 1999). Core habitat areas are important for wildlife that may travel between different types of habitat in order to complete various stages of their lifecycle. Wildlife corridors must be considered under CEQA.

2.2.4 Other Sensitive Biological Communities

Other sensitive biological communities not discussed above include habitats that fulfill special functions or have special values. Natural communities considered sensitive are those identified in local or regional plans, policies, regulations, or by the CDFW. The CDFW ranks sensitive communities as "threatened" or "very threatened" and keeps records of their occurrences in its California Natural Diversity Database (CNDDB; CDFW 2017). Sensitive plant communities are also identified by the CDFW (CDFG 2010). Vegetation alliances in the CNDDB are ranked 1 through 5 based on NatureServe's (2017) methodology, with those alliances ranked globally (G) or statewide (S) as 1 through 3 considered sensitive. Impacts to sensitive natural communities identified in local or regional plans, policies, or regulations or those identified by the CDFW or the USFWS must be considered and evaluated under the CEQA. Specific habitats may also be identified as sensitive in city or county general plans or ordinances.

2.3 Local Policies, Ordinances, Regulations

Per the Town of Hillsborough's Building/Planning Office (pers. comm. Tom Anderson) and their Tree Removal Guidelines (June 2011), trees are defined as "any woody plant which has a trunk with a diameter of twelve inches or greater, measured at four feet, six inches above natural grade". The Tree Removal Guidelines dictate removal of any plant species meeting this criteria or larger requires a tree removal permit from the Town of Hillsborough.

3.0 METHODS

On July 31 and August 8, 2017, the Project Area was traversed on foot to determine (1) the plant communities present within the Project Area, (2) whether existing conditions at the site provide potentially suitable habitat for any special-status plant or wildlife species, and (3) whether

sensitive biological communities are present. All plant species encountered were recorded and are summarized in Appendix A. Plant nomenclature follows Baldwin *et al.* (2012) and subsequent revisions by the Jepson Flora Project (2017), except where noted. Because of recent changes in classification for many of the taxa treated by Baldwin *et al.* and the Jepson Flora Project, relevant synonyms are provided in brackets. For cases in which regulatory agencies, CNPS, or other entities base rarity on older taxonomic treatments, precedence was given to the treatment used by those entities.

3.1 Biological Communities

Prior to the site visit, Soil Survey data for San Mateo County (U.S. Department of Agriculture [USDA] 2017), were examined to determine whether any unique soil types capable of supporting sensitive plant communities or aquatic features have been mapped in the Project Area. Additional sources, such as the U.S. Geological Survey (USGS) 7.5-minute quadrangle maps for the San Francisco South, Montara Mountain, San Mateo, Woodside, and Palo Alto (USGS 2017) and available aerial imagery were also reviewed to determine the potential for sensitive biological communities to occur in the Project Area. Biological communities were primarily classified based on existing descriptions found in the *Preliminary Descriptions of the Terrestrial Natural Communities of California* (Holland 1986) and *A Manual of California Vegetation, Second Edition* (Sawyer et al. 2009). However, in some cases it was necessary to identify variants of community types or to describe non-vegetated areas that are not described in the literature. Biological communities were classified as sensitive or non-sensitive as defined by CEQA and other applicable laws and regulations.

3.1.1 Non-Sensitive Biological Communities

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

3.1.2 Sensitive Biological Communities

Sensitive biological communities are defined as those communities that are afforded special protection under CEQA or other applicable federal, state, or local laws, regulations or ordinances. Applicable laws and ordinances are discussed above in Section 2.0. Special methods used to identify sensitive biological communities are discussed below. Descriptions of sensitive biological communities observed in the Project Area are provided in Section 4.1.2

Wetlands and Non-Wetland Waters

A jurisdictional wetland delineation following the methods outlined in the Corps Manual (Environmental Laboratory 1987) and the Arid West Supplement (Corps 2008) was conducted by qualified WRA biologists concurrent with this biological resources assessment. The Project Area was surveyed to determine whether any wetlands or non-wetland waters potentially subject to jurisdiction by the Corps, the RWQCB, or the CDFW were present. The assessment was based on the presence of hydrophytic vegetation and indicators or hydric (saturated) soils or wetland hydrology. The determination of hydrophytic vegetation is based on the dominance of plant

species with a wetland indicator status¹ of obligate (OBL), facultative wetland (FACW), or facultative (FAC) as given on the National Wetlands Plant List (Lichvar 2016). Evidence of wetland hydrology can include direct evidence (primary indicators), such as visible inundation or saturation, algal matting, and oxidized root channels, or indirect evidence (secondary indicators), such as a water table within two feet of the soil surface during the dry season. Indicators of hydric soils include dark colored soils, soils with a sulfidic odor, and soils that contain redoximorphic features as defined by the Natural Resources Conservation Service's (NRCS) *Field Indicators of Hydric Soils in the United States* (NRCS 2010).

Other Sensitive Biological Communities

The Project Area was evaluated for the presence of other sensitive biological communities, including sensitive plant communities recognized by CDFW. Prior to the site visit, aerial photographs, Soil Survey data (USDA 2017), the CDFW's *List of Vegetation Alliances and Associations* (CDFG 2010), and *A Manual of California Vegetation, Second Edition* (Sawyer et al. 2009) were reviewed to assess the potential for sensitive biological communities to occur in the Project Area. All alliances within the Project Area with a ranking of 1 through 3 were considered sensitive biological communities. Sensitive biological communities identified in the Project Area are described in Section 4.1.2, below.

3.2 Special-status Species

The potential for special-status plant and wildlife species to occur in the Project Area was evaluated by first determining which special-status species have been documented from within the vicinity of the Project Area through a literature and database search. Database searches for known occurrences of special-status species focused on the USGS 7.5-minute quadrangle maps for the Montara Mountain and four adjacent quadrangles with similar habitats: San Francisco South, San Mateo, Woodside, and Palo Alto. The following sources were reviewed to determine which special-status plant and wildlife species have been documented from the referenced quadrangles:

- CNDDDB records (CDFW 2017)
- USFWS quadrangle species lists (USFWS 2017)
- CNPS Inventory records (CNPS 2017)
- California Department of Fish and Game publication "California's Wildlife, Volumes I-III" (Zeiner *et al.* 1990)
- A Field Guide to Western Reptiles and Amphibians (Stebbins and McGinnis 2012)
- California Amphibian and Reptile Species of Special Concern (Thomson et al 2016)
- California Bird Species of Special Concern (Shuford and Gardali 2008)
- USFWS Critical Habitat Mapper (USFWS 2017b)
- WBWG, species accounts (WBWG 2017)
- University of California at Davis Information Center for the Environment Distribution Maps for Fishes in California (Information Center for the Environment 2017)
- Citizen-based bird observation network (Sullivan *et al.* 2017)

¹ OBL = Obligate, always found in wetlands (> 99% frequency of occurrence); FACW = Facultative wetland, usually found in wetlands (67-99% frequency of occurrence); FAC = Facultative, equal occurrence in wetland or non-wetlands (34-66% frequency of occurrence).

Following the database and literature review, a site visit was made to the Project Area to identify the biological communities present and to assess their condition. Habitat conditions observed in the Project Area were used to evaluate the potential for special-status plant or wildlife species to occur there. This assessment based on conditions observed at the site, the results of the database and literature review, and the professional expertise of the investigating qualified biologists. The potential for each special-status species to occur in the Project Area was ranked based on the following criteria:

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

The site assessment is intended to identify the presence or absence of suitable habitat for each special-status species known to occur in the vicinity of the Project Area. The site visit does not constitute a protocol-level survey and is not intended to determine the actual presence or absence of a species; however, if a special-status species was observed during the site visit, its presence was recorded and is discussed in Section 4.2.2 below. In cases where little information is known about occurrences or habitat requirements of special-status species known to occur in the vicinity, the species evaluation was based on the best professional judgment of qualified WRA biologists with experience working with the species or habitats in question. If necessary, recognized experts in individual species biology were contacted to obtain the most up to date information regarding species biology and ecology. For some species, a site assessment at the level conducted for this report may not be sufficient to determine presence or absence of a species to the specifications required by regulatory agencies. In these cases, a species may be assumed to be present or further protocol-level special-status species surveys may be necessary. Special-status species for which further protocol-level surveys or additional recommendations may be necessary are described below in Section 5.0.

3.2.1 Critical Habitat

During the search of background literature, prior to the site visit, the USFWS Critical Habitat Mapper was referenced to determine if critical habitat for any species occurs within the Project Area (USFWS 2018).

3.2.2 Essential Fish Habitat

During the search of background literature, prior to the site visit, the NOAA EFH Mapper was referenced to determine if EFH for any species occurs within the Project Area (NOAA 2018).

3.2.3 Wildlife Corridors

During the search of background literature, prior to the site visit, biologists reviewed maps from the California Essential Connectivity Project and associated habitat connectivity or mapping data available through the CDFW Biogeographic Information and Observation System (BIOS) (CDFW 2018). In addition, aerial imagery (Google Earth 2018) for the local area was referenced to determine if core habitat areas were present within, or connected to the Project Area.

4.0 RESULTS

The following section presents the results of the biological resources assessment within the Project Area. Plant species observed in the Project Area during the site visit are listed in Appendix A. Representative photographs of the Project Area are provided in Appendix B.

The total Project Area is approximately 0.49 acre and is located within a residential portion of the town of Hillsborough, approximately three-quarter of a mile east of Highway 280. The Project Area is bounded by San Raymundo Road to the north, Hayne Road to the east, south, and west. The Project Area encompasses Cherry Creek, Sandra and Hayne Roads, coast live oak woodland, a portion of which is considered riparian, tunnels, and storm drains which are proposed being replaced.

4.1 Biological Communities

Non-sensitive biological communities observed in the Project Area include developed/landscaped land and coast live oak woodland. Additionally, two sensitive biological communities were observed in the Project Area, Cherry Creek and riparian coast live oak woodland. Descriptions for each biological community are contained in the following sections. Biological communities within the Project Area are also summarized in Table 2 and shown in Figure 2.

Table 2. Summary of Biological Communities within the Project Area

Community Type	Area (acres)
Non-sensitive biological communities	
Coast Live Oak Woodland	0.14
Developed/Landscaped	0.17
Sensitive biological community	
Perennial Stream (Cherry Creek)	0.03
Riparian Coast Live Oak Woodland	0.15
Total Project Area Size	0.49

4.1.1 Non-Sensitive Biological Communities

Coast Live Oak Woodland

Coast live oak woodland is known from the outer and inner Coast Ranges, Transverse Ranges, and southern coast from northern Mendocino County south to San Diego County. This vegetation community is typically located on terraces, canyon bottoms, slopes, and flats underlain by deep, well-drained sandy or loam substrates with high organic content (CNPS 2017).

Within the Project Area, coast live oak woodland occupies approximately 0.14 acre and is mixed with native, non-native ornamental, and invasive species. The dominant species is coast live oak (*Quercus agrifolia*). Blue gum Eucalyptus (*Eucalyptus globulus*), arroyo willow (*Salix lasiolepis*), and holly leaf cherry (*Prunus ilicifolia*) are also present at low cover within the coast live oak woodland. The shrub stratum is largely composed of French broom (*Genista monspessulana*), toyon (*Heteromeles arbutifolia*), and black elderberry (*Sambucus nigra*). An array of perennial herbs and grasses line the perimeter of Cherry creek, predominantly bigleaf periwinkle (*Vinca major*), broadleaf helleborine (*Epipactis helleborine*), poison hemlock (*Conium maculatum*), and colonial bentgrass (*Agrostis capillaris*).

Developed/Landscaped Lands

Developed/Landscaped urban land occupies approximately 0.17 acre in the Project Area. The developed/landscaped land includes a parcel of land owned by the Town of Hillsborough, at the intersection of Sandra Road and Hayne Road. This parcel of land houses two ground-unit Pacific Gas and Electric (PG&E) utility boxes and is largely un-vegetated with exception of date palm (*Phoenix canariensis*), paradise apple (*Malus pumila*), and bird of paradise (*Strelitzia reginae*). Yew pine (*Podocarpus macrophyllus*) has been planted along the southeastern perimeter of the Project Area where Hayne Road meets the coast live oak woodland, likely to create a partition for residences adjacent to Hayne Road.

4.1.2 Sensitive Biological Communities/Sensitive Natural Communities

Perennial Stream (Cherry Creek)

A formal wetland and non-wetland waters delineation was also conducted within the Project Area during the July 31, 2017 site visit. Characteristics observed determined that Cherry Creek occupies approximately 0.03 acre of habitat within the Project Area and is located along the inner depressions of the coast live oak woodland and riparian coast live oak woodland habitats. Within the Project Area, Cherry Creek is culverted for approximately 250 linear feet (of the total 320 linear feet within the Project Area) as it flows southeast underneath Sandra Road to the lower reaches of the Project Area. A defined bed-and-bank along with several OHWM characteristics, including a natural line impressed on the bank, destruction of terrestrial vegetation, and the presence of litter and debris, were observed within Cherry Creek and is thus potentially jurisdictional under Section 401 and 404 of the CWA and Section 1600 of CFGC. Detailed results of this delineation are included in the Sandra-Hayne Culvert Replacement Delineation Letter (WRA 2017).

Flows in Cherry Creek run for the entire wet season and receive discharged water from upper reaches of Cherry Creek as the creek receives stormwater discharge from the surrounding neighborhood.. Cherry Creek has a weir approximately 7 feet northeast of southern portion of the Project Area. The weir is approximately 4 feet high, and is a horizontal barrier to alter the flow of Cherry Creek. Within the Project Area, Cherry Creek has a moderate gradient and imprecise

channel. Cherry creek contains a channel bed of assorted sediments dominated by fill, small cobbles, and mud.

Riparian coast live oak woodland

Riparian coast live oak woodland is a sensitive natural community that occurs as a subset of the larger coast live oak woodland habitat in the Project Area. Within the Project Area approximately 0.15 acre of riparian coast live oak woodland habitat occurs as a sensitive natural community in areas directly adjacent to the non-culverted portions of Cherry Creek. Riparian coast live oak woodland is not classified as sensitive biological community existing in the *Preliminary Descriptions of the Terrestrial Natural Communities of California* or *A Manual of California Vegetation, Second Edition*. However, this community does contain elements of the communities described as central coast live oak riparian forest (Holland 1986) and coast live oak woodland (*Quercus agrifolia* Woodland Alliance; Rarity ranking G5, S4; CNPS 2018). The overstory is generally dense and the understory is generally open. Within the Project Area the overstory is composed primarily of coast live oak, though other tree species are present at low cover, including arroyo willow and holly leaf cherry. The understory shrub species in the Project Area include poison oak (*Toxicodendron diversilobum*), California blackberry (*Rubus ursinus*), and toyon (*Heteromeles arbutifolia*). The understory herbaceous species include colonial bent grass (*Agrostis capillaris*) tall flat sedge (*Cyperus eragrostis*), poison hemlock (*Conium maculatum*), and pink honeysuckle (*Lonicera hispidula*). French broom (*Genista monspessulana*) was also present within the understory on southeast hillside of this community.

4.2 Special-status Species

4.2.1 Special-status Plants

Based upon a review of the resources and databases listed in Section 3.2.1, 81 special-status plant species have been documented from within the vicinity of the Project Area. Appendix C-1 summarizes the potential these species to occur in the Project Area. Based on the resources reviewed and the types and condition of habitats observed at the site, it was determined that no special-status plant species have a moderate or high potential to occur in the Project Area. No special-status plant species were observed in the Project Area during the site visit. All plant species documented within the vicinity of the Project Area were determined to have no potential or are unlikely to occur because they typically require habitat elements absent from the Project Area including but not limited to:

- serpentine soils;
- sandy beaches or alkaline flats,
- old growth forest;
- salt marsh;
- wetland, playa, and marsh

Special-status plant species that have been documented within a five-mile radius of the Project Area are depicted in Figure 3.

4.2.2 Special-status Wildlife

Based upon a review of the resources and databases listed in Section 3.2.1, it was determined that 75 special-status wildlife species have been documented or have the potential to occur within the vicinity of the Project Area. Special-status wildlife species documented from within 5 miles of

the Project Area in the CNDDDB are shown in Figure 4. Appendix C-2 summarizes the potential for each of these species to occur in the Project Area. One special-status wildlife species was observed within the Project Area, while two others were determined to have a moderate potential to occur. No species were determined to have a high potential to occur. In addition, native, birds within the Project Area are protected by the MTBA and CFGC. Measures for the protection of these nesting bird species, in addition to those special status birds discussed below, are included in Section 5.2.2.

Of the 75 special-status wildlife species listed in Appendix C-2, it was determined that most species have no potential or are unlikely to occur. Those species determined to be unlikely or have no potential to occur typically require habitat elements which are absent from the Project Area and its surrounds including:

- grasslands;
- serpentine soils capable of supporting host plants;
- sandy beaches or alkaline flats,
- old growth forest;
- salt marsh;
- ponds, lakes or other large waterbodies;
- rock outcrops, abandoned buildings, mine shafts or similar structures;
- anadromous connection to San Francisco Bay;
- habitat connectivity to extant populations, or
- the Project Area is outside of the species known distribution.

Those species observed, or with moderate potential to occur within the Project Area are discussed in more detail below.

Species Considered Present

San Francisco dusky-footed woodrat (*Neotoma fuscipes annectens*), CDFW SSC. This subspecies of the dusky-footed woodrat occurs in the Coast Ranges between San Francisco Bay and the Salinas River (Matocq 2003). Occupied habitats are variable and include forest, woodland, riparian areas, and chaparral. Woodrats feed on woody plants, but will also consume fungi, grasses, flowers and acorns. Foraging occurs on the ground and in bushes and trees. This species constructs robust stick houses/structures in areas with moderate cover and a well-developed understory containing woody debris. Breeding takes place from December to September. Individuals are active year-round, and generally nocturnal.

During the site visit two nests constructed by this species were observed in the surrounding woodlands. In addition, one nest was also observed within the Project Area near the downstream boundary. Because nests constructed by this species have been observed within the Project Area, the species is considered present.

Species with Moderate Potential

Nuttall's woodpecker (*Picoides nuttallii*), USFWS BCC. Nuttall's Woodpecker, common in much of its range, is a year-round resident throughout most of California west of the Sierra Nevada. Typical habitat is oak or mixed woodland, and riparian areas (Lowther 2017). Nesting occurs in tree cavities, principally those of oaks and larger riparian trees. Nuttall's woodpecker also occurs in older residential settings and orchards where trees provide suitable foraging and nesting habitat. This species forages on a variety of arboreal invertebrates.

While not observed during the site assessment, this species has been observed in the local area (Sullivan *et al* 2017). Additionally, the limited number of oak trees within the Project Area may provide cavities or other suitable substrate for nesting by the species. Riparian areas with a mix of oaks and other broad-leaved trees are typical foraging habitat for this species (Lowther 2017). Therefore, while suitable nesting substrate is limited to a few oak trees, foraging substrates are present, and the species has been observed in the local area; therefore this species has a moderate potential to nest in the Project Area.

Oak titmouse (*Baeolophus inornatus*), USFWS BCC. This relatively common species is year-round resident throughout much of California including most of the coastal slope, the Central Valley and the western Sierra Nevada foothills. In addition, the species may also occur in residential settings where landscaping provides foraging and nesting habitat. Its primary habitat is woodland dominated by oaks.

Local populations have adapted to woodlands of pines and/or junipers in some areas (Cicero 2000). The oak titmouse nests in tree cavities, usually natural cavities or those excavated by woodpeckers, though they may partially excavate their own (Cicero 2017). Seeds and arboreal invertebrates make up the birds' diet.

While not observed during the site assessment, this species has been observed in the local area (Sullivan *et al* 2017). Additionally, the limited number of oak trees within the Project Area may provide cavities or other suitable substrate for nesting by the species. Riparian areas with a mix of oaks are typical foraging habitat for this species (Cicero 2017). Therefore, while suitable nesting substrate is limited to a few oak trees, foraging substrates are present, and the species has been observed in the local area; therefore this species has a moderate potential to nest in the Project Area.

Listed Species Not Likely to Occur

Federal or state listed species that have been documented within the vicinity of the Project Area but which are unlikely to occur at the site include: California red-legged frog (CRLF: *Rana draytonii*), San Francisco garter snake (SFGS: *Thamnophis sirtalis tetrataenia*) and steelhead (*Oncorhynchus mykiss irideus*, Central California Coast Distinct Population Segment [DPS]). Based on the results of the database and literature review and on habitat conditions observed at the site, it was determined that these species have no potential or are unlikely to occur within the Project Area. These species are discussed in more detail below.

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

The lack of suitable breeding habitat as well as a lack of connectivity to known populations make it unlikely that this species will occur within the Project Area. CRLF require ponds or pooled water with relatively little or no flow for breeding. Stream habitat like Cherry Creek is not suitable to support breeding by this species. Uplands surrounding the creek have also been developed into residential neighborhoods and as such, also do not support seasonal ponding required for breeding by CRLF. Additionally, the nearest occurrences of this species occur along the west

side of Highway 280 within the Crystal Springs Reservoir system. Cherry Creek originates on the east side of Highway 280 and as such does not provide a habitat corridor for CRLF to migrate from population sources into the Project Area. Given the lack of a breeding habitat, and lack of a migration corridor to provide access by CRLF from nearby populations, the species is unlikely to occur within the Project Area.

San Francisco Garter Snake (*Thamnophis sirtalis tetrataenia*), Federal Endangered, State Endangered, CDFW Fully Protected Species. Historically, San Francisco garter snakes (SFGS) occurred in scattered wetland areas on the San Francisco Peninsula from approximately the San Francisco County line south along the eastern and western bases of the Santa Cruz Mountains, at least to the Upper Crystal Springs Reservoir, and along the coast south to Año Nuevo Point, San Mateo County, and Waddell Creek, Santa Cruz County.

The preferred habitat of the San Francisco garter snake is a densely vegetated pond near an open hillside where they can sun themselves, feed, and find cover in rodent burrows; however, considerably less ideal habitats can be successfully occupied (USFWS 2006). Temporary ponds and other seasonal freshwater bodies are also used. Emergent and bankside vegetation such as cattails (*Typha* spp.), bulrushes (*Scirpus* spp.) and spike rushes (*Juncus* spp. and *Eleocharis* spp.) apparently are preferred and used for cover. The area between stream and pond habitats and grasslands or bank sides is used for basking, while nearby dense vegetation or water often provide escape cover. Snakes also use floating algal or rush mats, if available.

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

Specific information on the home range of SFGS documents this species to travel much shorter distances than other garter snake species, many of which travel over several kilometers between winter and summer sites. Studies at Año Nuevo State Reserve found the mean distance of female hibernacula to the Visitor Center Pond was 459 feet, with a maximum distance of 637 feet. Distances of greater than 637 feet have been reported, including an unconfirmed distance of approximately 1000 feet (McGinnis et al. 1987, Larson 1994). However, more recent studies at Año Nuevo State Reserve continue to confirm SFGS are regularly within 300 and 650 feet of foraging (pond) habitats and upland sites. Dispersal is rarely greater than this distance although not impossible if dispersal occurs in pursuit of prey (USFWS 2006), and during periods of heavy rain or shortly after, SFGS may make long-distance movements of up to 1.25 miles along drainages within the dense riparian cover; however, SFGS have not been documented to travel over open terrain (McGinnis 2001).

The Project Area and immediate surrounds lack pond habitat, suitable forage and basking sites to support this species. The Project Area contains perennial stream which does not provide the large ponded waterbodies capable of providing escape from predators or supporting large numbers of frogs, the primary prey source for this species. Additionally, the closed riparian canopy eliminates suitable basking habitat, preventing the species from being able to thermoregulate its body temperature. Therefore, the lack of pond habitat and prey sources, combined with insufficient basking habitat leave no potential for the species to occupy the Project Area.

Steelhead Central California Coast DPS (*Oncorhynchus mykiss irideus*), Federal Threatened. The Central California Coast (CCC) Distinct Population Segment of Steelhead

includes all naturally spawned populations of steelhead (and their progeny) in California streams from the Russian River to Aptos Creek, and the drainages of San Francisco and San Pablo Bays eastward to the Napa River (inclusive), excluding the Sacramento-San Joaquin River Basin. Two artificial propagation programs are considered to be part of the CCC Distinct Population Segment: the Kingfisher Flat Hatchery/Scott Creek, and the Don Clausen Fish Hatchery (NMFS 2007).

The life history patterns for steelhead are both highly variable and flexible (Moyle 2002). While similar to most Pacific Salmonids (*Oncorhynchus* sp.) in their anadromous life history, steelhead exhibit a greater variation in timing for each component of their life history (NMFS 2007). Steelhead typically migrate to marine waters after spending two years in freshwater, though they may stay up to seven. They then reside in marine waters for two or three years prior to returning to their natal stream to spawn as four or five year-olds. In addition to the anadromous life history, a resident freshwater life history known as rainbow trout exists for the species. Both of these life history types often exist in the same populations, and genetically these types are indistinct from each other with resident rainbow trout capable of producing steelhead and Steelhead progeny sometimes becoming resident rainbow trout (Moyle 2002).

4.2.3 Critical Habitat

Critical habitat was determined not to be present within the Project Area based on the results of the background literature search.

4.2.4 Essential Fish Habitat

The watershed which encompasses the Project Area is designated as EFH for both Chinook and Coho Salmon. However, because the creek is effectively cut off from any migration by downstream barriers (drained channel, modified concrete channel, and extreme lengths of culverting), the Project has no potential to impact migratory fish or other special-status fish species, nor does the Project have potential to impact EFH productivity as the Project Area cannot be accessed by migratory or EFH species.

4.2.5 Wildlife Corridors

The Project Area contains a stream and riparian vegetation throughout much of its length, and likely serves as a wildlife corridor on a local scale. While the upstream and downstream sections of Cherry Creek can be considered “core habitat areas,” no migratory fishes (i.e. salmonids) are present to require seasonal movement through the waters of the Project Area. Additionally, the culvert connecting the upper and lower reaches of the creek is currently impassible by salmonids as the approximately 20 percent slope, over approximately 200 feet, far exceeds the swimming abilities of salmonids (Bates 2002). However, other local species (e.g. deer, raccoons, or birds) may travel through the canyon and Project Area when moving to and from local foraging, bedding or watering areas. As such the Project Area likely serves a small scale habitat corridor for species moving through the local area.

The Project may potentially disrupt some local wildlife movement during construction, but will not result in any long term impacts to corridor function. Noise and movement during construction activities can cause disturbances sufficient to dissuade wildlife from using areas. However, in this case, most of the common species (e.g. raccoons, skunks, etc.) are nocturnal and commonly move through woodlands, along roadways, or through lightly urbanized landscapes (Feldhamer 2007). If disturbed, such species would either move through adjacent woodland habitats, or may move through the Project Area at night when construction will not be occurring, thereby limiting the potential interaction between construction activities and wildlife (Feldhamer 2007).

Additionally, the Project is not likely to affect the long term suitability or functionality of the corridor because no fences, retaining walls, or other such obstructions will be constructed that may block access by wildlife. Therefore, the Project may temporarily disrupt some movement by common wildlife species during active construction, but once completed, the functionality of the corridor will be unchanged.

5.0 PROJECT DESCRIPTION, POTENTIAL IMPACTS AND RECOMMENDED AVOIDANCE, MINIMIZATION, AND MITIGATION MEASURES

5.1 Project Description

The proposed project includes upgrades and the replacement of culverts, tunnels, and storm drains to handle stormwater flows from the surrounding developed areas for the Project Area near the intersection of Sandra Road and Hayne Road in Hillsborough, California. The proposed project will replace the existing dual-culverts under Sandra Road with a single enlarged culvert, conveying flows to a new transition structure located in the coast live oak woodland. The conveyance from the transitional structure to the lower creek will occur by burying storm drain pipeline, or restoring the creek for surface flow. The proposed project will improve lower reaches of Cherry Creek to address energy dissipation of flows from the upper reaches of Cherry Creek, install a new Hayne Road tributary storm drain and tributary junction structure and effluent pipeline to convey flows from Hayne Road to the lower reaches of the creek, and install new Sandra Road and Robinwood Lane storm drains.

5.2 Potential Project Impacts and Avoidance Measures

5.2.1 Sensitive Biological Communities

Riparian Habitat and Perennial Stream

Streams and lakes are subject to jurisdiction by Corps under Section 404 of the CWA, the RWQCB under Section 401 of the CWA, and CDFW under Sections 1600-1616 of the CFGC. Alterations to or work within or adjacent to streambeds or lakes generally require a 1602 Lake and Streambed Alteration Agreement. Removal of riparian vegetation also requires a Section 1602 Lake and Streambed Alteration Agreement from CDFW. CDFW jurisdiction typically extends to the top of bank or the outer edge of riparian vegetation, whichever is further from the stream.

Potential Impacts

Any disturbance to Cherry Creek or its adjacent riparian coast live oak woodland habitat may be considered significant under CEQA. Disturbance may include but is not limited to removal of riparian vegetation, placement of fill or excavation within Cherry Creek, or the alteration of the bed-and-bank.

Avoidance and Minimization Measures

- To ensure that potential impacts to riparian vegetation Cherry Creek are minimized and/or avoided to the greatest extent feasible, exclusion and/or silt fencing should be placed around all riparian vegetation that will be preserved and this fencing will remain in place for the duration of construction.

- Any work within the OHWM of Cherry Creek will require a Section 404 permit from the Corps.
- Any work within the top of bank or disturbance to riparian habitat will require a Section 401 Water Quality Certification from the Regional Water Quality Control Board and a Section 1602 Lake and Streambed Alteration Agreement from CDFW.

5.2.2 Candidate, Sensitive, or Special-status Plant Species

No plant species identified as candidate, sensitive, or special-status in local or regional plans, policies, or regulations, or by CDFW or USFWS have potential to occur in the Project Area.

Potential Impacts

The proposed Project will not result in any impacts to special-status plant species.

Avoidance and Minimization Measures

- No avoidance or minimization measures are proposed as there is no potential for special-status plants to occur within the Project Area.

5.2.3 Candidate, Sensitive, or Special-status Wildlife Species

Of the 75 special-status wildlife species documented from within the vicinity of the Project Area, three were determined to be present, or have moderate potential to occur. Potential impacts to these species and recommended avoidance and mitigation measures are provided in the following sections.

San Francisco dusky-footed woodrat

Potential Impacts

During the site assessment a nest constructed by San Francisco dusky-footed woodrat (CDFW SSC) was observed within the Project Area. If Project activities were to remove a nest when young are present, death or injury of the young may occur. Such impacts would be considered significant under the CEQA.

Avoidance and Minimization Measures

The implementation of the following avoidance and minimization measures, will help to reduce the potential for impacts to San Francisco dusky-footed woodrat:

- Prior to working in forested or scrub habitats, a pre-construction survey should be conducted to identify any existing San Francisco dusky-footed woodrat nests that may be impacted (i.e. those within the Project Area, or within 10 feet of planned activities).
- Woodrat nests that cannot be avoided by at least 10 feet should be dismantled by hand under the supervision of a biologist. If young are encountered during the dismantling process, the material should be placed back on the nest and the nest should then remain unmolested for three weeks in order to give the female enough time to move the young, or for the young to mature and leave the nest. After that time, the nest dismantling process may begin again. Nest material should be scattered to suitable adjacent areas (riparian, woodland, scrub) that will not be impacted.

With the implementation of the aforementioned avoidance and minimization measures, the Project is expected to have a less-than-significant impact on San Francisco dusky-footed woodrat.

Nesting Birds

Potential Impacts

The Project has the potential to impact two special-status bird species: Nuttall's woodpecker and oak titmouse. The Project also has potential to impact birds protected by the MBTA as well as CFGCs. Potential impacts to these species or their habitat could occur during the removal of vegetation or from disturbance associated with construction. Removal of vegetation could result in the direct take of nests containing eggs or young, including those of Nuttall's woodpecker or oak titmouse. Activities that result in the direct removal of active nests or disturbance to nesting birds sufficient to result in the abandonment of active nests would be considered a significant impact under the CEQA and a violation of the MBTA and the CFGC.

Avoidance and Minimization Measures

The implementation of the following avoidance and minimization measures will help to reduce the potential for impacts to special-status birds, and native nesting birds:

- To the extent feasible, ground disturbance and vegetation removal should be initiated between September 1 and January 30, outside of the nesting season for most bird species expected to occur at the site.
- If working outside the nesting season is not possible, and ground disturbance or vegetation removal must occur between February 1 and August 31, a pre-construction nesting bird survey should be performed within 14 days prior to the onset of such activities to determine the presence and location of nesting bird species.
- If active nests are present, temporary exclusion buffers should be placed around the nest site and work should not occur within these areas. The appropriate buffer distance is dependent on the species, the surrounding vegetation, and the topography and should be determined by a qualified biologist as appropriate to the species and situation in order to prevent nest abandonment or direct mortality during Project activities.

With the implementation of the aforementioned avoidance and minimization measures, the Project is expected to have a less-than-significant impact on nesting birds.

5.2.4 Wildlife Corridors

The Project Area occurs in a riparian corridor along a Cherry Creek which serves as an upland corridor, but currently does not serve as an aquatic corridor because migratory fishes are absent.

Potential Impacts

Given the location of the site amidst a developed urban area, and the lack of a suitable connection to any watercourses with migratory fish populations, the Project Area does not represent a migratory corridor for fish. Only non-special-status wildlife species such as blacktailed deer (*Odocoileus hemionus columbianus*), raccoons (*Procyon lotor*) and birds are likely to use the riparian corridor for migration. Such mammalian species typically move at night, or during dawn and dusk and can easily traverse through the periphery of the Project Area during non-construction hours without harassment. These species would see a benefit to increased cover and concealment for movement with the implementation for either one the potential Project

address options (i.e. daylighting or creating a new culvert/passage tunnel). As such, the Project may temporarily interfere with the movement of some resident upland species, but will not affect any migratory fish species.

Avoidance and Minimization Measures

Implementation of the following avoidance and minimization measures will help to reduce the potential for impacts to migratory corridors to less than significant:

- In order to avoid disturbance to animals during the primary migratory times (night, dawn and dusk) , work shall not occur earlier than 0.5 hour after sunrise, or later than 0.5 and hour before sunset.
- No fences, walls or other sheer barriers shall be constructed across the width of the Project Area which might exclude mammalian species (e.g. deer or raccoons) from entering or exiting the Project Area.
- Any trenches should be either covered, or have escape ramps placed in them at the end of each day.
- Any food trash will be removed from the Project Area daily to avoid attracting predators to the area.

5.2.5 Local Policies and Ordinances

Potential Impacts

Some trees observed onsite may meet the definition of “tree” as defined by the Town of Hillsborough Tree Removal Guidelines. Project activities, equipment staging, or ingress/egress routes may require the removal of trees and thus may require authorization from the Town of Hillsborough.

Avoidance and Minimization Measures

- Limit removal of “trees” to the maximum extent feasible.
- “Trees” to be preserved will be identified with construction fencing or similar material to prevent damage or destruction to.
- A tree removal permit will be obtained from the Town of Hillsborough for any tree removal required.

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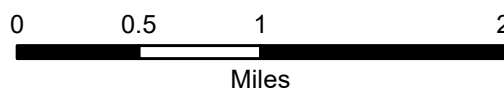
APPENDIX A

FIGURES



Figure 1. Project Area Location Map

Sandra-Hayne Culvert
Replacement Project
San Mateo County, California



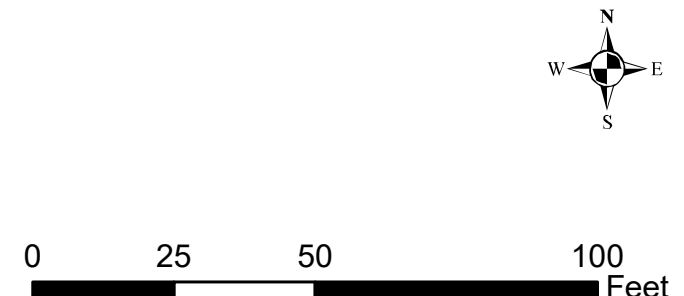
Map Prepared Date: 8/15/2017
Map Prepared By: smortensen
Base Source: Esri Streaming - National Geographic
Data Source(s): WRA



Figure 2. Biological Communities within the Project Area

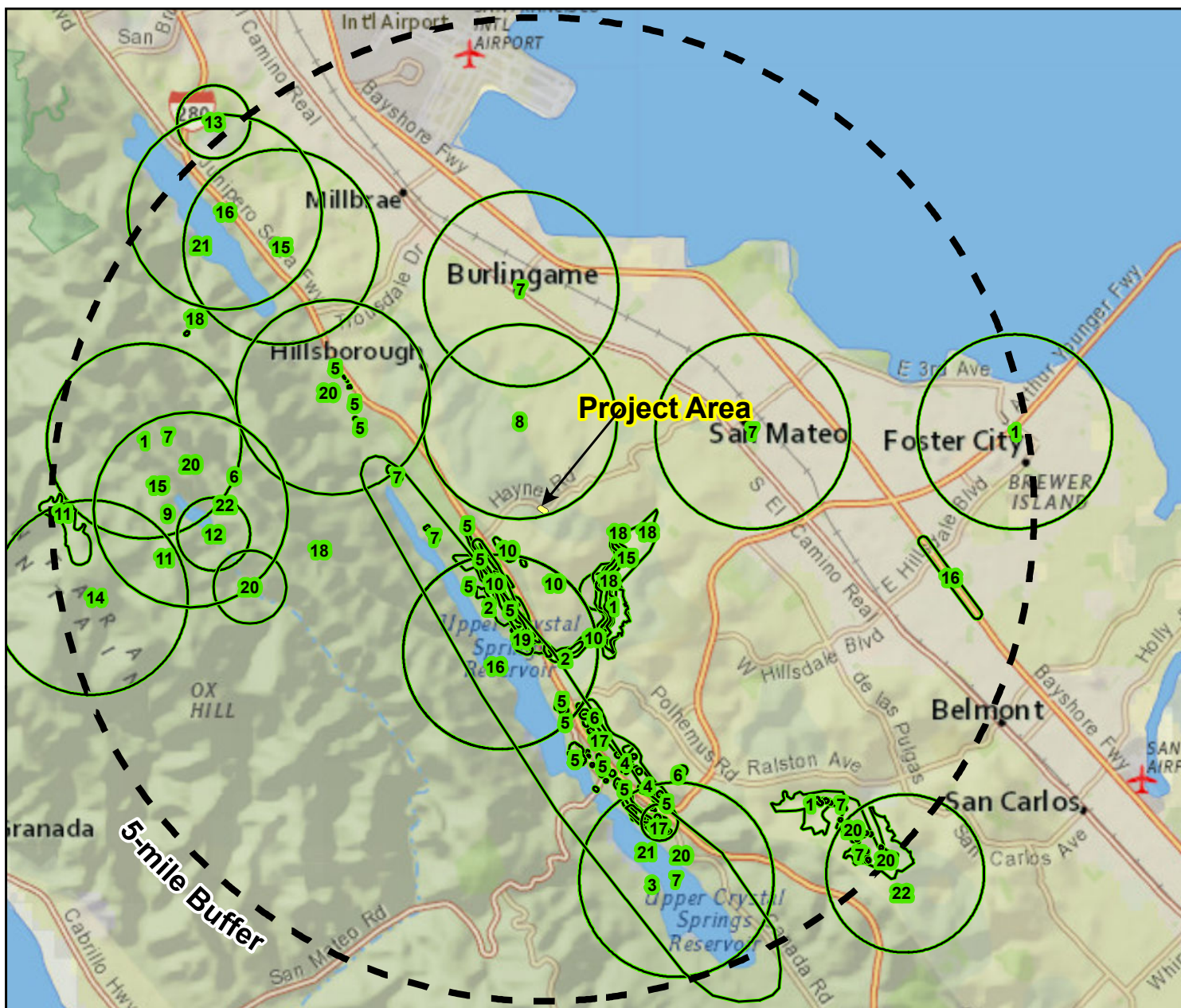
Sandra-Hayne Culvert Replacement Project
San Mateo County, California

This map may contain data from publicly available sources including, but not limited to, parcel boundaries. These data sources may be inaccurate. They are intended for reference purposes only and do not represent legal boundaries or absolute locations.



wra
ENVIRONMENTAL CONSULTANTS

Map Prepared Date: 8/18/2017
Map Prepared By: smortensen
Base Source: Esri Streaming - Google 2015
Data Source(s): WRA



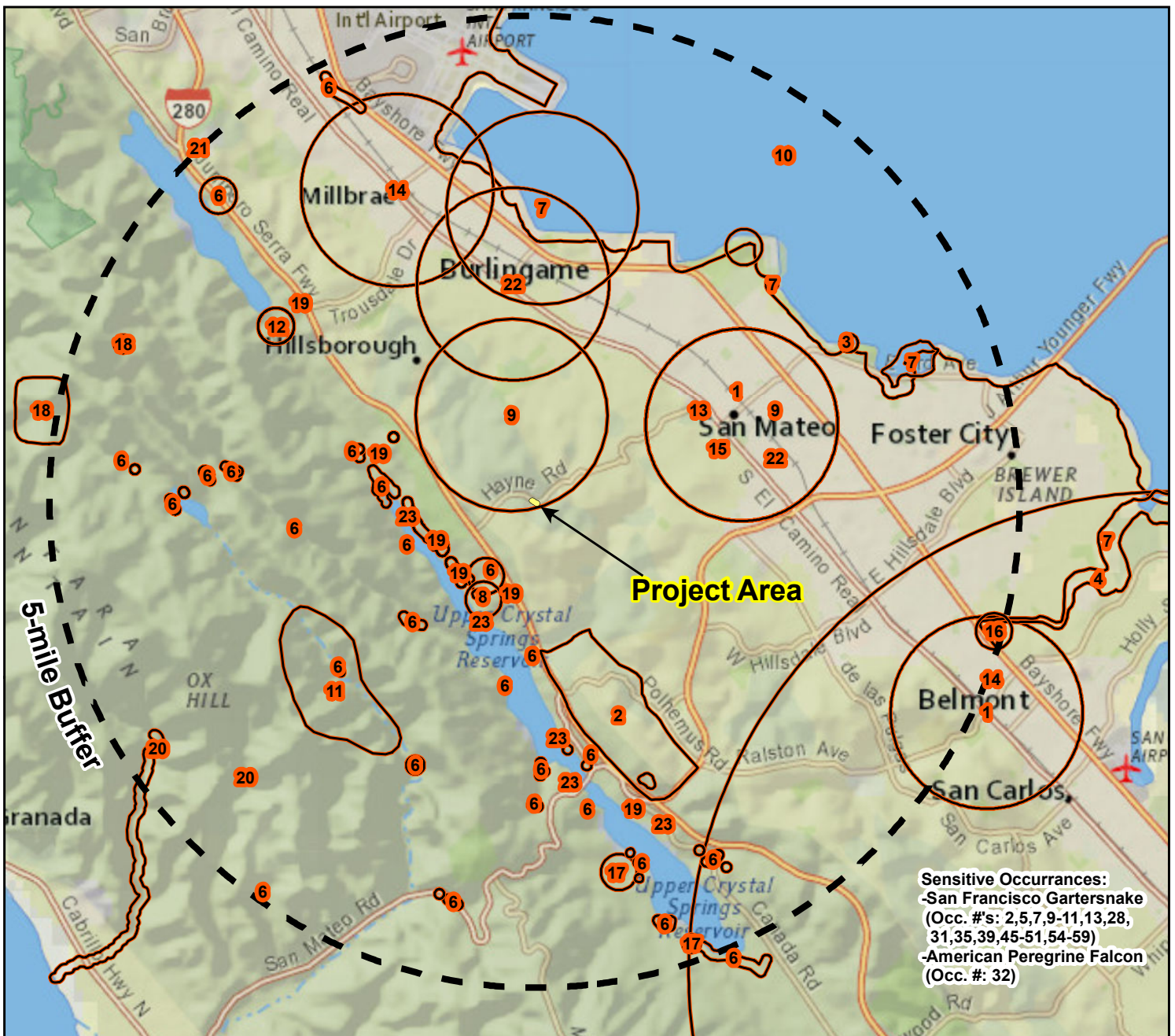
- | | | |
|-------------------------------------|--------------------------------|--------------------------------|
| 1. arcuate bush-mallow | 9. Kings Mountain manzanita | 17. San Mateo thorn-mint |
| 2. bent-flowered fiddleneck | 10. Marin western flax | 18. San Mateo woolly sunflower |
| 3. coastal marsh milk-vetch | 11. Montara manzanita | 19. short-leaved evax |
| 4. Crystal Springs fountain thistle | 12. Oregon polemonium | 20. western leatherwood |
| 5. Crystal Springs lessingia | 13. Point Reyes horkelia | 21. white-rayed pentachaeta |
| 6. fragrant fritillary | 14. San Francisco campion | 22. woodland woollythreads |
| 7. Franciscan onion | 15. San Francisco collinsia | |
| 8. Hillsborough chocolate lily | 16. San Francisco owl's-clover | |

Figure 3. Special-status Plants Documented within 5 Miles of the Project Area

Sandra-Hayne Culvert
Replacement Project
San Mateo County, California



Map Prepared Date: 8/18/2017
Map Prepared By: smortensen
Base Source: National Geographic
Data Source(s): CNDDDB August 2017



- | | | |
|--------------------------------|---|--|
| 1. Alameda song sparrow | 9. hoary bat | 17. saltmarsh common yellowthroat |
| 2. Bay checkerspot butterfly | 10. longfin smelt | 18. San Bruno elfin butterfly |
| 3. burrowing owl | 11. marbled murrelet | 19. San Francisco dusky-footed woodrat |
| 4. California black rail | 12. Mission blue butterfly | 20. steelhead - central California coast DPS |
| 5. California giant salamander | 13. Myrtle's silverspot butterfly | 21. Townsend's big-eared bat |
| 6. California red-legged frog | 14. pallid bat | 22. western bumble bee |
| 7. California Ridgway's rail | 15. Ricksecker's water scavenger beetle | 23. western pond turtle |
| 8. Edgewood blind harvestman | 16. salt-marsh harvest mouse | |

Figure 4. Special-status Wildlife Documented within 5 Miles of the Project Area

Sandra-Hayne Culvert
Replacement Project
San Mateo County, California



Map Prepared Date: 8/18/2017
 Map Prepared By: smortensen
 Base Source: National Geographic
 Data Source(s): CNDDB August 2017

APPENDIX B

LIST OF OBSERVED PLANT SPECIES

Appendix B. List of Observed Plant Species

Scientific Name	Common Name	Origin	Form	Rarity Status	CAL-IPC Status	Wetland Status (AW 2016)
<i>Aesculus californica</i>	Buckeye	native	tree	-	-	-
<i>Agrostis capillaris</i>	Colonial bent grass	non-native	perennial grass	-	-	FAC
<i>Conium maculatum</i>	Poison hemlock	non-native (invasive)	perennial herb	-	Moderate	FACW
<i>Cyperus eragrostis</i>	Tall cyperus	native	perennial grass-like herb	-	-	FACW
<i>Ehrharta erecta</i>	Upright veldt grass	non-native (invasive)	perennial grass	-	Moderate	-
<i>Epipactis helleborine</i>	Helleborine	non-native	perennial herb	-	-	FACU
<i>Eucalyptus globulus</i>	Blue gum	non-native (invasive)	tree	-	Limited	-
<i>Genista monspessulana</i>	French broom	non-native (invasive)	shrub	-	High	-
<i>Hedera helix</i>	English ivy	non-native (invasive)	vine, shrub	-	-	FACU
<i>Heteromeles arbutifolia</i>	Toyon	native	shrub	-	-	-
<i>Lonicera hispidula</i>	Pink honeysuckle	native	vine, shrub	-	-	FACU
<i>Malus pumila</i>	Paradise apple	non-native	tree	-	-	-
<i>Phoenix canariensis</i>	Canary island date palm	non-native (invasive)	tree	-	Limited	-
<i>Prunus ilicifolia</i>	Holly leaf cherry	native	tree, shrub	-	-	-
<i>Quercus agrifolia</i>	Coast live oak	native	tree	-	-	-
<i>Rubus ursinus</i>	California blackberry	native	vine, shrub	-	-	FAC
<i>Salix lasiolepis</i>	Arroyo willow	native	tree, shrub	-	-	FACW
<i>Toxicodendron diversilobum</i>	Poison oak	native	vine, shrub	-	-	FACU
<i>Umbellularia californica</i>	California bay	native	tree	-	-	FAC
<i>Vinca major</i>	Vinca	non-native (invasive)	perennial herb	-	Moderate	-
Key to Conservation Status: FE Federal Endangered FT Federal Threatened SE State Endangered ST State Threatened Rank 1A CNPS Rank 1A: Presumed extirpated in California and either rare or extinct elsewhere Rank 1B.1 CNPS Rank 1B.1: Rare, threatened, or endangered in California and elsewhere (seriously threatened in California) Rank 1B.2 CNPS Rank 1B.2: Rare, threatened, or endangered in California and elsewhere (moderately threatened in California) Rank 1B.3 CNPS Rank 1B.3: Rare, threatened, or endangered in California and elsewhere (not very threatened in California) Rank 2A CNPS Rank 2A: Presumed extirpated in California, but more common elsewhere						

Rank 2B.1	CNPS Rank 2B.1: Rare, threatened, or endangered in California, but more common elsewhere (seriously threatened in California)
Rank 2B.2	CNPS Rank 2B.2: Rare, threatened, or endangered in California, but more common elsewhere (moderately threatened in California)
Rank 2B.3	CNPS Rank 2B.3: Rare, threatened, or endangered in California, but more common elsewhere (not very threatened in California)
Rank 3.1	CNPS Rank 3.1: Plants about which more information is needed - A review list (seriously threatened in California)
Rank 3.2	CNPS Rank 3.2: Plants about which more information is needed - A review list (moderately threatened in California)
Rank 3.3	CNPS Rank 3.3: Plants about which more information is needed - A review list (not very threatened in California)
Rank 4.1	CNPS Rank 4.1: Plants of limited distribution - A watch list (seriously threatened in California)
Rank 4.2	CNPS Rank 4.2: Plants of limited distribution - A watch list (moderately threatened in California)
Rank 4.3	CNPS Rank 4.3: Plants of limited distribution - A watch list (not very threatened in California)

Key to Cal-IPC Status (Cal-IPC 2017):

High: These species have severe ecological impacts on physical processes, plant and animal communities, and vegetation structure. Their reproductive biology and other attributes are conducive to moderate to high rates of dispersal and establishment. Most are widely distributed ecologically.

Moderate: These species have substantial and apparent—but generally not severe—ecological impacts on physical processes, plant and animal communities, and vegetation structure. Their reproductive biology and other attributes are conducive to moderate to high rates of dispersal, though establishment is generally dependent upon ecological disturbance. Ecological amplitude and distribution may range from limited to widespread.

Limited: These species are invasive but their ecological impacts are minor on a statewide level or there was not enough information to justify a higher score. Their reproductive biology and other attributes result in low to moderate rates of invasiveness. Ecological amplitude and distribution are generally limited, but these species may be locally persistent and problematic.

Key to Wetland Status (Lichvar et al. 2016):

OBL	Obligate plant; almost always occurs in wetlands.
FACW	Facultative wetland plant; usually occurs in wetlands, but may occur in non-wetlands.
FAC	Facultative plant; occurs in wetlands and non-wetlands.
FACU	Facultative upland plant; usually occurs in non-wetlands, but may occur in wetlands.
UPL	Upland plant; almost never occur in wetlands.

APPENDIX C
REPRESENTATIVE PHOTOGRAPHS



Photograph 1. Photograph taken from the Sandra Road and Hayne Road intersection looking east over the coast live oak woodland with the Project Area. Photograph taken July 31, 2017.



Photograph 2. Photograph taken the Sandra Road and Hayne Road intersection looking northwest towards the riparian coast live oak woodland within the Project Area. Photograph taken July 31, 2017.



Photograph 3. Photograph taken of Sandra Road storm drains proposed for replacement. Photograph taken July 31, 2017.



Photograph 4. Photograph taken of inlet hi/low culverts and trash wrack northwest of Sandra Road. Photograph taken July 31, 2017.



Photograph 5. Photograph taken of Cherry Creek northwest of Sandra Road. Photograph taken August 8, 2017.



Photograph 6. Photograph taken of Cherry Creek looking northeast down the tributary. Photograph taken August 8, 2017.

APPENDIX D

POTENTIAL FOR SPECIAL-STATUS SPECIES TO OCCUR IN THE PROJECT AREA

Appendix D-1. Potential for Special-Status Plant Species to Occur in the Project Area.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE**	RECOMMENDATIONS
Plants				
San Mateo thorn-mint <i>Acanthomintha duttonii</i>	FE, SE, Rank 1B.1	Chaparral, valley and foothill grassland / serpentine. Elevation ranges from 160 to 980 feet (50 to 300 meters). Blooms Apr-Jun.	No Potential. The Project Area does not contain serpentine substrate on chaparral or valley and foothill grassland habitats.	No further actions are recommended for this species.
Blasdale's bent grass <i>Agrostis blasdalei</i>	Rank 1B.2	Coastal bluff scrub, coastal dunes, coastal prairie. Elevation ranges from 20 to 490 feet (5 to 150 meters). Blooms May-Jul.	No Potential. The Project Area does not contain coastal bluff scrub, coastal dunes, or coastal prairie habitats.	No further actions are recommended for this species.
Franciscan onion <i>Allium peninsulare</i> var. <i>franciscanum</i>	Rank 1B.2	Cismontane woodland, valley and foothill grassland/clay, volcanic, often serpentine. Elevation ranges from 170 to 980 feet (52 to 300 meters). Blooms (Apr), May-Jun.	Unlikely. The Project Area does not contain serpentine substrate on valley or foothill grassland habitat. The Study Area does contain cismontane woodland.	No further actions are recommended for this species.
bent-flowered fiddleneck <i>Amsinckia lunaris</i>	Rank 1B.2	Coastal bluff scrub, cismontane woodland, valley and foothill grassland. Elevation ranges from 10 to 1640 feet (3 to 500 meters). Blooms Mar-Jun.	Unlikely. The Project Area does not contain coastal bluff scrub or valley and foothill grassland habitats. The Study Area does contain cismontane woodland habitat, however the bent-flowered fiddleneck requires openings in woodland that the Project Area does not contain. The Project Area is also disturbed by fill substrate and dominated by invasive species in the understory of the Project Area.	No further actions are recommended for this species.
California androsace <i>Androsace elongata</i> ssp. <i>acuta</i>	Rank 4.2	Chaparral, cismontane woodland, coastal scrub, meadows and seeps, pinyon and juniper woodland, valley and foothill grassland. Elevation ranges from 490 to 3940 feet (150 to 1200 meters). Blooms Mar-Jun.	Unlikely. The Project Area does not contain chaparral, coastal scrub, meadows and seeps, pinyon and juniperwood, or valley or foothill grassland habitats. The Project Area does contain cismontane woodland habitat, however the cismontane woodland habitat in the Project Area is disturbed by fill substrate and dominated by invasive species in the understory of the Project Area.	No further actions are recommended for this species.

Appendix D-1. Potential for Special-Status Plant Species to Occur in the Project Area.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE**	RECOMMENDATIONS
coast rockcress <i>Arabis blepharophylla</i>	Rank 4.3	Broad-leaved upland forest, coastal bluff scrub, coastal prairie, coastal scrub/rocky. Elevation ranges from 10 to 3610 feet (3 to 1100 meters). Blooms Feb-May.	No Potential. The Project Area does not contain broad-leaved upland forest, coastal bluff scrub, coastal prairie, or coastal scrub/rocky habitats.	No further actions are recommended for this species.
Anderson's manzanita <i>Arctostaphylos andersonii</i>	Rank 1B.2	Broad-leaved upland forest, chaparral, north coast coniferous forest/openings, edges. Elevation ranges from 200 to 2490 feet (60 to 760 meters). Blooms Nov-May.	No Potential. The Project Area does not contain openings in broad-leaved upland forest, chaparral, or north coast coniferous forest habitats.	No further actions are recommended for this species.
Franciscan manzanita <i>Arctostaphylos franciscana</i>	FE, Rank 1B.1	Coastal scrub (serpentine). Elevation ranges from 200 to 980 feet (60 to 300 meters). Blooms Feb-Apr.	No Potential. The Project Area does not contain serpentine substrate in coastal scrub habitat.	No further actions are recommended for this species.
San Bruno Mountain manzanita <i>Arctostaphylos imbricata</i>	SE, Rank 1B.1	Chaparral, coastal scrub/rocky. Elevation ranges from 900 to 1210 feet (275 to 370 meters). Blooms Feb-May.	No Potential. The Project Area does not contain chaparral or scrub/rocky habitats.	No further actions are recommended for this species.
Presidio manzanita <i>Arctostaphylos montana ssp. ravenii</i>	FE, SE, Rank 1B.1	Chaparral, coastal prairie, coastal scrub/serpentine outcrop. Elevation ranges from 150 to 710 feet (45 to 215 meters). Blooms Feb-Mar.	No Potential. The Project Area does not contain chaparral, coastal prairie, or coastal scrub/serpentine habitats.	No further actions are recommended for this species.
Montara manzanita <i>Arctostaphylos montaraensis</i>	Rank 1B.2	Chaparral (maritime), coastal scrub. Elevation ranges from 260 to 1640 feet (80 to 500 meters). Blooms Jan-Mar.	No Potential. The Project Area does not contain chaparral (maritime) or coastal scrub habitats.	No further actions are recommended for this species.
Pacific manzanita <i>Arctostaphylos pacifica</i>	SE, Rank 1B.1	Chaparral, coastal scrub. Elevation ranges from 1080 to 1080 feet (330 to 330 meters). Blooms Feb-Apr.	No Potential. The Project Area does not contain chaparral or coastal scrub.	No further actions are recommended for this species.
Kings Mountain manzanita <i>Arctostaphylos regismontana</i>	Rank 1B.2	Broad-leaved upland forest, chaparral, north coast coniferous forest/granitic or sandstone. Elevation ranges from 1000 to 2400 feet (305 to 730 meters). Blooms Jan-Apr.	No Potential. The Project Area does not contain broad-leaved upland forest, chaparral, or north coast coniferous forest habitats.	No further actions are recommended for this species.

Appendix D-1. Potential for Special-Status Plant Species to Occur in the Project Area.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE**	RECOMMENDATIONS
ocean bluff milk-vetch <i>Astragalus nuttallii</i> var. <i>nuttallii</i>	Rank 4.2	Coastal bluff scrub, coastal dunes. Elevation ranges from 10 to 390 feet (3 to 120 meters). Blooms Jan-Nov.	No Potential. The Project Area does not contain coastal bluff scrub or coastal dunes habitats.	No further actions are recommended for this species.
coastal marsh milk-vetch <i>Astragalus pycnostachyus</i> var. <i>pycnostachyus</i>	Rank 1B.2	Coastal dunes (mesic), coastal scrub, marshes and swamps (coastal salt, streamsides). Elevation ranges from 0 to 100 feet (0 to 30 meters). Blooms Apr-Oct.	No Potential. The Project Area does not contain coastal dunes (mesic) or coastal marsh and swamp habitats.	No further actions are recommended for this species.
alkali milk-vetch <i>Astragalus tener</i> var. <i>tener</i>	Rank 1B.2	Playas, valley and foothill grassland (adobe clay), vernal pools/alkaline. Elevation ranges from 0 to 200 feet (1 to 60 meters). Blooms Mar-Jun.	No Potential. The Project Area does not contain coastal dune, or marsh or swamp habitats.	No further actions are recommended for this species.
Brewer's calandrinia <i>Calandrinia breweri</i>	Rank 4.2	Chaparral, coastal scrub/sandy or loamy, disturbed sites and burns. Elevation ranges from 30 to 4000 feet (10 to 1220 meters). Blooms (Jan), Mar-Jun.	No Potential. The Project Area does not contain chaparral or coastal scrub habitats.	No further actions are recommended for this species.
Oakland star-tulip <i>Calochortus umbellatus</i>	Rank 4.2	Broad-leafed upland forest, chaparral, cismontane woodland, lower montane coniferous forest, valley and foothill grassland/often serpentine. Elevation ranges from 330 to 2300 feet (100 to 700 meters). Blooms Mar-May.	Unlikely. The Project Area does not contain broad-leafed upland forest, chaparral, lower montane coniferous forest, and valley or foothill grassland. The Project Area does contain cismontane woodland, however this species is unlikely to occur in serpentine substrate.	No further actions are recommended for this species.
johnny-nip <i>Castilleja ambigua</i> var. <i>ambigua</i>	Rank 4.2	Coastal bluff scrub, coastal prairie, coastal scrub, marshes and swamps, valley and foothill grassland, vernal pool margins. Elevation ranges from 0 to 1430 feet (0 to 435 meters). Blooms Mar-Aug.	No Potential. The Project Area does not contain coastal bluff scrub, coastal prairie, coastal scrub, marsh or swamp, valley or foothill grassland, or vernal pool margin habitats.	No further actions are recommended for this species.

Appendix D-1. Potential for Special-Status Plant Species to Occur in the Project Area.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE**	RECOMMENDATIONS
Congdon's tarplant <i>Centromadia parryi</i> ssp. <i>congdonii</i>	Rank 1B.1	Valley and foothill grassland (alkaline). Elevation ranges from 0 to 750 feet (0 to 230 meters). Blooms May-Oct (Nov).	No Potential. The Project Area does not contain alkaline valley or foothill grassland habitat.	No further actions are recommended for this species.
pappose tarplant <i>Centromadia parryi</i> ssp. <i>parryi</i>	Rank 1B.2	Chaparral, coastal prairie, meadows and seeps, marshes and swamps (coastal salt), valley and foothill grassland (vernally mesic)/often alkaline. Elevation ranges from 0 to 1380 feet (0 to 420 meters). Blooms May-Nov.	No Potential. The Project Area does not contain chaparral, coastal prairie, meadows or seeps, marshes or swamps, or valley and foothill grassland habitats.	No further actions are recommended for this species.
Point Reyes bird's-beak <i>Chloropyron maritimum</i> ssp. <i>palustre</i>	Rank 1B.2	Marshes and swamps (coastal salt). Elevation ranges from 0 to 30 feet (0 to 10 meters). Blooms Jun-Oct.	No Potential. The Project Area does not contain coastal marsh or swamp habitats.	No further actions are recommended for this species.
San Francisco Bay spineflower <i>Chorizanthe cuspidata</i> var. <i>cuspidata</i>	Rank 1B.2	Coastal bluff scrub, coastal dunes, coastal prairie, coastal scrub/sandy. Elevation ranges from 10 to 710 feet (3 to 215 meters). Blooms Apr-Jul (Aug).	No Potential. The Project Area does not contain coastal bluff scrub, coastal dunes, coastal prairie, or coastal scrub habitats.	No further actions are recommended for this species.
robust spineflower <i>Chorizanthe robusta</i> var. <i>robusta</i>	FE, Rank 1B.1	Chaparral (maritime), cismontane woodland (openings), coastal dunes, coastal scrub/sandy or gravelly. Elevation ranges from 10 to 980 feet (3 to 300 meters). Blooms Apr-Sep.	Unlikely. The Project Area does not contain chaparral, coastal dunes, or coastal scrub habitats. The Project Area does contain cismontane woodland habitat, however this species is unlikely to occur due to the species' preference for sandy terraces and loose sand. The cismontane woodland in the Project Area does not have suitable openings.	No further actions are recommended for this species.
Franciscan thistle <i>Cirsium andrewsii</i>	Rank 1B.2	Broad-leafed upland forest, coastal bluff scrub, coastal prairie, coastal scrub/mesic, sometimes serpentine. Elevation ranges from 0 to 490 feet (0 to 150 meters). Blooms Mar-Jul.	No Potential. The Project Area does not contain broad-leafed upland forest, coastal bluff scrub, coastal prairie, or coastal scrub habitats.	No further actions are recommended for this species.

Appendix D-1. Potential for Special-Status Plant Species to Occur in the Project Area.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE**	RECOMMENDATIONS
Crystal Springs fountain thistle <i>Cirsium fontinale</i> var. <i>fontinale</i>	FE, SE, Rank 1B.1	Chaparral (openings), cismontane woodland, meadows and seeps, valley and foothill grassland/serpentine seeps. Elevation ranges from 150 to 570 feet (45 to 175 meters). Blooms (Apr), May-Oct.	Unlikely. The Project Area does not contain serpentine seeps in chaparral, meadows, or valley or foothill grasslands habitats. The Project Area does contain cismontane woodland, however this species is unlikely to occur in the Project Area due it's preference for serpentine seeps and grassland.	No further actions are recommended for this species.
compact cobwebby thistle <i>Cirsium occidentale</i> var. <i>compactum</i>	Rank 1B.2	Chaparral, coastal dunes, coastal prairie, coastal scrub. Elevation ranges from 20 to 490 feet (5 to 150 meters). Blooms Apr-Jun.	No Potential. The Project Area does not contain chaparral, coastal dunes, coastal prairie, or coastal scrub habitats.	No further actions are recommended for this species.
lost thistle <i>Cirsium praeteriens</i>	Rank 1A	Unknown. Elevation ranges from 0 to 330 feet (0 to 100 meters). Blooms Jun-Jul.	No Potential. This species was not observed during our surveys, and is presumed extinct.	No further actions are recommended for this species.
round-headed Chinese-houses <i>Collinsia corymbosa</i>	Rank 1B.2	Coastal dunes. Elevation ranges from 0 to 70 feet (0 to 20 meters). Blooms Apr-Jun.	No Potential. The Project Area does not contain coastal dune habitat.	No further actions are recommended for this species.
San Francisco collinsia <i>Collinsia multicolor</i>	Rank 1B.2	Closed-cone coniferous forest, coastal scrub/sometimes serpentine. Elevation ranges from 100 to 820 feet (30 to 250 meters). Blooms (Feb), Mar-May.	No Potential. The Project Area does not contain closed-cone coniferous forest or coastal scrub habitats, or serpentine substrates.	No further actions are recommended for this species.
clustered lady's-slipper <i>Cypripedium fasciculatum</i>	Rank 4.2	Lower montane coniferous forest, north coast coniferous forest/usually serpentine seeps and streambanks. Elevation ranges from 330 to 7990 feet (100 to 2435 meters). Blooms Mar-Aug.	Unlikely. The Project Area does not contain serpentine seeps in lower montane coniferous forest habitat. The Project Area does contain streambanks, however this species is unlikely to occur in the Project Area due to this species' preference for serpentine seeps. This species was not observed during our survey.	No further actions are recommended for this species.

Appendix D-1. Potential for Special-Status Plant Species to Occur in the Project Area.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE**	RECOMMENDATIONS
western leatherwood <i>Dirca occidentalis</i>	Rank 1B.2	Broad-leafed upland forest, closed-cone coniferous forest, chaparral, cismontane woodland, north coast coniferous forest, riparian forest, riparian woodland/mesic. Elevation ranges from 80 to 1390 feet (25 to 425 meters). Blooms Jan-Mar (Apr).	Unlikely. The Project Area does not contain broad-leafed upland forest, closed-cone coniferous forest, chaparral, or north coast coniferous forest habitats. The Project Area does contain riparian woodland and elements of riparian forest habitats, however such habitat in the Project Area are degraded with fill substrate and inundated with invasive species.	No further actions are recommended for this species.
California bottle-brush grass <i>Elymus californicus</i>	Rank 4.3	Broad-leafed upland forest, cismontane woodland, north coast coniferous forest, riparian woodland. Elevation ranges from 50 to 1540 feet (15 to 470 meters). Blooms May-Aug (Nov).	Unlikely. The Project Area does not contain broad-leafed upland forest or north coast coniferous forest. The Project Area does contain cismontane woodland and riparian woodland, however such habitat in the Project Area are degraded with fill substrate and inundated with invasive species.	No further actions are recommended for this species.
marsh horsetail <i>Equisetum palustre</i>	Rank 3	Marshes and swamps. Elevation ranges from 150 to 3280 feet (45 to 1000 meters). Blooms unk.	No Potential. The Project Area does not contain marsh or swamp habitat.	No further actions are recommended for this species.
San Mateo woolly sunflower <i>Eriophyllum latilobum</i>	FE, SE, Rank 1B.1	Cismontane woodland (often serpentine, on roadcuts). Elevation ranges from 150 to 490 feet (45 to 150 meters). Blooms May-Jun.	No Potential. The Project Area does contain cismontane woodland habitat, however this species has no potential to occur within the Project Area due to this species' preference for sunny openings and serpentine substrate.	No further actions are recommended for this species.
Hoover's button-celery <i>Eryngium aristulatum</i> var. <i>hooveri</i>	Rank 1B.1	Vernal pools. Elevation ranges from 10 to 150 feet (3 to 45 meters). Blooms (Jun), Jul (Aug).	No Potential. The Project Area does not contain vernal pool habitat.	No further actions are recommended for this species.
Jepson's coyote thistle <i>Eryngium jepsonii</i>	Rank 1B.2	Vernal pools, valley and foothill grasslands.	No Potential. The Project Area does not contain vernal pools, or valley or foothill grasslands. This species was not observed on our survey.	No further actions are recommended for this species.

Appendix D-1. Potential for Special-Status Plant Species to Occur in the Project Area.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE**	RECOMMENDATIONS
San Francisco wallflower <i>Erysimum franciscanum</i>	Rank 4.2	Chaparral, coastal dunes, coastal scrub, valley and foothill grassland/often serpentine or granitic, sometimes roadsides. Elevation ranges from 0 to 1800 feet (0 to 550 meters). Blooms Mar-Jun.	No Potential. The Project Area does not contain chaparral, coastal dunes, coastal scrub, or valley and foothill grassland habitats, or serpentine substrates.	No further actions are recommended for this species.
Hillsborough chocolate lily <i>Fritillaria biflora</i> var. <i>ineziana</i>	Rank 1B.1	Cismontane woodland, valley and foothill grassland/serpentine. Elevation ranges from 490 to 490 feet (150 to 150 meters). Blooms Mar-Apr.	Unlikely. The Project Area does not contain valley and foothill grassland habitat or serpentine substrate. The Project Area does contain cismontane woodland habitat, however the habitat is disturbed and lacks sunny openings.	No further actions are recommended for this species.
Marin checker lily <i>Fritillaria lanceolata</i> var. <i>tristulis</i>	Rank 1B.1	Coastal bluff scrub, coastal prairie, coastal scrub. Elevation ranges from 50 to 490 feet (15 to 150 meters). Blooms Feb-May.	No Potential. The Project Area does not contain coastal bluff scrub, coastal prairie, or coastal scrub habitats.	No further actions are recommended for this species.
fragrant fritillary <i>Fritillaria liliacea</i>	Rank 1B.2	Cismontane woodland, coastal prairie, coastal scrub, valley and foothill grassland/often serpentine. Elevation ranges from 10 to 1350 feet (3 to 410 meters). Blooms Feb-Apr.	Unlikely Potential. The Project Area does not contain coastal scrub, or valley or foothill grassland habitat, or serpentine substrate. The Project Area does contain cismontane woodland, however do to the absence of serpentine substrate this species has an unlikely potential to occur within the Project Area. The nearest occurrence is approximately 7 miles south east of the Project Area.	No further actions are recommended for this species.
blue coast gilia <i>Gilia capitata</i> ssp. <i>chamissonis</i>	Rank 1B.1	Coastal dunes, coastal scrub. Elevation ranges from 10 to 660 feet (2 to 200 meters). Blooms Apr-Jul.	No Potential. The Project Area does not contain coastal dune or coastal scrub habitats.	No further actions are recommended for this species.
dark-eyed gilia <i>Gilia millefoliata</i>	Rank 1B.2	Coastal dunes. Elevation ranges from 10 to 100 feet (2 to 30 meters). Blooms Apr-Jul.	No Potential. The Project Area does not contain coastal dune habitat.	No further actions are recommended for this species.

Appendix D-1. Potential for Special-Status Plant Species to Occur in the Project Area.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE**	RECOMMENDATIONS
San Francisco gumplant <i>Grindelia hirsutula</i> var. <i>maritima</i>	Rank 3.2	Coastal bluff scrub, coastal scrub, valley and foothill grassland/sandy or serpentine. Elevation ranges from 50 to 1310 feet (15 to 400 meters). Blooms Jun-Sep.	No Potential. The Project Area does not contain coastal bluff scrub, coastal scrub, or valley and foothill grassland habitats, or serpentine substrates.	No further actions are recommended for this species.
Diablo helianthella <i>Helianthella castanea</i>	Rank 1B.2	Broad-leaved upland forest, chaparral, cismontane woodland, coastal scrub, riparian woodland, valley and foothill grassland / usually rocky, axonal soils. Often in partial shade. Elevation ranges from 200 to 4270 feet (60 to 1300 meters). Blooms Mar-Jun.	Unlikely. The Project Area does not contain broad-leaved upland forest, chaparral, coastal scrub, or valley of foothill grassland habitats. The Project Area does contain cismontane woodland and riparian woodland habitats, however no members of this genus were observed during our survey. The nearest documented occurrence is approximately 9 miles north of the Project Area.	No further actions are recommended for this species.
congested-headed hayfield tarplant <i>Hemizonia congesta</i> ssp. <i>congesta</i>	Rank 1B.2	Valley and foothill grassland/sometimes roadsides. Elevation ranges from 70 to 1840 feet (20 to 560 meters). Blooms Apr-Nov.	No Potential. The Project Area does not contain valley or foothill grassland habitat.	No further actions are recommended for this species.
short-leaved evax <i>Hesperervax sparsiflora</i> var. <i>brevifolia</i>	Rank 1B.2	Coastal bluff scrub (sandy), coastal dunes, coastal prairie. Elevation ranges from 0 to 710 feet (0 to 215 meters). Blooms Mar-Jun.	No Potential. The Project Area does not contain coastal bluff scrub, coastal dune, or coastal prairie habitats.	No further actions are recommended for this species.
Marin western flax <i>Hesperolinon congestum</i>	FT, ST, Rank 1B.1	Chaparral, valley and foothill grassland/serpentine. Elevation ranges from 20 to 1210 feet (5 to 370 meters). Blooms Apr-Jul.	No Potential. The Project Area does not contain chaparral or valley and foothill grassland habitats, or serpentine substrate.	No further actions are recommended for this species.
water star-grass <i>Heteranthera dubia</i>	Rank 2B.2	Marshes and swamps (alkaline, still or slow-moving water)/requires a ph of 7 or higher, usually in slightly eutrophic waters. Elevation ranges from 100 to 4900 feet (30 to 1495 meters). Blooms Jul-Oct.	No Potential. The Project Area does not contain alkaline marsh or swamp habitat.	No further actions are recommended for this species.

Appendix D-1. Potential for Special-Status Plant Species to Occur in the Project Area.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE**	RECOMMENDATIONS
Kellogg's horkelia <i>Horkelia cuneata</i> var. <i>sericea</i>	Rank 1B.1	Closed-cone coniferous forest, chaparral (maritime), coastal dunes, coastal scrub/sandy or gravelly, openings. Elevation ranges from 30 to 660 feet (10 to 200 meters). Blooms Apr-Sep.	No Potential. The Project Area does not contain closed-cone coniferous forest, chaparral, coastal dune, or coastal scrub habitats.	No further actions are recommended for this species.
Point Reyes horkelia <i>Horkelia marinensis</i>	Rank 1B.2	Coastal dunes, coastal prairie, coastal scrub/sandy. Elevation ranges from 20 to 2480 feet (5 to 755 meters). Blooms May-Sep.	No Potential. The Project Area does not contain coastal dunes, coastal prairie, or coastal scrub habitats.	No further actions are recommended for this species.
coast iris <i>Iris longipetala</i>	Rank 4.2	Coastal prairie, lower montane coniferous forest, meadows and seeps/mesic. Elevation ranges from 0 to 1970 feet (0 to 600 meters). Blooms Mar-May.	No Potential. The Project Area does not contain coastal prairie, lower montane coniferous forest, meadow or seep habitats.	No further actions are recommended for this species.
perennial goldfields <i>Lasthenia californica</i> ssp. <i>macrantha</i>	Rank 1B.2	Coastal bluff scrub, coastal dunes, coastal scrub. Elevation ranges from 20 to 1710 feet (5 to 520 meters). Blooms Jan-Nov.	No Potential. The Project Area does not contain coastal bluff scrub, coastal dunes, or coastal scrub habitats.	No further actions are recommended for this species.
serpentine leptosiphon <i>Leptosiphon ambiguus</i>	Rank 4.2	Cismontane woodland, coastal scrub, valley and foothill grassland/usually serpentine. Elevation ranges from 390 to 3710 feet (120 to 1130 meters). Blooms Mar-Jun.	Unlikely. The Project Area does not contain coastal scrub, valley or foothill grassland habitats, or serpentine substrate. The Project Area does contain cismontane woodland, however this species is unlikely to occur within the Project Area because it is endemic to serpentine substrates (Safford et al 2005).	No further actions are recommended for this species.
coast yellow leptosiphon <i>Leptosiphon croceus</i>	SC, Rank 1B.1	Coastal bluff scrub, coastal prairie. Elevation ranges from 30 to 490 feet (10 to 150 meters). Blooms Apr-May.	No Potential. The Project Area does not contain coastal bluff scrub or coastal prairie habitats.	No further actions are recommended for this species.
rose leptosiphon <i>Leptosiphon rosaceus</i>	Rank 1B.1	Coastal bluff scrub. Elevation ranges from 0 to 330 feet (0 to 100 meters). Blooms Apr-Jul.	No Potential. The Project Area does not contain coastal bluff scrub habitat.	No further actions are recommended for this species.

Appendix D-1. Potential for Special-Status Plant Species to Occur in the Project Area.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE**	RECOMMENDATIONS
Crystal Springs lessingia <i>Lessingia arachnoidea</i>	Rank 1B.2	Cismontane woodland, coastal scrub, valley and foothill grassland / serpentine, often roadsides. Elevation ranges from 200 to 660 feet (60 to 200 meters). Blooms Jul-Oct.	No Potential. The Project Area does not contain coastal scrub or valley/foothill grassland habitats, or serpentine substrate. The Project Area does contain cismontane woodland, however this species has not potential to occur within the Project Area because it is endemic to serpentine substrate (Safford et al 2005).	No further actions are recommended for this species.
San Francisco lessingia <i>Lessingia germanorum</i>	FE, SE, Rank 1B.1	Coastal scrub (remnant dunes). Elevation ranges from 80 to 360 feet (25 to 110 meters). Blooms (Jun), Jul-Nov.	No Potential. The Project Area does not contain coastal scrub habitat.	No further actions are recommended for this species.
woolly-headed lessingia <i>Lessingia hololeuca</i>	Rank 3	Broad-leafed upland forest, coastal scrub, lower montane coniferous forest, valley and foothill grassland/clay, serpentine. Elevation ranges from 50 to 1000 feet (15 to 305 meters). Blooms Jun-Oct.	No Potential. The Project Area does not contain broad-leafed upland forest, coastal scrub, lower montane coniferous forest, or valley or foothill grassland habitats, or serpentine substrates.	No further actions are recommended for this species.
coast lily <i>Lilium maritimum</i>	Rank 1B.1	Broad-leafed upland forest, closed-cone coniferous forest, coastal prairie, coastal scrub, marshes and swamps (freshwater), north coast coniferous forest/sometimes roadside. Elevation ranges from 20 to 1560 feet (5 to 475 meters). Blooms May-Aug.	No Potential. The Project Area does not contain broad-leafed upland forest, closed-cone coniferous forest, coastal prairie, coastal scrub, marsh or swamp, north coast coniferous forest habitats.	No further actions are recommended for this species.
Ornduff's meadowfoam <i>Limnanthes douglasii</i> ssp. <i>ornduffii</i>	Rank 1B.1	Meadows and seeps/agricultural fields. Elevation ranges from 30 to 70 feet (10 to 20 meters). Blooms Nov-May.	No Potential. The Project Area does not contain meadow or seep habitat.	No further actions are recommended for this species.
San Mateo tree lupine <i>Lupinus arboreus</i> var. <i>eximius</i>	Rank 3.2	Chaparral, coastal scrub. Elevation ranges from 300 to 1800 feet (90 to 550 meters). Blooms Apr-Jul.	No Potential. The Project Area does not contain chaparral or coastal scrub habitats.	No further actions are recommended for this species.

Appendix D-1. Potential for Special-Status Plant Species to Occur in the Project Area.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE**	RECOMMENDATIONS
Indian Valley bush-mallow <i>Malacothamnus aboriginum</i>	Rank 1B.2	Chaparral, cismontane woodland/rocky, granitic, often in burned areas. Elevation ranges from 490 to 5580 feet (150 to 1700 meters). Blooms Apr-Oct.	No Potential. The Project Area does not contain chaparral habitat. The Project Area does contain cismontane woodland habitat, however the Project Area lacks the opening and granitic soil to support this species.	No further actions are recommended for this species.
arcuate bush-mallow <i>Malacothamnus arcuatus</i>	Rank 1B.2	Chaparral, cismontane woodland. Elevation ranges from 50 to 1160 feet (15 to 355 meters). Blooms Apr-Sep.	Unlikely. The Project Area does not contain chaparral habitat. The Project Area does contain cismontane woodland, however the habitat is degraded with fill substrate and inundated with invasive species.	No further actions are recommended for this species.
Davidson's bush-mallow <i>Malacothamnus davidsonii</i>	Rank 1B.2	Chaparral, cismontane woodland, coastal scrub, riparian woodland. Elevation ranges from 610 to 2810 feet (185 to 855 meters). Blooms Jun-Jan.	Unlikely. The Project Area does not contain chaparral or coastal scrub habitats. The Project Area does contain cismontane woodland and riparian woodland habitats, however the habitat is degraded with fill substrate and inundated with invasive species.	No further actions are recommended for this species.
Hall's bush-mallow <i>Malacothamnus hallii</i>	Rank 1B.2	Chaparral, coastal scrub. Elevation ranges from 30 to 2490 feet (10 to 760 meters). Blooms May-Sep (Oct).	No Potential. The Project Area does not contain chaparral or coastal scrub habitats.	No further actions are recommended for this species.
Mt. Diablo cottonweed <i>Micropus amphibolus</i>	Rank 3.2	Broad-leafed upland forest, chaparral, cismontane woodland, valley and foothill grassland/rocky. Elevation ranges from 150 to 2710 feet (45 to 825 meters). Blooms Mar-May.	No Potential. The Project Area does not contain broad-leafed upland forest, chaparral, or valley or foothill grassland habitats. The Project Area does contain cismontane woodland, however this species requires hot sunny habitat that the Project Area does not contain.	No further actions are recommended for this species.
northern curly-leaved monardella <i>Monardella sinuata ssp. nigrescens</i>	Rank 1B.2	Chaparral (scr co.), coastal dunes, coastal scrub, lower montane coniferous forest (scr co., ponderosa pine sandhills)/sandy. Elevation ranges from 0 to 980 feet (0 to 300 meters). Blooms (Apr), May-Jul (Aug), (Sep).	No Potential. The Project Area does not contain chaparral, coastal scrub, or lower montane coniferous forest habitats.	No further actions are recommended for this species.

Appendix D-1. Potential for Special-Status Plant Species to Occur in the Project Area.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE**	RECOMMENDATIONS
woodland woollythreads <i>Monolopia gracilens</i>	Rank 1B.2	Broadleafed upland forest (openings), chaparral (openings), cismontane woodland, north coast coniferous forest (openings), valley and foothill grassland / serpentine. Elevation ranges from 330 to 3940 feet (100 to 1200 meters). Blooms (Feb), Mar-Jul.	Unlikely. The Project Area does not contain broad-leafed upland forest, chaparral, north coast coniferous forest, or valley or foothill grassland habitats, or serpentine substrate. The Project Area does contain cismontane woodland, however this species is unlikely to occurrence within the Project Area due to its preference for serpentine substrate. This species was not observed during our survey.	No further actions are recommended for this species.
Dudley's lousewort <i>Pedicularis dudleyi</i>	SR, Rank 1B.2	Chaparral (maritime), cismontane woodland, north coast coniferous forest, valley and foothill grassland. Elevation ranges from 200 to 2950 feet (60 to 900 meters). Blooms Apr-Jun.	Unlikely. The Project Area does not contain chaparral, north coast coniferous forest, or valley or foothill grassland habitats. The Project Area does contain cismontane woodland habitat, however the habitat is degraded with fill substrate and inundated with invasive species.	No further actions are recommended for this species.
white-rayed pentachaeta <i>Pentachaeta bellidiflora</i>	FE, SE, Rank 1B.1	Cismontane woodland, valley and foothill grassland (often serpentine). Elevation ranges from 110 to 2030 feet (35 to 620 meters). Blooms Mar-May.	Unlikely. The Project Area does not contain valley or foothill grassland habitat, or serpentine substrate. The Project Area does contain cismontane woodland habitat, however this species is unlikely to occur on the Project Area due to lack of serpentine substrate.	No further actions are recommended for this species.
Choris' popcornflower <i>Plagiobothrys chorisianus</i> var. <i>chorisianus</i>	Rank 1B.2	Chaparral, coastal prairie, coastal scrub/mesic. Elevation ranges from 50 to 520 feet (15 to 160 meters). Blooms Mar-Jun.	No Potential. The Project Area does not contain chaparral, coastal prairie, and coastal scrub habitats.	No further actions are recommended for this species.
Oregon polemonium <i>Polemonium carneum</i>	Rank 2B.2	Coastal prairie, coastal scrub, lower montane coniferous forest. Elevation ranges from 0 to 6000 feet (0 to 1830 meters). Blooms Apr-Sep.	No Potential. The Project Area does not contain coastal prairie, coastal scrub, or lower montane coniferous forest habitats.	No further actions are recommended for this species.

Appendix D-1. Potential for Special-Status Plant Species to Occur in the Project Area.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE**	RECOMMENDATIONS
Hickman's cinquefoil <i>Potentilla hickmanii</i>	FE, SE, Rank 1B.1	Coastal bluff scrub, closed-cone coniferous forest, meadows and seeps (vernally mesic), marshes and swamps (freshwater). Elevation ranges from 30 to 490 feet (10 to 149 meters). Blooms Apr-Aug.	No Potential. The Project Area does not contain coastal bluff scrub, closed-cone coniferous forest, meadows or seeps, or marshes or swamp habitats.	No further actions are recommended for this species.
Lobb's aquatic buttercup <i>Ranunculus lobbii</i>	Rank 4.2	Cismontane woodland, north coast coniferous forest, valley and foothill grassland, vernal pools/mesic. Elevation ranges from 50 to 1540 feet (15 to 470 meters). Blooms Feb-May.	No Potential. The Project Area does not contain north coast coniferous forest, valley or foothill grassland, or vernal pool habitats. The Project Area does contain cismontane woodland, however this species is often found in wetlands and vernal pools.	No further actions are recommended for this species.
San Francisco campion <i>Silene verecunda ssp. verecunda</i>	Rank 1B.2	Coastal bluff scrub, chaparral, coastal prairie, coastal scrub, valley and foothill grassland/sandy. Elevation ranges from 100 to 2120 feet (30 to 645 meters). Blooms (Feb), Mar-Jun (Aug).	No Potential. The Project Area does not contain coastal bluff scrub, chaparral, coastal prairie, coastal scrub, or valley foothill grassland habitats.	No further actions are recommended for this species.
slender-leaved pondweed <i>Stuckenia filiformis ssp. alpina</i>	Rank 2B.2	Marshes and swamps (assorted shallow freshwater). Elevation ranges from 980 to 7050 feet (300 to 2150 meters). Blooms May-Jul.	No Potential. The Project Area does not contain marsh or swamp habitat.	No further actions are recommended for this species.
California seablite <i>Suaeda californica</i>	FE, Rank 1B.1	Marshes and swamps (coastal salt). Elevation ranges from 0 to 50 feet (0 to 15 meters). Blooms Jul-Oct.	No Potential. The Project Area does not contain marsh or swamp habitat.	No further actions are recommended for this species.
two-fork clover <i>Trifolium amoenum</i>	FE, Rank 1B.1	Coastal bluff scrub, valley and foothill grassland (sometimes serpentine). Elevation ranges from 20 to 1360 feet (5 to 415 meters). Blooms Apr-Jun.	No Potential. The Project Area does not contain coastal bluff scrub, or valley or foothill grassland habitats, or serpentine substrate.	No further actions are recommended for this species.

Appendix D-1. Potential for Special-Status Plant Species to Occur in the Project Area.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE**	RECOMMENDATIONS
saline clover <i>Trifolium hydrophilum</i>	Rank 1B.2	Marshes and swamps, valley and foothill grassland (mesic, alkaline), vernal pools. Elevation ranges from 0 to 980 feet (0 to 300 meters). Blooms Apr-Jun.	No Potential. The Project Area does not contain marsh or swamp, foothill grassland, or vernal pool habitats.	No further actions are recommended for this species.
San Francisco owl's-clover <i>Triphysaria floribunda</i>	Rank 1B.2	Coastal prairie, coastal scrub, valley and foothill grassland/usually serpentine. Elevation ranges from 30 to 520 feet (10 to 160 meters). Blooms Apr-Jun.	No Potential. The Project Area does not contain coastal prairie, coastal scrub, or valley or foothill grassland habitats, or serpentine substrate.	No further actions are recommended for this species.
caper-fruited tropidocarpum <i>Tropidocarpum capparideum</i>	Rank 1B.1	Valley and foothill grassland (alkaline hills). Elevation ranges from 0 to 1490 feet (1 to 455 meters). Blooms Mar-Apr.	No Potential. The Project Area does not contain valley or foothill grassland habitat.	No further actions are recommended for this species.

Appendix D-2. Potential for Special-Status Wildlife Species to Occur in the Project Area

SPECIES	STATUS	HABITAT	POTENTIAL FOR OCCURRENCE	RECOMMENDATIONS
Wildlife				
Mammals				
American badger <i>Taxidea taxus</i>	SSC	Most abundant in drier open stages of most shrub, forest, and herbaceous habitats, with friable soils. Requires friable soils and open, uncultivated ground. Preys on burrowing rodents.	No Potential. This species requires open grasslands with abundant borrowing mammals to support a den. No grassland, or evidence of burrowing mammals was observed during the site assessment.	No further actions are recommended for this species.
salt-marsh harvest mouse <i>Reithrodontomys raviventris</i>	FE, SE, CFP	Endemic to emergent salt and brackish wetlands of the San Francisco Bay Estuary. Pickleweed marshes are primary habitat; also occurs in various other wetland communities with dense vegetation. Does not burrow, builds loosely organized nests. Requires higher areas for flood escape.	No Potential. The Project Area does not contain any salt marsh habitat and does not occur adjacent to any occupied habitat that may support this species.	No further actions are recommended for this species.
salt-marsh wandering shrew <i>Sorex vagrans halicoetes</i>	SSC	Salt marshes of the south arm of San Francisco Bay. Medium high marsh 6 to 8 feet above sea level where abundant driftwood is scattered among <i>Salicornia</i> .	No Potential. The Project Area does not contain any salt marsh habitat and does not occur adjacent to any occupied habitat that may support this species.	No further actions are recommended for this species.
San Francisco dusky-footed woodrat <i>Neotoma fuscipes annectens</i>	SSC	Forest habitats of moderate canopy and moderate to dense understory. Also in chaparral habitats. Constructs nests of shredded grass, leaves, and other material. May be limited by availability of nest-building materials.	Present. During the site visit several nests constructed by this species were observed in the surrounding area, however none were observed within the Project Area. Because the species is present in the surrounding area, they may construct nests within the Project Area as suitable material and substrates are present.	See Section 4.2.2 for further discussion regarding this species.
big free-tailed bat <i>Nyctinomops macrotis</i>	SSC, WBWG	Occurs rarely in low-lying arid areas. Requires high cliffs or rocky outcrops for roosting sites.	No Potential. No high cliffs or suitable rocky outcrops are present to support roosting by this species.	No further actions are recommended for this species.

Appendix D-2. Potential for Special-Status Wildlife Species to Occur in the Project Area

SPECIES	STATUS	HABITAT	POTENTIAL FOR OCCURRENCE	RECOMMENDATIONS
fringed myotis <i>Myotis thysanodes</i>	WBWG	Associated with a wide variety of habitats including dry woodlands, desert scrub, mesic coniferous forest, grassland, and sage-grass steppes. Buildings, mines and large trees and snags are important day and night roosts.	Unlikely. Trees within the Project Area are primarily bay and do not contain the complex cavities required to support maternity or day roosting by this species. No suitable rock outcrops, caves or other such features were observed during the site assessment that may support this species.	No further actions are recommended for this species.
hoary bat <i>Lasiurus cinereus</i>	WBWG	Prefers open forested habitats or habitat mosaics, with access to trees for cover and open areas or habitat edges for feeding. Roosts in dense foliage of medium to large trees. Feeds primarily on moths.	Unlikely. Trees within the Project Area are primarily Bays (<i>Laurus nobilis</i>) which do not contain the large diameter trunks typically required to maintain thermal stability required to support roosting by this species.	No further actions are recommended for this species.
pallid bat <i>Antrozous pallidus</i>	SSC, WBWG	Found in deserts, grasslands, shrublands, woodlands, and forests. Most common in open, forages along river channels. Roost sites include crevices in rocky outcrops and cliffs, caves, mines, trees and various human structures such as bridges, barns, and buildings (including occupied buildings). Roosts must protect bats from high temperatures. Very sensitive to disturbance of roosting sites.	Unlikely. Trees within the Project Area are primarily Bays (<i>Laurus nobilis</i>) which do not contain the complex cavities required to support maternity or day roosting by this species. No suitable rock outcrops, caves or other such features were observed during the site assessment that may support roosts for this species.	No further actions are recommended for this species.
Townsend's big-eared bat <i>Corynorhinus townsendii</i>	SSC, WBWG	Associated with a wide variety of habitats from deserts to mid-elevation mixed coniferous-deciduous forest. Females form maternity colonies in buildings, caves and mines and males roost singly or in small groups. Foraging typically occurs in open forests.	No Potential. No unoccupied buildings, suitable rock outcrops, caves or other such features were observed during the site assessment that may support this species.	No further actions are recommended for this species.

Appendix D-2. Potential for Special-Status Wildlife Species to Occur in the Project Area

SPECIES	STATUS	HABITAT	POTENTIAL FOR OCCURRENCE	RECOMMENDATIONS
western red bat <i>Lasiurus blossevillii</i>	SSC, WBWG	Highly migratory and typically solitary, roosting primarily in the foliage of trees or shrubs. Roosts are usually in broad-leaved trees including cottonwoods, sycamores, alders, and maples. Day roosts are commonly in edge habitats adjacent to streams or open fields, in orchards, and sometimes in urban areas.	Unlikely. Trees within the Project Area are primarily Bays (<i>Laurus nobilis</i>) which do not contain the large leaves that are typically required for roosting by this species.	No further actions are recommended for this species.
Birds				
American peregrine falcon <i>Falco peregrinus anatum</i>	FD, SD, CFP, BCC	Year-round resident and winter visitor. Occurs in a wide variety of habitats, though often associated with coasts, bays, marshes and other bodies of water. Nests on protected cliffs and also on man-made structures including buildings and bridges. Preys on birds, especially waterbirds. Forages widely.	No Potential. No suitable waterbodies to support populations of prey species, and no suitable nesting structures are present within the Project Area.	No further actions are recommended for this species.
bald eagle <i>Haliaeetus leucocephalus</i>	FD, SE, CFP, BCC	Occurs year-round in California, but primarily a winter visitor; breeding population is growing. Nests in large trees in the vicinity of larger lakes, reservoirs and rivers. Wintering habitat somewhat more variable but usually features large concentrations of waterfowl or fish.	Unlikely. The Project Area is more than 1 mile from a suitable waterbody that could support a population of fish and forage for this species. Lands surrounding the Project Area are developed into residential neighborhoods with continuous anthropogenic disturbance that would dissuade use by nesting eagles.	No further actions are recommended for this species.
golden eagle <i>Aquila chrysaetos</i>	CFP, BCC, SLC	Nests and forages along rolling foothills, mountain areas, sage-juniper flats and deserts. Cliff-walled canyons provide nesting habitat in most parts of their range, they are also known to nest in large trees in open areas.	No Potential. There are no suitable grasslands or open terrain to support foraging by this species. There are no suitable cliffs, tall snags or other such features to support nesting by this species.	No further actions are recommended for this species.

Appendix D-2. Potential for Special-Status Wildlife Species to Occur in the Project Area

SPECIES	STATUS	HABITAT	POTENTIAL FOR OCCURRENCE	RECOMMENDATIONS
northern harrier <i>Circus cyaneus</i>	SSC	Year-round resident and winter visitor. Found in open habitats including grasslands, prairies, marshes and agricultural areas. Nests on the ground in dense vegetation, typically near water or otherwise moist areas. Preys on small vertebrates.	No Potential. There are no grasslands or other suitable open habitats present to support nesting or foraging by this species.	No further actions are recommended for this species.
Swainson's hawk <i>Buteo swainsoni</i>	ST, BCC	Summer resident in California's Central Valley and limited portions of the southern California interior. Nests in tree groves and isolated trees in riparian and agricultural areas, including near buildings. Forages in grasslands and scrub habitats as well as agricultural fields, especially alfalfa. Preys on arthropods year-round as well as smaller vertebrates during the breeding season.	No Potential. The Project Area is outside of the known range for this species.	No further actions are recommended for this species.
white-tailed kite <i>Elanus leucurus</i>	CFP	Year-round resident in coastal and valley lowlands with scattered trees and large shrubs, including grasslands, marshes and agricultural areas. Nests in trees, of which the type and setting are highly variable. Preys on small mammals and other vertebrates.	No Potential. There are no grasslands, agricultural operations or other suitable open habitats present to support nesting or foraging by this species.	No further actions are recommended for this species.
burrowing owl <i>Athene cunicularia</i>	SSC, BCC	Year-round resident and winter visitor. Occurs in open, dry grasslands and scrub habitats with low-growing vegetation, perches and abundant mammal burrows. Preys upon insects and small vertebrates. Nests and roosts in old mammal burrows, most commonly those of ground squirrels.	No Potential. There are no grasslands or other suitable open habitats present to support nesting or foraging by this species.	No further actions are recommended for this species.

Appendix D-2. Potential for Special-Status Wildlife Species to Occur in the Project Area

SPECIES	STATUS	HABITAT	POTENTIAL FOR OCCURRENCE	RECOMMENDATIONS
long-eared owl <i>Asio otus</i>	SSC	Occurs year-round in California. Nests in trees in a variety of woodland habitats, including oak and riparian, as well as tree groves. Requires adjacent open land with rodents for foraging, and the presence of old nests of larger birds (hawks, crows, magpies) for breeding.	Unlikely. The Project Area is surrounded by roads, homes and associated anthropogenic disturbances making it unlikely that this species would nest within the area. This species has not been observed within 5-miles of the Project Area (Sullivan et al. 2017).	No further actions are recommended for this species.
California black rail <i>Laterallus jamaicensis coturniculus</i>	ST, CFP	Year-round resident in marshes (saline to freshwater) with dense vegetation within four inches of the ground. Prefers larger, undisturbed marshes that have an extensive upper zone and are close to a major water source. Extremely secretive and cryptic.	No Potential. There are no marshes or other suitable vegetated aquatic habitats within the Project Area to support this species.	No further actions are recommended for this species.
California Ridgway's rail <i>Rallus obsoletus obsoletus</i>	FE, SE, CFP	Year-round resident in tidal marshes of the San Francisco Bay estuary. Requires tidal sloughs and intertidal mud flats for foraging, and dense marsh vegetation for nesting and cover. Typical habitat features abundant growth of cordgrass and pickleweed. Feeds primarily on molluscs and crustaceans.	No Potential. There are no salt marshes or other suitable aquatic habitats within the Project Area to support this species.	No further actions are recommended for this species.
black oystercatcher <i>Haematopus bachmani</i>	BCC	Year-round resident of rocky coast habitats along the Pacific coast. Also occurs on coastal and lower estuarine mud-flats. Forages primarily on intertidal invertebrates.	No Potential. There are no rocky shorelines or ocean habitats within the Project Area to support nesting or foraging by this species.	No further actions are recommended for this species.
black skimmer <i>Rynchops niger</i>	BCC, SSC	Found primarily in southern California; South San Francisco Bay has a small resident population. Nests colonially on gravel bars, low islets, and sandy beaches	No Potential. There are no open sandy beaches, or gravel bars with surrounding bodies of water to support nesting by this species.	No further actions are recommended for this species.

Appendix D-2. Potential for Special-Status Wildlife Species to Occur in the Project Area

SPECIES	STATUS	HABITAT	POTENTIAL FOR OCCURRENCE	RECOMMENDATIONS
California least tern <i>Sternula antillarum browni</i>	FE, SE, CFP	Summer resident along the coast from San Francisco Bay south to northern Baja California; inland breeding also very rarely occurs. Nests colonially on barren or sparsely vegetated areas with sandy or gravelly substrates near water, including beaches, islands, and gravel bars. In San Francisco Bay, has also nested on salt pond margins.	No Potential. There are no open sandy beaches, or gravel bars with surrounding bodies of water to support nesting by this species.	No further actions are recommended for this species.
double-crested cormorant <i>Phalacrocorax auritus</i>		(Rookery site) colonial nester on coastal cliffs, offshore islands, and 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.	No Potential. This species requires large bodies of water to support foraging and only nests near such features. No large waterbodies are present within 1 mile of the Project Area to support nesting by this species.	No further actions are recommended for this species.
great blue heron <i>Ardea Herodias</i>		Year-round resident. Nests colonially or semi-colonially in tall trees and on cliffs, also sequestered terrestrial substrates. Breeding sites usually in close proximity to foraging areas: marshes, lake margins, tidal flats, and rivers. Forages primarily on fishes and other aquatic prey, also smaller terrestrial vertebrates.	No Potential. This species requires large bodies of water to support foraging and only nests near such features. No large waterbodies are present within 1 mile of the Project Area to support nesting by this species.	No further actions are recommended for this species.
marbled murrelet <i>Brachyramphus marmoratus</i>	FT, SE	Predominantly coastal marine. Nests in old-growth coniferous forests up to 30 miles inland along the Pacific coast, from Eureka to Oregon border, and in Santa Cruz/San Mateo Counties. Nests are highly cryptic, and typically located on platform-like branches of mature redwoods and Douglas firs. Forages on marine invertebrates and small fishes.	No Potential. There are no old growth redwood or fir forest habitats within or adjacent to the Project Area to support nesting by this species.	No further actions are recommended for this species.

Appendix D-2. Potential for Special-Status Wildlife Species to Occur in the Project Area

SPECIES	STATUS	HABITAT	POTENTIAL FOR OCCURRENCE	RECOMMENDATIONS
snowy egret <i>Egretta thula</i>		(Rookery) colonial nester, with nest sites situated in protected beds of dense tules. Rookery sites situated close to foraging areas: marshes, tidal-flats, streams, wet meadows, and borders of lakes.	No Potential. This species requires large bodies of water to support foraging and only nests near such features. No large waterbodies are present within 1 mile of the Project Area to support nesting by this species.	No further actions are recommended for this species.
western snowy plover <i>Charadrius nivosus (alexandrinus) nivosus</i>	FT, SSC, BCC, RP	Federal listing applies only to the Pacific coastal population. Year-round resident and winter visitor. Occurs on sandy beaches, salt pond levees, and the shores of large alkali lakes. Nests on the ground, requiring sandy, gravelly or friable soils.	No Potential. There are no sandy beaches, beach dunes, gravel flats or other suitable habitats to support nesting by this species.	No further actions are recommended for this species.
(Brester's) yellow warbler <i>Setophaga (= Dendroica) petechia brewsteri</i>	SSC, BCC	Summer resident throughout much of California. Breeds in riparian vegetation close to water, including streams and wet meadows. Microhabitat used for nesting variable, but dense willow growth is typical. Occurs widely on migration.	Unlikely. Riparian vegetation within the Project Area is very thin and does not support the dense willow, or other suitable riparian vegetation typically used for nesting.	No further actions are recommended for this species.
Alameda song sparrow <i>Melospiza melodia pusillula</i>	BCC, SSC	Year-round resident of salt marshes bordering the south arm of San Francisco Bay. Inhabits primarily pickleweed marshes; nests placed in marsh vegetation, typically shrubs such as gumplant.	No Potential. There is no marsh habitat within the Project Area to support nesting and foraging by this species.	No further actions are recommended for this species.
Allen's hummingbird <i>Selasphorus sasin</i>	BCC	Summer resident along the California coast, breeding in a variety of woodland and forest habitats, including parks and gardens with abundant nectar sources. Nest in shrubs and trees with dense vegetation.	Unlikely. Nectar sources within the Project Area are rare and are found only in the surrounding areas associated with homes. The relatively open riparian canopy is also less favorable for nesting by this species.	No further actions are recommended for this species.

Appendix D-2. Potential for Special-Status Wildlife Species to Occur in the Project Area

SPECIES	STATUS	HABITAT	POTENTIAL FOR OCCURRENCE	RECOMMENDATIONS
bank swallow <i>Riparia riparia</i>	ST	Summer resident in riparian and other lowland habitats near rivers, lakes and the ocean in northern California. Nests colonially in excavated burrows on vertical cliffs and bank cuts (natural and manmade) with fine-textured soils. Historical nesting range in southern and central areas of California has been eliminated by habitat loss. Currently known to breed in Siskiyou, Shasta, and Lassen Cos., portions of the north coast, and along Sacramento River from Shasta Co. south to Yolo Co.	No Potential. No suitable cliff habitat is present to support nesting by this species.	No further actions are recommended for this species.
Bell's sage sparrow <i>Amphispiza belli belli</i>	BCC	Year-round resident, though shows seasonal movements. Prefers dense chaparral and scrub habitats for breeding; strongly associated with chamise. Also occurs in more open habitats during winter.	No Potential. No suitable dense chaparral habitat is present to support nesting by this species.	No further actions are recommended for this species.
black-chinned sparrow <i>Spizella atrogularis</i>	BCC	Summer resident. Typically occurs on arid, rocky slopes with brushy vegetation, e.g. mixed chaparral, and sagebrush.	Unlikely. This species has not been identified within the local area (Sullivan et al. 2017). The relatively open riparian vegetation and bay forest which comprises most of the Project Area are not typically occupied by this species.	No further actions are recommended for this species.
Bryant's savannah sparrow <i>Passerculus sandwichensis alaudinus</i>	SSC	Year-round resident associated with the coastal fog belt, primarily between Humboldt and northern Monterey Counties. Occupies low tidally influenced habitats and adjacent areas; often found where wetland communities merge into grassland. May also occur in drier grasslands. Nests near the ground in taller vegetation, including along roads, levees, and canals.	No Potential. There are no grasslands or nearby tidally influenced habitats within the Project Area to support nesting or foraging by this species.	No further actions are recommended for this species.

Appendix D-2. Potential for Special-Status Wildlife Species to Occur in the Project Area

SPECIES	STATUS	HABITAT	POTENTIAL FOR OCCURRENCE	RECOMMENDATIONS
Costa's hummingbird <i>Calypte costae</i>	BCC	Summer resident. Uses xeric habitats, especially California coastal scrub or sage scrub and dry open areas of chaparral in the coast ranges, and is occasionally found in oak savannah. Builds nest in shrub or tree living or dead, on branch, stem, or leaves, usually 1–2 m above ground.	Unlikely. This species has not been identified within the local area (Sullivan et al. 2017). The relatively open riparian vegetation and bay forest which comprises most of the Project Area are not typically occupied by this species.	No further actions are recommended for this species.
grasshopper sparrow <i>Ammodramus savannarum</i>	SSC	Summer resident. Breeds in open grasslands in lowlands and foothills, generally with low- to moderate-height grasses and scattered shrubs. Well-hidden nests are placed on the ground.	No Potential. There are no grasslands or other suitable open habitats within the Project Area to support nesting or foraging by this species.	No further actions are recommended for this species.
Lawrence's goldfinch <i>Spinus (= Carduelis) lawrencei</i>	BCC	Summer resident, primarily in southern California; generally uncommon and local. Also found in large open areas in Contra Costa and Alameda Counties. Typically found in arid open woodlands, including oak savannah. Breeding distribution is erratic from year to year.	No Potential. The Project Area does not contain large expanses of arid oak savannah or other such suitable habitat to support nesting by the species.	No further actions are recommended for this species.
loggerhead shrike <i>Lanius ludovicianus</i>	SSC, BCC	Year-round resident in open woodland, grassland, savannah and scrub. Prefers areas with sparse shrubs, trees, posts, and other suitable perches for foraging. Preys upon large insects and small vertebrates. Nests are well-concealed in densely-foliaged shrubs or trees.	Unlikely. The Project Area does not contain any grasslands typically used for foraging by this species. Because foraging habitat is absent, nesting is unlikely.	No further actions are recommended for this species.
Nuttall's woodpecker <i>Picoides nuttallii</i>	BCC	Year-round resident in lowland woodlands throughout much of California west of the Sierra Nevada. Typical habitat is dominated by oaks; also occurs in riparian woodland. Nests in tree cavities.	Moderate Potential. This species has been observed in the local area (Sullivan et al. 2017). Trees in the Project Area may be large enough to contain cavities suitable to support nesting by this species.	See section 4.2 for further discussion and recommendations concerning this species.

Appendix D-2. Potential for Special-Status Wildlife Species to Occur in the Project Area

SPECIES	STATUS	HABITAT	POTENTIAL FOR OCCURRENCE	RECOMMENDATIONS
oak titmouse <i>Baeolophus inornatus</i>	BCC	Occurs year-round in woodland and savannah habitats where oaks are present, as well as riparian areas. Nests in tree cavities.	Moderate Potential. This species has been observed in the local area (Sullivan et al. 2017). Trees in the Project Area may be large enough to contain cavities suitable to support nesting by this species.	See section 4.2 for further discussion and recommendations concerning this species.
olive-sided flycatcher <i>Contopus cooperi</i>	SSC, BCC	Summer resident. Typical breeding habitat is montane coniferous forests. At lower elevations, also occurs in wooded canyons and mixed forests and woodlands. Often associated with forest edges. Arboreal nest sites located well off the ground.	Unlikely. This species typically occurs along habitat edges. Suitable habitat edges are not present as surrounding habitat is primarily oak and bay forest.	No further actions are recommended for this species.
purple martin <i>Progne subis</i>	SSC	Inhabits woodlands and low elevation coniferous forests. Nests in old woodpecker cavities and man-made structures. Nest is often located in tall, isolated tree or snag.	Unlikely. No tall isolated snags are present to support typical nesting habitat for this species. Suitable habitat may occur in the area and as a result the species may occasionally forage in the Project Area.	No further actions are recommended for this species.
San Francisco common yellowthroat <i>Geothlypis trichas sinuosa</i>	BCC, 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.	Unlikely. No suitable stands of thick riparian vegetation, tules or other such structure is present to support nesting by this species.	No further actions are recommended for this species.
tricolored blackbird <i>Agelaius tricolor</i>	SSC, BCC, RP	Nearly endemic to California, where it is most numerous in the Central Valley and vicinity. Highly colonial, nesting in dense aggregations over or near freshwater in emergent growth or riparian thickets. Also uses flooded agricultural fields. Abundant insect prey near breeding areas essential.	No Potential. No stands of tules, ponds, or marsh habitat is present within the Project Area to support a nesting colony of this species.	No further actions are recommended for this species.

Appendix D-2. Potential for Special-Status Wildlife Species to Occur in the Project Area

SPECIES	STATUS	HABITAT	POTENTIAL FOR OCCURRENCE	RECOMMENDATIONS
Vaux's swift <i>Chaetura vauxi</i>	SSC	Summer resident, breeding primarily in forested areas. Nests in tree cavities, favoring those with a large vertical extent; also uses chimneys and other man-made substrates. Forages aerially for insects.	No Potential. No large hollow trees or other such structures which could support nesting by the species were observed during the site assessment.	No further actions are recommended for this species.
yellow-breasted chat <i>Icteria virens</i>	SSC	Summer resident, occurring in riparian areas with an open canopy, very dense understory, and trees for song perches. Nests in thickets of willow, blackberry, and wild grape.	Unlikely. Underbrush within the Project Area is thin and does not support the dense willow, blackberry or riparian vegetation required to support nesting by this species.	No further actions are recommended for this species.

SPECIES	STATUS	HABITAT	POTENTIAL FOR OCCURRENCE	RECOMMENDATIONS
Reptiles and Amphibians				
California giant salamander <i>Dicamptodon ensatus</i>	SSC	Occurs in the north-central Coast Ranges. Moist coniferous and mixed forests are typical habitat; also uses woodland and chaparral. Adults are terrestrial and fossorial, breeding in cold, permanent or semi-permanent streams. Larvae usually remain aquatic for over a year.	Unlikely. Cherry Creek originates on the east side of Highway 280 and has no connectivity to known populations on the west side within Crystal Springs. Because the stream has no connectivity to known populations and no specimens have ever been identified on the east side of Highway 280 in this area (CDFW 2017), it is unlikely that the species would occur in the Project Area.	No further actions are recommended for this species.
California red-legged frog <i>Rana draytonii</i>	FT, SSC, RP	Lowlands and foothills in or near permanent sources of deep water with dense, shrubby or emergent riparian vegetation. Requires 11 to 20 weeks of permanent water for larval development. Associated with quiet perennial to intermittent ponds, stream pools and wetlands. Prefers shorelines with extensive vegetation. Disperses through upland habitats after rains.	Unlikely. There are no suitable ponds, pools or other features to support breeding by this species within the Project Area. Cherry Creek does not have connectivity to the west side of Highway 280 where current, known populations are present. The absence of breeding habitat or access to current populations makes it unlikely that the species would be present.	No further actions are recommended for this species.

SPECIES	STATUS	HABITAT	POTENTIAL FOR OCCURRENCE	RECOMMENDATIONS
California tiger salamander <i>Ambystoma californiense</i>	FE/FT, ST, RP	Populations in Santa Barbara and Sonoma counties currently listed as endangered; threatened in remainder of range. Inhabits grassland, oak woodland, ruderal and seasonal pool habitats. Adults are fossorial and utilize mammal burrows and other subterranean refugia. Breeding occurs primarily in vernal pools and other seasonal water features.	No Potential. The Project Area is outside of the species known distribution.	No further actions are recommended for this species.
foothill yellow-legged frog <i>Rana boylei</i>	SC, SSC	Found in or adjacent to rocky streams in a variety of habitats. Prefers partly-shaded, shallow streams and riffles with a rocky substrate; requires at least some cobble-sized substrate for egg-laying. Needs at least 15 weeks to attain metamorphosis. Feeds on both aquatic and terrestrial invertebrates.	No Potential. This species has never been recorded in the local area (CDFW 2017). Additionally, there is no connectivity to potential source populations, and no suitable breeding habitat within the Project Area.	No further actions are recommended for this species.
Western pond turtle <i>Actinemys marmorata</i>	SSC	A thoroughly aquatic turtle of ponds, marshes, rivers, streams and irrigation ditches with aquatic vegetation. Require basking sites such as partially submerged logs, vegetation mats, or open mud banks, and suitable upland habitat (sandy banks or grassy open fields) for egg-laying.	No Potential. Water depth in the deepest pool below the culvert outlet was approximately 1 foot and is insufficient to support this species.	No further actions are recommended for this species.

SPECIES	STATUS	HABITAT	POTENTIAL FOR OCCURRENCE	RECOMMENDATIONS
San Francisco garter snake <i>Thamnophis sirtalis tetrataenia</i>	FE, SE, CFP, RP	Vicinity of freshwater marshes, ponds and slow moving streams in San Mateo County and extreme northern Santa Cruz County. Prefers dense cover and water depths of at least one foot. Upland areas near water are also very important.	No Potential. The heavily shaded creek channel lacks suitable basking habitat for the species. Connectivity to occupied habitats around Crystal Springs does not exist. No suitable ponds to support large numbers of ranid frogs are present to support foraging.	No further actions are recommended for this species.
Santa Cruz black salamander <i>Aneides flavipunctatus niger</i>	SSC	Climbing salamanders of the genus Aneides frequent damp woodlands and are usually found hiding under various debris (i.e. bark, woodrat nests, logs). The Santa Cruz black salamander exists south of the San Francisco Bay and was only recently recognized as a separate and protected species. Santa Cruz black salamander is highly sedentary, preferring to stay hidden under riparian debris. Prey items include millipedes, spiders, and other insects (Stebbins and McGinnis 2012).	No Potential. The Project Area is outside of the known distribution for this species.	No further actions are recommended for this species.
Fishes				
steelhead - central CA coast DPS <i>Oncorhynchus mykiss irideus</i>	FT, NMFS	Occurs from the Russian River south to Soquel Creek and Pajaro River. Also in San Francisco and San Pablo Bay Basins. Adults migrate upstream to spawn in cool, clear, well-oxygenated streams. Juveniles remain in fresh water for 1 or more years before migrating downstream to the ocean.	No Potential. Cherry Creek is not an anadromous stream and as such does not support a known run of steelhead (Leidy 2005, Calfish 2017, Tillery et al 2004).).	No further actions are recommended for this species.

SPECIES	STATUS	HABITAT	POTENTIAL FOR OCCURRENCE	RECOMMENDATIONS
Coho salmon - central CA coast ESU <i>Oncorhynchus kisutch</i>	FE, SE, NMFS	Federal listing includes populations between Punta Gorda and San Lorenzo River. State listing includes populations south of San Francisco Bay only. Occurs inland and in coastal marine waters. Requires beds of loose, silt-free, coarse gravel for spawning. Also needs cover, cool water and sufficient dissolved oxygen.	No Potential. This species has been extirpated from San Francisco Bay and its tributaries (NMFS 2002).	No further actions are recommended for this species.
Delta smelt <i>Hypomesus transpacificus</i>	FT, SE, RP	Lives in the Sacramento-San Joaquin estuary in areas where salt and freshwater systems meet. Occurs seasonally in Suisun Bay, Carquinez Strait and San Pablo Bay. Seldom found at salinities > 10 ppt; most often at salinities < 2 ppt.	No Potential. The Project Area is not within the known range for this species.	No further actions are recommended for this species.
longfin smelt <i>Spirinchus thaleichthys</i>	FC, ST, SSC, RP	Euryhaline, nektonic and anadromous. Found in open waters of estuaries, mostly in middle or bottom of water column. Prefer salinities of 15 to 30 ppt, but can be found in completely freshwater to almost pure seawater.	No Potential. The Project Area is not within the known range for this species.	No further actions are recommended for this species.
Green Sturgeon <i>Acipenser medirostris</i>	FT, NMFS	Green Sturgeon spawn in the Sacramento and Klamath Rivers. Requires water temperatures between 8-14 degrees celsius to spawn. Preferred spawning substrate is large cobble, but can range from clean sand to bedrock.	No Potential. The Project Area is not within the known range for this species.	No further actions are recommended for this species.

SPECIES	STATUS	HABITAT	POTENTIAL FOR OCCURRENCE	RECOMMENDATIONS
hardhead <i>Mylopharodon conocephalus</i>	SSC	Found in low to mid-elevation streams in the Sacramento-San Joaquin drainage; also occurs in the Russian River and tributaries. Favors clear, deep pools with sand-gravel-boulder bottoms and slow water velocity. Not found where exotic Centrarchids predominate.	Unlikely. Cherry Creek does not have connectivity to other streams or known populations where this species is known to exist (Calfish 2017, Tillery et al 2004)..	No further actions are recommended for this species.
Pacific lamprey <i>Entosphenus (=Lampetra) tridentatus</i>	SSC	Spawns between March and July in gravel bottomed streams in riffle habitat. Larvae drift downstream to areas of low velocity and fine substrates and are relatively immobile in the stream substrates.	No Potential. Cherry Creek is not an anadromous stream and as such cannot support a run of anadromous fishes (Tillery et al 2004).	No further actions are recommended for this species.
riffle sculpin <i>Cottus gulosus</i>	SSC	Found in headwater streams with cold water and rocky or gravelly substrate. May occupy riffles or pools, though they tend to favor areas that have adequate cover in the form of rocks, logs, or overhanging banks. Have similar habitat requirements to those of rainbow trout and are often found in association with them.	Unlikely. Cherry Creek does not have connectivity to other streams or known populations where this species is known to exist (Calfish 2017, Tillery et al 2004).	No further actions are recommended for this species.
tidewater goby <i>Eucyclogobius newberryi</i>	FE, SSC	Brackish water habitats along the California coast from Agua Hedionda Lagoon, San Diego County to the mouth of the Smith River. Found in shallow lagoons and lower stream reaches, they need fairly still but not stagnant water and high oxygen levels.	No Potential. This species has been extirpated from San Francisco Bay and all of its tributaries.	No further actions are recommended for this species.
Invertebrates				

SPECIES	STATUS	HABITAT	POTENTIAL FOR OCCURRENCE	RECOMMENDATIONS
Bay checkerspot butterfly <i>Euphydryas editha bayensis</i>	FT, SSI, RP	Restricted to native grasslands on outcrops of serpentine soil in the vicinity of San Francisco Bay. <i>Plantago erecta</i> is the primary host plant; <i>Orthocarpus densiflorus</i> and <i>O. purpurascens</i> are the secondary host plants.	No Potential. The Project Area is not within or adjacent to any known occupied habitats for this species. No serpentine grassland is present to support the hostplants for this species.	No further actions are recommended for this species.
Callippe silverspot butterfly <i>Speyeria callippe callippe</i>	FE, SSI	Two populations in San Bruno mountain and the Cordelia Hills are recognized. Hostplant is <i>Viola pedunculata</i> , which is found on serpentine soils. Most adults found on east-facing slopes; males congregate on hilltops in search of females.	No Potential. The Project Area is not within or adjacent to any known occupied habitats for this species. No serpentine grassland is present to support the hostplants for this species.	No further actions are recommended for this species.
Mission blue butterfly <i>Icaricia icarioides missionensis</i>	FE, SSI, RP	Inhabits grasslands and coastal chaparral of the San Francisco peninsula and southern Marin County, but mostly found on San Bruno Mountain. Three larval host plants: <i>Lupinus albifrons</i> , <i>L. variicolor</i> , and <i>L. formosus</i> , of which <i>L. albifrons</i> is favored.	No Potential. The Project Area is not within or adjacent to any known occupied habitats for this species. No serpentine grassland is present to support the hostplants for this species.	No further actions are recommended for this species.
monarch butterfly <i>Danaus plexippus</i>	SSI	Winter roost sites extend along the coast from northern Mendocino to Baja California, Mexico. Roosts located in wind-protected tree groves (eucalyptus, Monterey pine, Monterey cypress), with nectar and water sources nearby.	Unlikely. The Project Area is not located near any known roosts for this species and is not located along the ocean or bay where roosts are typically located.	No further actions are recommended for this species.

SPECIES	STATUS	HABITAT	POTENTIAL FOR OCCURRENCE	RECOMMENDATIONS
Myrtle's silverspot butterfly <i>Speyeria zerene myrtleae</i>	FE, RP, SSI	Restricted to the fog belt of northern Marin and southernmost Sonoma County, including the Point Reyes peninsula; extirpated from coastal San Mateo County. Occurs in coastal prairie, dunes, and grassland. Larval foodplant is typically <i>Viola adunca</i> . Adult flight season may range from late June to early September.	No Potential. The Project Area is not within or adjacent to any known occupied habitats for this species. No serpentine grassland is present to support the hostplants for this species.	No further actions are recommended for this species.
San Bruno elfin butterfly <i>Callophrys mossii bayensis</i>	FE, SSI	Limited to the vicinity of San Bruno Mountain, San Mateo County. Colonies are located on in rocky outcrops and cliffs in coastal scrub habitat on steep, north-facing slopes within the fog belt. Species range is tied to the distribution of the larval host plant, <i>Sedum spathulifolium</i> .	No Potential. The Project Area is not within or adjacent to any known occupied habitats for this species. No serpentine grassland is present to support the hostplants for this species.	No further actions are recommended for this species.
Edgewood blind harvestman <i>Calicina (=Sitalcina) minor</i>	SSI	Open grassland in areas of serpentine bedrock. Found on the underside of moist serpentine rocks near permanent springs. Originally collected at Crystal Springs Reservoir in San Mateo County, the species has not been collected there since the construction of Interstate 280. In spite of intensive phalangodid collecting in the Bay Area, the species is currently known only from Edgewood Park. Even where present, populations of this species are quite small.	No Potential. The Project Area does not occur within the known range of this species.	No further actions are recommended for this species.

SPECIES	STATUS	HABITAT	POTENTIAL FOR OCCURRENCE	RECOMMENDATIONS
incredible harvestman <i>Banksula incredula</i>	SSI	Known only from the north slope of San Bruno Mountain. Habitat is talus slopes with a dens chaparral canopy.	No Potential. The Project Area does not occur within the known range of this species.	No further actions are recommended for this species.
Ricksecker's water scavenger beetle <i>Hydrochara rickseckeri</i>	SSI	Small aquatic beetle known only from pond habitats scattered around the San Francisco Bay area, including Marin, Sonoma, Alameda, Lake, and Contra Costa counties. Extensive surveys from 1988 failed to locate this species. The locations of existing populations remain unknown (Hafernicks 1989).	No Potential. There is no pond habitat within the Project Area to support this species.	*SF Bay Area Source: http://essig.berkeley.edu/endins/hydrick1.htm Hafernicks, J.E., 1989. Surveys of potentially threatened bay area water beetles and the San Francisco forktail damselfly: Final report. Report to the U.S. Fish and Wildlife Service.
Tomales isopod <i>Caecidotea tomalensis</i>	SSI	Inhabits localized fresh-water ponds or streams with still or near-still water in several San Francisco Bay Area counties. Found in several localities from Sonoma to San Mateo counties. Most collections occurred in the 1980s and earlier, but in 2002 the species was collected in Glenbrook Creek at Point Reyes (LoBianco and Fong 2003). This aquatic species prefers practically still to slow-moving, vegetated water, such as from spring-fed ponds.	Unlikely. Cherry Creek is a fairly steep perennial stream and does not support the still water conditions required for this species.	No further actions are recommended for this species.

SPECIES	STATUS	HABITAT	POTENTIAL FOR OCCURRENCE	RECOMMENDATIONS
western bumble bee <i>Bombus occidentalis</i>	SSI	Formerly common throughout much of western North America; populations from southern British Columbia to central California have nearly disappeared (Xerces 2017). Occurs in a wide variety of habitat types. Nests are constructed annually in pre-existing cavities, usually on the ground (e.g. mammal burrows). Many plant species are visited and pollinated.	Unlikely. The Project Area is primarily devoid of mammal burrows required to support this species.	No further actions are recommended for this species.
Zayante band-winged grasshopper <i>Trimerotropis infantilis</i>	FE, SSI	Endemic to isolated sandstone deposits in the Santa Cruz Mountains (the Zayante Sand Hills ecosystem). Restricted to sand parkland habitat found on ridges and hills within the Zayante Sand Hills ecosystem.	No Potential. The Project Area is primarily infill from when the stream was originally culverted. No natural sandstone deposits are present to support this species.	No further actions are recommended for this species.

SPECIES	STATUS	HABITAT	POTENTIAL FOR OCCURRENCE	RECOMMENDATIONS
* Key to status codes:				
FE	Federal Endangered			
FT	Federal Threatened			
FC	Federal Candidate			
FD	Federal De-listed			
FPD	Federal Proposed for De-listing			
NMFS	Species under the Jurisdiction of the National Marine Fisheries Service			
BCC	USFWS Birds of Conservation Concern			
RP	Sensitive species included in a USFWS Recovery Plan or Draft Recovery Plan			
SE	State Endangered			
ST	State Threatened			
SR	State Rare			
CSC	CDFG Species of Special Concern			
Draft CSC	4 April 2000 Draft CDFG Species of Special Concern			
CFP	CDFG Fully Protected Animal			
SSI	CDFG Special Status Invertebrates			
SLC	Species of Local Concern - Included for coverage under a Habitat Conservation Plan (HCP)			
WBWG	Western Bat Working Group High Priority species			
List 1A	CNPS List 1A: Plants presumed extinct in California			
List 1B	CNPS List 1B: Plants rare, threatened or endangered in California and elsewhere			
List 2	CNPS List 2: Plants rare, threatened, or endangered in California, but more common elsewhere			
List 3	CNPS List 3: Plants about which CNPS needs more information (a review list)			
List 4	CNPS List 4: Plants of limited distribution a watch list			