Alameda County Transportation Commission Rail Safety Enhancement Program – Berkeley

Biological Resources Assessment

prepared for

Circlepoint
Liane Chen
2100 West Orangewood Avenue, Suite 165
Orange, California 92868
Via email: L.Chen@circlepoint.com

prepared by

Rincon Consultants, Inc.
449 15th Street
Oakland, California 94612

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

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Executive Summary

This document provides the findings of a Biological Resources Assessment prepared by Rincon Consultants, Inc. for the proposed railroad safety improvements at Cedar Street, Addison Street, and Bancroft Way in the City of Berkeley in Alameda County, California. The report documents existing conditions at the project sites and provides an assessment of potential impacts to sensitive biological resources based upon proposed project plans.

The biological study area for this analysis includes the project sites at the crossings of Cedar Street, Addison Street, Bancroft Way and the Union Pacific Railroad, plus a 50-foot buffer around each project site. The study area consists of the railroad tracks and associated infrastructure, paved roads, residential, commercial, and industrial buildings, and a small amount of ruderal land.

No special-status plant species have potential to occur within the study area. Four special-status wildlife species have some potential to occur within the study area. The pallid bat (*Antrozous pallidus*, state species of special concern) has a low potential to occur; the merlin (*Falco columbarius*, state watchlist species) has a moderate potential to occur; the Cooper's hawk (*Accipter cooperii*, state watchlist species) has a high potential to occur; and the American peregrine falcon (*Falco peregrinus anatum*, state fully protected) is present. No federally listed species have potential to occur within the study area.

No sensitive natural communities, jurisdictional waters, or essential wildlife corridors or habitat linkages occur within the study area.

1 Introduction

Rincon Consultants, Inc. (Rincon) prepared this Biological Resources Assessment (BRA) to document the existing biological conditions at three railroad crossings where safety improvements are planned in Berkeley, California. This BRA is prepared with the intent of serving as the basis for suitable analysis of the potential impacts to biological resources pursuant to the California Environmental Quality Act (CEQA) and National Environmental Protection Act (NEPA) environmental review processes. The Alameda County Transportation Commission (Alameda CTC) is the lead agency under CEQA. The Federal Railroad Administration is the lead agency under NEPA.

1.1 Project Location and Study Area

The project sites consist of three existing at-grade Union Pacific Railroad (UPRR) crossings in the City of Berkeley, in western Alameda County, California (Figure 1). The crossings are located in the western portion of Berkeley in predominantly business, commercial, and light industrial areas. Rail safety improvements will be installed where the UPRR intersects with Cedar Street, Addison Street, and Bancroft Way. The Cedar Street crossing is located at 37.8734 °W latitude and 122.3029 °N longitude, the Addison Street crossing is located at 37.8660 °W latitude and 122.3005 °N longitude, and the Bancroft Way crossing is located at 37.8628 °W latitude and 122.2995 °N longitude. All three crossings are located in the *Oakland West*, *California* 7.5-minute United States Geological Survey (USGS) quadrangle. The Cedar Street and Addison Street crossings are located in Township 01 South, Range 04 West, Section 04. The Bancroft Way crossing is located in Township 01 South, Range 04 West, Section 09. The study area for this project is defined as three project sites plus a 50-foot buffer around each site (Figure 2).The Cedar Street crossing is surrounded by industrial buildings and is located approximately 0.2 mile east of McLaughlin State Seashore and approximately 0.3 mile east of San Francisco Bay (Figure 2a). The Addison Street crossing is surrounded by a mixture of industrial, commercial, and residential sites and is located one block east of the Berkeley Aquatic Park and approximately 0.4 mile east of San Francisco Bay (Figure 2b). The Bancroft Way crossing is surrounded by commercial and industrial areas, including a gravel yard to the northwest. The Bancroft Way crossing is located one block east of the Berkeley Aquatic Park and approximately 0.3 mile east of San Francisco Bay (Figure 2c).

Figure 1 Regional Location

Figure 2a Project Location – Cedar Street

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Group 5 Fig 2 Project Location_DDP

Figure 2b Project Location – Addison Street

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Group 5 Fig 2 Project Location_DDP

Figure 2c Project Location – Bancroft Way

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Group 5 Fig 2 Project Location_DDP

1.2 Project Description

The project consists of rail safety improvements to three UPRR crossings in Berkeley, California. The improvements are designed to increase safety for all motorists and pedestrians. This includes restricting access to UPRR tracks, improving signage, accessibility improvements, and other safety features. In addition, these crossings will require the construction of new driveway access to adjacent parcels. Construction is expected to last approximately 12 months. The proposed safety improvements at each railroad crossing are listed in Table 1.

Table 1 Proposed Railroad Safety Improvements

Intersection	Description	Excavation/Grading
Cedar Street	The following improvements are proposed: ▪ Remove portions of existing pavement/concrete. ▪ Install new roadway striping/pavement marking, roadside signs, curb and gutter, security access gates/fencing, pavement, ADA detectable pavers, vehicular gate and cantilever, and "No Trespassing" signs. ▪ Add new driveway.	The project will require ground disturbing work, excavation, and grading for creation of a new driveway.
Addison Street	The following improvements are proposed: ▪ Remove portions of existing pavement/concrete. ▪ Install new roadside signs, raised delineators, curb and gutter, security access gates/fencing, pavement, ADA detectable pavers, "No Trespassing" signs, and new sidewalk. ▪ Add new driveway (portions of which are outside of existing City/UPRR ROW. A temporary construction easement will be required).	The project will require ground disturbing work, excavation, and grading for creation of a new driveway.
Bancroft Way	The following improvements are proposed: ▪ Remove portions of existing pavement/concrete. ▪ Install new roadway striping/pavement marking, roadside signs, raised medians, curb and gutter, security access gates/fencing, pavement, ADA detectable pavers, "No Trespassing" signs, and new sidewalk. ▪ Add new driveway.	The project will require ground disturbing work, excavation, and grading for creation of a new driveway.

2 Methodology

2.1 Regulatory Overview

Regulated or sensitive resources studied and analyzed herein include special-status plant and animal species, nesting birds, sensitive plant communities, jurisdictional waters and wetlands, wildlife movement, and locally protected resources, such as protected trees. Regulatory authority over biological resources is shared by federal, state, and local authorities. Primary authority for regulation of general biological resources lies within the land use control and planning authority of local jurisdictions (in this instance, the City of Berkeley).

2.1.1 Definition of Special-status Species

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

- Species listed as candidate, threatened, or endangered under the Federal Endangered Species Act (FESA). Species that are under review may be included if there is a reasonable expectation of listing within the life of the project;
- Species listed as candidate, threatened, or endangered under the California Endangered Species Act (CESA);
- Species designated as fully protected, species of special concern, or watch list by the California Department of Fish and Wildlife (CDFW); and
- Species designated as locally important by the City of Berkeley and/or otherwise protected through local ordinance or policy.

2.1.2 Environmental Statutes

For the purpose of this report, potential impacts to biological resources were analyzed based on the following statutes (Appendix A):

- California Environmental Quality Act (CEQA)
- Federal Endangered Species Act (ESA)
- California Endangered Species Act (CESA)
- Federal Clean Water Act (CWA)
- California Fish and Game Code (CFGC)
- Migratory Bird Treaty Act (MBTA)
- The Bald and Golden Eagle Protection Act
- Porter-Cologne Water Quality Control Act
- National Environmental Policy Act
- City of Berkeley General Plan and Municipal Code
- San Francisco Bay Conservation and Development Commission Strategic Plan

2.1.3 Guidelines for Determining CEQA and NEPA Significance

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

a) *Have substantial adverse effects, either directly or through habitat modifications, on any species identified as a candidate, sensitive or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service.*

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

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

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

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

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

NEPA provides an interdisciplinary framework for environmental planning by federal agencies and contains action-forcing procedures to ensure that federal agency decision makers take environmental factors into account. NEPA applies whenever a federal agency proposes an action, grants a permit, or agrees to fund or otherwise authorize any other entity to undertake an action that could possibly affect environmental resources. The Federal Railroad Administration is the lead agency under NEPA.

2.2 Literature Review

Rincon reviewed relevant agency databases and literature for baseline information on biological resources potentially occurring within the *Oakland West*, *California* USGS quadrangle and the eight surrounding USGS quadrangles (*Oakland East, Richmond, Briones Valley, San Leandro, Hunters Point, San Francisco South, San Francisco North, and San Quentin, California*). The review included information available in peer-reviewed journals, standard reference materials (e.g., Nafis 2021 and Sawyer et al. 2009), and agency and public databases containing occurrences for special-status biological resources, including the California Natural Diversity Database (CNDDB; CDFW 2021a), the California Native Plant Society (CNPS) Online Inventory of Rare and Endangered Plants of California (2021), eBird (Cornell Lab of Ornithology 2021a), the Biogeographic Information and Observation System (BIOS) (CDFW 2021b), and the U.S. Fish and Wildlife Service (USFWS) Information for Consultation and Planning (IPaC) site (USFWS 2021a). The USFWS Critical Habitat Portal (USFWS 2021b), the USFWS National Wetlands Inventory (NWI; USFWS 2021c), the CDFW Special Animals List (CDFW 2021d), the CDFW Special Vascular Plants, Bryophytes, and Lichens List (CDFW 2021e), and the CDFW Wildlife Habitat Relationship System (Zeiner et al. 1988-1990) were also reviewed for information regarding special-status species with potential to occur in the vicinity of the project

sites. Additionally, Rincon reviewed aerial photographs, topographic maps, soil survey maps, geologic maps, and climatic data for the project site and regional vicinity.

2.3 Field Reconnaissance Survey

Rincon biologist Anastasia Ennis conducted a reconnaissance-level field survey of the study area on April 15, 2021, between the hours of 1130 and 1300. The temperature was 58 degrees Fahrenheit (°F) and sunny with winds up to 10 miles per hour. A pedestrian survey of the project site plus a 50-foot buffer was conducted to assess the habitat suitability for potential special-status flora and fauna, and to document all plant and wildlife species observed.

Additionally, Ms. Ennis evaluated the general health and level of existing disturbance to vegetation communities and documented any sign of the presence of special-status species within the proposed project boundary. Results of the survey were used to identify suitable habitat for special-status species that may require focused protocol surveys or other more involved analyses, and to develop an approach for evaluating and mitigating potential impacts to existing biological resources on the project site.

The survey focused on documenting existing conditions and biological resources, evaluating the project site for potential to support special-status plants and wildlife species, special-status vegetation communities, and potentially jurisdictional resources. Focused protocol surveys for individual species were not conducted. Prior to the reconnaissance survey, Rincon biologists reviewed aerial photographs and database search results for special-status species records in the vicinity of the project.

Representative photographs were taken to document existing conditions, vegetation communities, species sign, or other notable biological resource observations. Site photographs are included in Appendix B. A list of all plant and wildlife species observed during the field reconnaissance survey is included in Appendix C.

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3 Existing Conditions

3.1 Physical Characteristics

The study area is located in the City of Berkeley, approximately 0.3 mile east of San Francisco Bay. The climate in this region is generally mild and temperate and the majority of rainfall occurs during the winter months. Due to the coastal location, fog and cool temperatures are common in the summer months. The average annual high temperature is 68 °F and the average annual low temperature is 48°F. Average annual precipitation is 26.7 inches (Western Regional Climate Center 2021). The study area consists primarily of paved and developed urban streets and railroad crossings. Elevations within the study area range from approximately 12 to 21 feet (3.7 to 6.4 meters) above mean sea level.

3.1.1 Watershed and Drainages

The Cedar Street crossing occurs within the Angel Island-San Francisco Bay Estuaries Watershed (Hydrologic Unit Code [HUC]: 180500021001) The Addison Street and Bancroft Way crossings occur within the Cerrito Creek-Frontal San Francisco Bay Estuaries Watershed (HUC: 180500020904) (US EPA 2021a).

No waterways or drainages exist within the study area. Culverts were installed under the railroad crossing at Bancroft Way to convey urban runoff under the tracks. San Francisco Bay and associated wetlands, as well as the Berkeley Aquatic Park, are located just west of the study area.

San Francisco Bay is classified in the NWI as Estuarine and Marine Deepwater habitat (Estuarine [E], Subtidal [1], Unconsolidated Bottom [UB], and Subtidal [L]) (USFWS 2021c). San Francisco Bay is located approximately 0.34 mile west of the Cedar Street crossing, approximately 0.45 mile west of the Addison Street crossing, and approximately 0.35 mile west of the Bancroft Way crossing.

The NWI lists the Berkeley Aquatic Park as Lake habitat (Lacustrine [L], Limnetic [1], Unconsolidated Bottom [UB], Permanently Flooded [H], and Diked/Impounded [h]) (USFWS 2021c). The Berkeley Aquatic Park is located approximately 0.53 mile southwest of the Cedar Street crossing, approximately 0.10 mile west of the Addison Street crossing, and approximately 0.08 mile west of the Bancroft Way crossing.

The NWI classifies the wetland habitat located to the west of the study area as Estuarine and Marine Wetland (Estuarine [E], Intertidal [2], Unconsolidated Shore [US], and Regularly Flooded [N]) (USFWS 2021c). Wetland habitat is located approximately 0.32 mile southwest of the Cedar Street crossing, approximately 0.30 mile west of the Addison Street crossing, and approximately 0.2 mile west of the Bancroft Way crossing.

3.1.2 Soils

One soil map unit occurs within the study area: Urban Land (USDA 2021a). This soil type refers to soils in developed areas that may be significantly altered by human-transported materials and usually contain a high number of impervious surfaces such as buildings and pavement.

3.2 Vegetation and Other Land Cover

Vegetation community characterizations for this analysis were based on the classification systems presented in *A Manual of California Vegetation, Second Edition* (Sawyer et al. 2009) but have been modified slightly to most accurately reflect existing site conditions. *Preliminary Descriptions of the Terrestrial Natural Communities of California* (Holland 1986) is still used for reference and historical perspective, though its classifications are no longer supported by the State of California and have been superseded by Sawyer et al. 2009. Plant species nomenclature and taxonomy used for this BRA follow the treatments within the second edition of *The Jepson Manual* (Baldwin et al. 2012).

No intact natural vegetation communities were identified within the study area. Three land cover types were identified within the study area during the field reconnaissance survey: developed, landscaped, and ruderal (Figure 3). The Cedar Street crossing consists of entirely developed areas (Figure 3a); the Addison Street crossing contains both developed and landscaped areas (Figure 3b); and the Bancroft Way crossing consists of developed, landscaped, and ruderal areas (Figure 3c). More detailed descriptions of these land cover types within the study area are provided below. Appendix C provides a complete list of plant species observed during the field reconnaissance survey.

Developed

This land cover type is not naturally occurring and is not described in either the Holland (1986) or Sawyer et al. (2009) classification systems. This land cover type consists of areas that have been modified such that most or all vegetation has been removed or only small areas of landscaped or ruderal vegetation are present. Within the study area, this land cover type consists of paved roads, UPRR railroad tracks, infrastructure associated with UPRR crossings, and industrial, commercial, and residential buildings.

Landscaped

This land cover type is not naturally occurring and is not described in either the Holland (1986) or Sawyer et al. (2009) classification systems. Plant species found in this land cover type typically consist of either non-native ornamental species or planted native species that do not exist as part of a natural community. Within the study area, this land cover type consists of ornamental shrubs and trees planted along the south sides of Addison Street and Bancroft Way, southwest of the UPRR crossings. Plant species within landscaped portions of the study area include London plane (*Platanus acerifolia*), Coast redwood (*Sequoia sempervirens*), golden wattle (*Acacia longifolia*), blue gum eucalyptus (*Eucalyptus globulus*), and bottlebrush (*Callistemon* sp.).

Ruderal

This land cover type consists of habitats that have been heavily disturbed or altered such that natural vegetation has largely been removed. These sites do not correspond well with either the Holland (1986) or Sawyer et al. (2009) classification systems. Within the study area, ruderal land cover exists along the north side of Bancroft Way, northwest of the UPRR crossing. Ruderal plant species within this area include wild radish (*Raphanus raphanistrum*), bristly oxtongue (*Helminthotheca echioides),* and sow thistle (*Sonchus* sp.).

Figure 3a Land Cover Types – Cedar Street

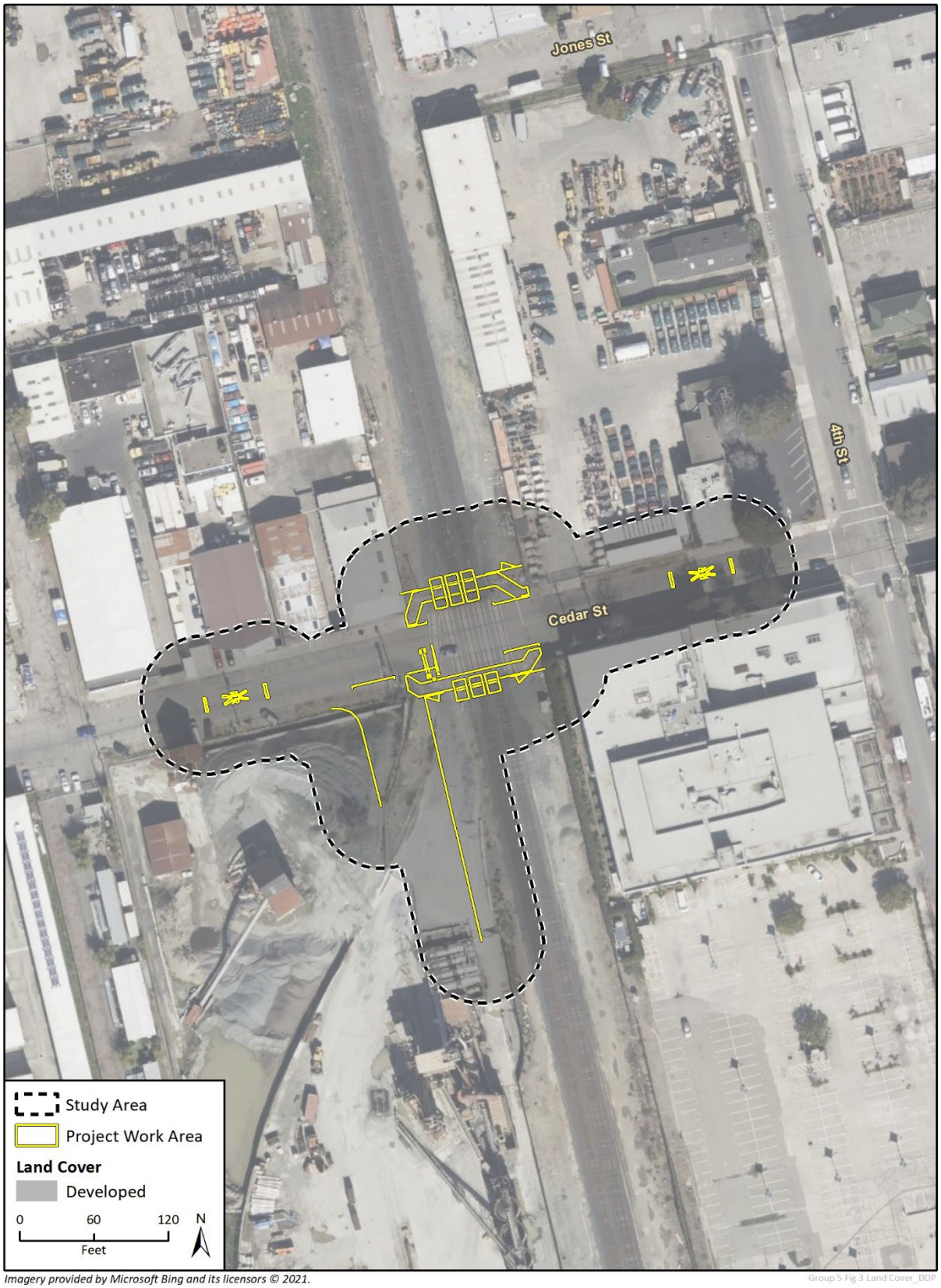
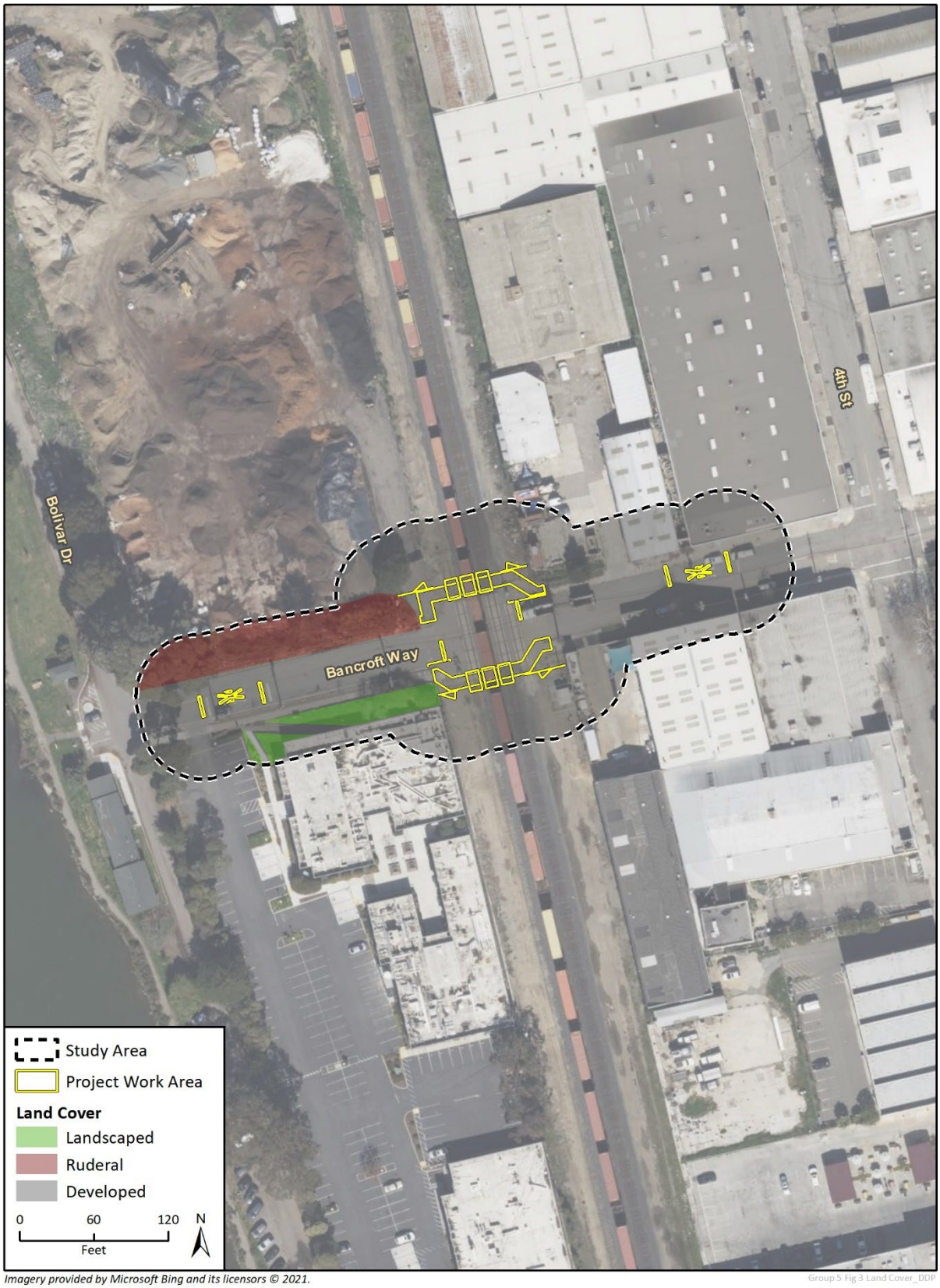


Figure 3b Land Cover Types – Addison Street

Figure 3c Land Cover Types – Bancroft Way



3.3 General Wildlife

Wildlife observed within the study area during the field reconnaissance survey consisted of bird species commonly found in urban areas. Introduced bird species observed include house sparrow (*Passer domesticus*) and rock pigeon (*Columba livia*). Native bird species observed include American crow (*Corvus brachyrhynchos*), western gull (*Larus occidentalis*), white-crowned sparrow (*Zonotrichia leucophrys*), double-crested cormorant (*Phalacrocorax auritus*), dark-eyed junco (*Junco hyemalis*), and house finch (*Haemorhous mexicanus*). Additionally, one American peregrine falcon (*Falco peregrinus anatum*, state fully protected) was observed flying over the study area carrying passerine bird prey. A complete list of wildlife species observed during the field reconnaissance survey is provided in Appendix C.

4 Sensitive Biological Resources

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

- **Not Expected.** Habitat on and adjacent to the site is clearly unsuitable for the species requirements (foraging, breeding, cover, substrate, elevation, hydrology, plant community, site history, disturbance regime), and species would have been identifiable on-site if present (e.g., oak trees). Protocol surveys (if conducted) did not detect species.
- **Low Potential.** Few of the habitat components meeting the species requirements are present, and/or the majority of habitat on and adjacent to the site is unsuitable or of very poor quality. The species is not likely to be found on the site. Protocol surveys (if conducted) did not detect species.
- **Moderate Potential**. Some of the habitat components meeting the species requirements are present, and/or only some of the habitat on or adjacent to the site is unsuitable. The species has a moderate probability of being found on the site.
- **High Potential.** All of the habitat components meeting the species requirements are present and/or most of the habitat on or adjacent to the site is highly suitable. The species has a high probability of being found on the site.
- **Present.** Species is observed on the site or has been recorded (e.g., CNDDB, other reports) on the site recently (within the last 5 years).

The following USFWS criteria were also used to determine the potential for the proposed project to affect federally protected species with potential to occur in the vicinity of the study area:

- "**No effect"** means there will be no impacts, positive or negative, to listed or proposed resources. Generally, this means no listed resources will be exposed to action and its environmental consequences. Concurrence from the USFWS is not required.
- **"May affect, but is not likely to adversely affect"** means that all effects are beneficial, insignificant, or discountable. Beneficial effects have contemporaneous positive effects without any adverse effects to the species or habitat. Insignificant effects relate to the size of the impact and include those effects that are undetectable, not measurable, or cannot be evaluated. Discountable effects are those extremely unlikely to occur. These determinations require written concurrence from the USFWS.
- **"May affect, and is likely to adversely affect"** means that listed resources are likely to be exposed to the action or its environmental consequences and will respond in a negative manner to the exposure.

4.1 Special-status Species

Rincon evaluated eighty special-status plant species and fifty-six special-status wildlife species for their potential to occur within the study area (Appendix D). A list of all wildlife and plant species observed during the field reconnaissance survey can be found in Appendix C.

4.1.1 Special-status Plant Species

Rincon evaluated eighty special-status plant species for their potential to occur within the study area (Appendix D). No special-status plant species have potential to occur within the project site due to the absence of suitable habitats (i.e., cismontane woodland, valley and foothill grassland, chaparral, vernal pools), the lack of suitable soils (i.e., serpentine, alkaline) and the developed and disturbed nature of the project site and immediate vicinity. No special-status plant species were observed during the field reconnaissance survey in April 2021, and no special-status plants are expected to occur within the study area.

4.1.2 Special-status Animal Species

Rincon evaluated fifty-six special-status wildlife species for their potential to occur within the study area (Appendix D). Of these, four special-status species have a low potential to occur, one special-status species has a moderate potential to occur, one special-status species has a high potential to occur, and one special-status species is present. The remaining 49 special-status wildlife species evaluated are not expected to occur in the study area or immediate vicinity based on the absence of riparian, grassland, woodland, scrub, vernal pool, or other suitable natural habitats or vegetation communities, and/or because the range of the species does not overlap with the study area (Appendix D). No federally listed species have potential to occur within the study area. For the purposes of CEQA analysis, special-status wildlife species that are present within the study area, or have a moderate or high potential to occur, are listed in Table 2 and are discussed in further detail below.

Table 2 Special-status Wildlife Species with Potential to Occur within the Study Area

Common Name	Scientific Name	Status	Potential to Occur
American peregrine falcon	*Falco peregrinus anatum*	FD/SD/FP	Present
Cooper's hawk	*Accipter cooperii*	WL	High Potential
Merlin	*Falco columbarius*	WL	Moderate Potential

FD = Federally Delisted SD = State Delisted FP = State Fully Protected
SSC = CDFW Species of Special Concern WL = CDFW Watch List

American Peregrine Falcon

The American peregrine falcon is a federal and state delisted species and a state FP species that occurs in urban areas and open habitats, including coastlines, mudflats, lake edges, and mountain sides (Cornell Lab of Ornithology 2021b). American peregrine falcon populations were nearly exterminated from 1940-1970 due to wide-spread use of organochlorine pesticides. In 1970, the species was listed as federally endangered and conservation efforts began. Following the ban of the pesticide DDT and the implementation of captive breeding programs, American peregrine falcon populations have rebounded, and the species was delisted in 1999 (Center for Biological Diversity 2021). Prey includes a wide variety of bird species and nest sites are typically in rocky cliffs faces,

but can also be located on transmission towers, skyscrapers, bridges, or other human-made structures (Cornell Lab of Ornithology 2021b).

An American peregrine falcon, carrying passerine bird prey in its talons, was observed flying over the study area during the field reconnaissance survey. Since 2016, a pair of American peregrine falcons have nested on the Campanile structure on the University of California Berkeley Campus, located approximately two miles east of the study area. A webcam was installed on the nest site in 2019 and the nest was active at the time of the field reconnaissance survey in April 2021. Multiple recent occurrences of the species are documented in eBird within five miles of the study area (Cornell Lab of Ornithology 2021a). Two occurrences of the species (2014) are documented in the CNDDB within five miles of the study area (CDFW 2021a). No suitable nesting habitat exists within the study area, though there is a low potential for the species to nest on buildings within 500 feet of the project site. The American peregrine falcon is present as a forager in the study area.

Cooper's Hawk

The Cooper's hawk is a CDFW WL species that typically inhabits woodlands and forest edges but can also be found in urban parks and neighborhoods where trees are present. Nests are constructed 25-50 feet high in a variety of tree species, including pines, oaks, beeches, and spruces. Nests are made of sticks and are often lined with bark flakes and green twigs. Cooper's hawks are aerial predators that feed primarily on medium-sized birds, such as mourning dove (*Zenaida macroura*), American robin (*Turdus migratorius*), California quail (*Callipepla californica*), and European starling (*Sturnus vulgaris*). In addition to preying on adult birds, Cooper's hawks will also occasionally rob nests and hunt rabbits, rodents, and bats (Cornell Lab of Ornithology 2021b).

One occurrence of the species (in 2003) is documented in the CNDDB within five miles of the study area (CDFW 2021a). Multiple recent occurrences of the species are documented in eBird within one mile of the study area (Cornell Lab or Ornithology 2020a). Some suitable nesting habitat for the species exists in landscaped trees within the study area, and within 500 feet of the project sites. The species has a high potential to forage and a low potential to nest within the study area.

Merlin

The merlin is a CDFW WL species that typically occurs in grasslands, open forests, and coastal areas. Breeding historically occurred in shrubs and trees in coastal areas and along rivers, but increasingly, the species lays its eggs in abandoned crow or hawk nests in urban areas. Diet consists primarily of birds, which are typically captured midair during high-speed attacks (Cornell Lab of Ornithology 2021b).

There are no occurrences of the species documented in the CNDDB within five miles of the study area (CDFW 2021a). However, multiple recent occurrences of the species are documented in eBird within one mile of the study area (Cornell Lab of Ornithology 2020a). The species has a moderate potential to forage within the study area and a low potential to nest within abandoned crow or hawk nests within landscaped trees in the study area and within 500 feet of the project sites.

4.1.3 Nesting Birds

Non-game migratory birds protected under the MBTA and CFGC have the potential to breed and forage within the study area. Suitable nesting habitat within the study area could include human-made structures, shrubs, and trees. Several house sparrow nests were observed on the outside of a building just north of the UPRR crossing pavement marker at Bancroft Way. House sparrows are an

introduced species so are not protected by the MBTA but are protected under CFGC. The presence of a house sparrow nest could be indicative of suitable nesting habitat for other bird species habituated to urban environments.

4.2 Sensitive Natural Communities and Critical Habitats

No sensitive natural communities or critical habitats occur within the study area. Federally designated critical habitat for the Alameda whipsnake exists approximately 3.5 miles east of the study area.

4.3 Jurisdictional Waters and Wetlands

No jurisdictional waters or wetlands occur within the study area. San Francisco Bay is located approximately 0.34 mile west of the Cedar Street crossing, approximately 0.45 mile west of the Addison Street crossing, and approximately 0.35 mile west of the Bancroft Way crossing. The Berkeley Aquatic Park is located approximately 0.53 mile southwest of the Cedar Street crossing, approximately 0.10 mile west of the Addison Street crossing, and approximately 0.08 mile west of the Bancroft Way crossing. Wetland habitat associated with San Francisco Bay is located approximately 0.32 mile southwest of the Cedar Street crossing, approximately 0.30 mile west of the Addison Street crossing, and approximately 0.2 mile west of the Bancroft Way crossing.

4.4 Wildlife Movement

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

The study area is in a developed urban area with an active railway and substantial vehicular traffic. No Essential Connectivity Areas or Natural Landscape Blocks occur within the study area. An Essential Connectivity Area occurs approximately 2.84 miles to the east of the study area, and a Natural Landscape Block exists approximately 2.88 miles to the east of the study area (Spencer et al. 2010). While wildlife species acclimated to urban environments (e.g., coyotes, raccoons) have the potential to occasionally pass through the study area or use the railroad tracks for dispersal, the study area does not provide a significant migratory or dispersal corridor for wildlife species due to the developed nature of the area and frequent disturbance from trains and vehicles.

4.5 Resources Protected by Local Policies and Ordinances

Project activities are subject to the City of Berkeley General Plan and Municipal Code.

The City of Berkeley General Plan: Environmental Management Element establishes policies for the management and conservation of the city's natural resources and the protection of the community from hazards, pollution, and excessive noise. Protected resources include watercourses (EMs 23 - 27), natural habitats (EM-28), and trees (EM-29).

Berkeley Municipal Code includes a moratorium on the removal of coast live oak trees (Chapter 6.52), as well as regulation of building near creeks, rehabilitation and restoration of natural waterways, and management of watersheds (Chapter 17.08).

A list of the City of Berkeley General Plan policies and Municipal Code chapters that pertain to biological resources can be found in Appendix A.

4.6 Adopted or Approved Plans

The study area does not fall within the boundaries of any adopted Habitat Conservation Plan or Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

The San Francisco Bay Conservation and Development Commission Strategic Plan includes ongoing goals and short-term objectives to protect and enhance San Francisco Bay and encourage responsible and productive use and development of the bay and surrounding land. The project sites lie within 0.3 mile of San Francisco Bay, but do not fall within the San Francisco Bay area of tidal action or within 100-feet of the high tide line and are therefore not within the jurisdictional area of the San Francisco Bay Conservation and Development Commission.

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5 Impact Analysis and Mitigation Measures

This section discusses the potential impacts and effects to special-status species and sensitive biological resources that may occur from implementation of the project and provides recommended mitigation measures that would reduce those impacts where applicable. The analysis and recommendations are based on the CEQA Guidelines Appendix G Initial Study Checklist, as well as the USFWS guidance for determining the effects of a proposed action to federally protected species.

5.1 Special-status Species

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

a) *Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service.*

5.1.1 Special-status Plant Species

No special-status plant species are expected to occur within the study area. Therefore, no impacts to special-status plant species are anticipated. The project is expected to have ***no effect*** on any federally protected plant species.

5.1.2 Special-status Wildlife Species

Three special-status wildlife species as well as nesting birds have potential to occur within the study area. No federally listed wildlife species have potential to occur. Therefore, the project is expected to have ***no effect*** on any federally listed wildlife species. For the purposes of CEQA analysis, potential impacts of project implementation to each of the special-status wildlife species that are present within the study area, or have a moderate or high potential to occur, are discussed in further detail below. Recommended avoidance and mitigation measures for reducing potential effects to less than significant are also provided.

Special-status Raptor Species

Three special-status raptor species have potential to occur within the study area. The American peregrine falcon (FD, SD, CDFW FP) is present; the Cooper's hawk (CDFW WL) has a high potential to occur; and the merlin (CDFW WL) has a moderate potential to occur. No suitable nesting habitat for the American peregrine falcon exists within the study area. There is a low potential for the species to nest on buildings within 500 feet of the project sites. Marginally suitable habitat for the Cooper's hawk and the merlin exists within landscaped trees within the study area and within 500 feet of the project sites. Should any of these species be present on-site during construction, direct impacts could include injury or mortality of individuals. Indirect impacts could include disturbance of nesting behavior or habitat. Mitigation Measure BIO-1 includes recommendations for reducing potential impacts to special-status raptors to less than significant.

5.1.3 Nesting Birds

Nesting special-status bird species and other nesting birds protected under the MBTA and CFGC have potential to occur throughout the study area during the nesting season (February 1 to September 15). Suitable nesting habitat within the study area and immediate vicinity could include human-made structures, the ground surface, shrubs, and trees. Several house sparrow nests were observed within the study area during the field reconnaissance survey. House sparrows are an introduced species, however, and are not protected by the MBTA. CFGC protects all nesting birds, including non-natives. Should nesting birds be present within the project sites during construction, direct impacts could include the destruction of nests or the disturbance of nesting behavior. Indirect impacts to nesting birds could include the destruction or disturbance of nesting habitat. Mitigation Measure BIO-1 provides recommendations for reducing impacts to nesting birds to less than significant.

BIO-1 Pre-construction Survey and Impact Avoidance for Raptors and Other Nesting Birds

Ground disturbing activities should be restricted to the non-breeding season (September 1 to January 31) when feasible. If construction activities occur during the nesting bird season (February 1 to August 31), the following mitigation measures are recommended to reduce impacts to nesting special-status avian species, and other nesting birds protected by CFGC and the MBTA:

- A preconstruction nesting bird survey should be conducted by a qualified biologist no more than 14 days prior to initiation of ground disturbance and vegetation removal. The survey area should include all work areas and, at a minimum, a 150-foot buffer for passerines and a 500-foot buffer for raptors. The survey should be conducted by a biologist familiar with the identification of avian species known to occur in the region and should focus on trees, human-made structures, and vegetated areas.
- If nests are found, an appropriate avoidance buffer will be determined and demarcated by the qualified biologist with high visibility material. Avoidance buffers should be established based on the nest location in relation to project activity, the line-of-sight from the nest to the project activity, and observed behavior at the nest.
- All construction personnel should be notified as to the existence of the buffer zones and to avoid entering buffer zones during the nesting season. No ground disturbing activities should occur within the buffer until the qualified biologist has confirmed that breeding/nesting is complete, and the young have fledged the nest. Encroachment into the buffer should occur only at the discretion of the qualified biologist.

5.2 Sensitive Natural Communities and Critical Habitats

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

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

No sensitive natural communities, riparian habitat, or federally designated critical habitats are present within the study area and no impacts are expected.

5.3 Jurisdictional Waters and Wetlands

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

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

No jurisdictional waters or wetlands occur within the study area no direct impacts are anticipated. Indirect impacts from project activities could occur if sediment or pollutants were allowed to enter nearby waters, including the Berkeley Aquatic Park and San Francisco Bay and its associated wetlands. Mitigation Measure BIO-2 includes recommendations for preventing impacts to nearby jurisdictional areas.

BIO-2 Mitigation Measures for Waters and Wetlands

At a minimum, the following Best Management Practices (BMPs) will be implemented on-site during and following construction to prevent any indirect impacts to waters and wetlands:

1. Vehicles and equipment should be checked at least daily for leaks and maintained in good working order. Spill kits should be available on-site at all times and a spill response plan should be developed and implemented.

2. Sediment and erosion control measures (e.g., sand or gravel bags, hay bales, check dams) should be implemented and maintained throughout the project site to prevent the entry of sediment and/or pollutants into any waterways or jurisdictional areas. No monofilament plastic will be used for erosion control.

5.4 Wildlife Movement

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

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

The proposed project sites are in a developed urban area, at the crossings of an active railway and paved city streets. No Essential Connectivity Areas or Natural Landscape Blocks occur within the study area (Spencer et al. 2010). Project activities are not expected to interfere substantially with the movement of any wildlife species or to impede the use of wildlife corridors or wildlife nursery sites. Therefore, no significant impacts to wildlife movement are expected.

5.5 Local Policies and Ordinances

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

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

Project activities are subject to the City of Berkeley General Plan and Municipal Codes.

The City of Berkeley General Plan: Environmental Management Element establishes policies for the management and conservation of the city's natural resources and the protection of the community from hazards, pollution, and excessive noise. Protected resources include watercourses (EMs 23 - 27), natural habitats (EM-28), and trees (EM-29).

The list of parcels affected by open and culverted creeks provided by the City of Berkeley does not include any parcels in the vicinity of the project sites. Impacts to waterways from project activities are not anticipated. Mitigation Measure BIO-2 includes recommendations for reducing any potential impacts to water quality. The project will not impact any trees or natural habitats.

Project activities are not expected to conflict with any local policies or ordinances protecting biological resources.

5.6 Adopted or Approved Plans

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

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

The study area does not fall within the boundaries of any adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

The San Francisco Bay Conservation and Development Commission Strategic Plan includes policies to protect and enhance San Francisco Bay and regulate development within and around the bay. The project sites do not fall within the San Francisco Bay area of tidal action or within 100-feet of the high tide line and are therefore not under the jurisdiction of the San Francisco Bay Conservation and Development Commission. Project activities will occur within previously developed areas at least 400 feet from Berkeley Aquatic Park and San Francisco Bay. Mitigation Measure BIO-2 includes recommendations for reducing any potential impacts to water quality within these nearby water bodies.

The project is not expected to conflict with the provisions of any adopted Habitat Conservation Plan, Natural Conservation Community Plan, or other approved local, regional, or state habitat conservation plan.

6 Limitations, Assumptions, and Use Reliance

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

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8 List of Preparers

Rincon Consultants, Inc.

Primary Author

- Heather Price Curran, Biologist

Secondary Author

- Anastasia Ennis, Associate Biologist

Technical Review

- Craig Lawrence, Senior Biologist
- Sherri Miller, Principal

Graphics

- Josh Patterson, GIS Analyst

Field Reconnaissance Survey

- Anastasia Ennis, Associate Biologist

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Appendix A

Regulatory Setting

Regulatory Setting

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

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

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

- U.S. Army Corps of Engineers (wetlands and other waters of the United States);
- San Francisco Bay Regional Water Quality Control Board (waters of the State);
- U.S. Fish and Wildlife Service (federally listed species and migratory birds);
- California Department Fish and Wildlife (riparian areas, streambeds, and lakes; state-listed species; Species of Special Concern; nesting birds); and
- The City of Berkeley General Plan and Municipal Code (trees, waterways, natural habitats).

U.S. Army Corps of Engineers

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

Regional Water Quality Control Board

The State Water Resources Control Board (SWRCB) and the local Regional Water Quality Control Board (RWQCB) have jurisdiction over “waters of the State,” pursuant to the Porter-Cologne Water Quality Control Act, which are defined as any surface water or groundwater, including saline waters, within the boundaries of the State. The SWRCB has issued general Waste Discharge Requirements (WDRs) regarding discharges to “isolated” waters of the State (Water Quality Order No. 2004-0004-

DWQ, Statewide General Waste Discharge Requirements for Dredged or Fill Discharges to Waters Deemed by the U.S. Army Corps of Engineers to be Outside of Federal Jurisdiction). The RWQCB administers actions under this general order for isolated waters not subject to federal jurisdiction, and is also responsible for the issuance of water quality certifications pursuant to Section 401 of the Clean Water Act for waters subject to federal jurisdiction.

United States Fish and Wildlife Service

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

California Department of Fish and Wildlife

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

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

California Fish and Game Code sections 3503, 3503.5, and 3513 describe unlawful take, possession, or destruction of native birds, nests, and eggs. Section 3503.5 of the Code protects all birds-of-prey and their eggs and nests against take, possession, or destruction of nests or eggs. Section 3513 makes it a state-level office to take any bird in violation of the federal Migratory Bird Treaty Act. CDFW administers these requirements.

Species of Special Concern (SSC) is a category used by the CDFW for those species which are considered to be indicators of regional habitat changes or are considered to be potential future protected species. Species of Special Concern do not have any special legal status except that which may be afforded by the Fish and Game Code as noted above. The SSC category is intended by the CDFW for use as a management tool to include these species in special consideration when decisions are made concerning the development of natural lands. The CDFW also has authority to

administer the Native Plant Protection Act (NPPA) (Fish and Game Code Section 1900 et seq.). The NPPA requires the CDFW to establish criteria for determining if a species, subspecies, or variety of native plant is endangered or rare. Effective in 2015, CDFW promulgated regulations (14 CCR 786.9) under the authority of the NPPA, establishing that the CESA's permitting procedures would be applied to plants listed under the NPPA as "Rare." With this change, there is little practical difference for the regulated public between plants listed under CESA and those listed under the NPPA.

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

Local Jurisdiction

City of Berkeley General Plan: Environmental Management Element

POLICIES PERTAINING TO BIOLOGICAL RESOURCES

EM-23 Water Quality in Creeks and San Francisco Bay

Take action to improve water quality in creeks and San Francisco Bay. Actions:

A. Work with the East Bay Municipal District (EBMUD) to ensure that wastewater discharges comply with the requirements of EBMUD's Wastewater Control Ordinance No. 311 to manage wastewater treatment discharges to protect San Francisco Bay.

B. To minimize storm sewer pollution of San Francisco Bay, maintain an effective street sweeping and cleaning program.

C. Identify and eliminate cross connections between the sanitary sewer and storm sewer systems.

D. Restore a healthy freshwater supply to creeks and the Bay by eliminating conditions that pollute rainwater, and by reducing impervious surfaces and encouraging use of swales, cisterns, and other devices that increase infiltration of water and replenishment of underground water supplies that nourish creeks.

E. Increase public awareness of the value of promoting healthy watersheds and aquifers. Use mailings and similar methods to educate residents, particularly creek-side property owners, about how they can protect and improve water quality, lessen erosion, and improve habitat and creek restoration projects. Support education campaigns to eliminate dumping of paint, chemicals, and other pollutants into the storm drain system.

F. Encourage the maintenance and restoration of creeks and wetlands and appropriate planting to cleanse soil, water, and air of toxins.

EM-24 Sewers and Storm Sewers

Protect and improve water quality by improving the citywide sewer system. Actions:

A. Adequately fund sewer system improvements necessary to maintain water quality in natural areas and reduce public health hazards.

B. Identify and eliminate illegal roof-leader and other illegal connections to the sewer system.

C. Establish a program for the identification and remediation of faulty laterals on private property. Consider requiring inspection and repair as a condition of property transfer.

D. Identify alternative funding sources for essential infrastructure improvements such as grants, public-private partnerships, and special benefit districts.

E. Ensure that new development pays its fair share of improvements to the storm sewerage system necessary to accommodate increased flows from the development.

F. Coordinate storm sewer improvements with creek restoration projects.

EM-25 Groundwater

Protect local groundwater by promoting enforcement of state water quality laws that ensure non-degradation and beneficial use of groundwater.

EM-26 Water Conservation

Promote water conservation through City programs and requirements. Actions:

A. Encourage drought-tolerant landscaping and low-flow irrigation systems.

B. Consider participation in the East Bay Municipal Utility District's East Bay-shore Recycled Water Project to make recycled water available for irrigation and other non-potable uses.

EM-27 Creeks and Watershed Management

Whenever feasible, daylight creeks by removing culverts, underground pipes, and obstructions to fish and animal migrations. (Also see Disaster Preparedness and Safety Policy S-28 and Land Use Policy LU-20.) Actions:

A. Seek funding sources to acquire and preserve land within creek corridors for restoration or day-lighting.

B. Establish, where appropriate or feasible, pedestrian and bicycle paths along creek-side greenways to connect neighborhoods and commercial areas.

C. Encourage day-lighting of creeks on public lands as well as along creeks that are substantially open and accessible to the public.

D. Restrict development on or adjacent to existing open creeks. When creeks are culverted, restrict construction over creeks and encourage design solutions that respect or emphasize the existence of the creek under the site.

E. Ensure that creek day-lighting proposals include appropriate landscaping, allow for adequate access, and carefully consider the urban context, the impact on existing recreational spaces, and the economic impact on the property and nearby properties.

F. Work in cooperation with adjoining jurisdictions to jointly undertake creek and wetland restoration projects, to improve water quality and wildlife habitat, to allow people to enjoy creeks as part of urban open space, and to create creek-side transportation corridors for pedestrians and bicycles, as described in the 1995 Joint Watershed Goals Statement.

G. Regulate new development within 30 feet of an exposed streambed as required by the Creeks Ordinance and minimize impacts on water quality and ensure proper handling of stormwater runoff

by requiring a careful review of any public or private development or improvement project proposed in water sensitive areas.

H. Consider amending the Creek Ordinance to restrict parking and driveways on tops of culverts and within 30 feet of creeks.

I. Consider replacing culverts under streets with open bridging when feasible.

EM-28 Natural Habitat and Urban Forest

Restore and protect valuable, significant, or unique natural habitat areas. (Also see Open Space and Recreation Policy OS-9.) Actions:

A. Restore the natural habitat and improve water quality in the Aquatic Park lagoon.

B. Where appropriate, balance increased use of open space and public lands with enhancement of natural habitat.

C. Preserve and enhance coastal and riparian areas and water flows necessary to support natural habitat and wildlife.

EM-29 Street and Park Trees

Maintain, enhance, and preserve street and park trees to improve the environment and provide habitat. Actions:

A. Develop a street and park tree management plan to create a vibrant and well maintained tree population throughout the city. Wherever possible, tree replacement should emphasize native tree and plant species and maintain, to the extent feasible, street tree canopies over the street. (Also see Urban Design and Preservation Policy UD-9.)

B. Prioritize South and West Berkeley for additional street tree planting.

C. Ensure that new development preserves existing trees, wherever feasible, and adds trees in the public right-of-way, where appropriate.

D. Maintain standards to ensure parking lot tree canopy coverage.

E. Maintain programs to ensure the timely removal and replacement of unhealthy or inappropriate street or park trees.

F. Preserve and protect heritage trees, including native oaks and other significant trees on public and private property whenever feasible.

G. Discourage the filling of planter strips with concrete.

EM-30 Native Plants

Use native tree and plant species to enhance ecological richness. Action:

A. Where appropriate, use native landscaping in new and replacement plantings, and remove non-native plants to create ecological corridors for wildlife habitation.

EM-31 Landscaping

Encourage drought-resistant, rodent-resistant, and fire-resistant plants to reduce water use, prevent erosion of soils, improve habitat, lessen fire danger, and minimize degradation of resources.

The City of Berkeley Municipal Code Chapter 6.52- Moratorium on the Removal of Coast Live Oak Trees

Under Municipal Code Chapter 6.52, the removal of coast live oak trees is prohibited for any reason, unless such removal is deemed necessary for public safety by the City Manager. Any coast live oak tree with a single stem circumference of 18 inches or more or any multi-stemmed oak with an aggregate circumference of 26 inches or more at a distance of four feet from the ground is protected under this ordinance.

The City of Berkeley Municipal Code Chapter 17.08- Preservation and Restoration of Natural Watercourses

Municipal Code Chapter 17.08 regulates construction activities that occur within 30 feet of open and culverted creeks to protect water quality and riparian habitat. No open or culverted creeks occur within 30 feet of the project sites and the list of parcels affected by open and culverted creeks provided by the City of Berkeley does not include any parcels in the vicinity of the project sites.

Appendix B

Site Photographs

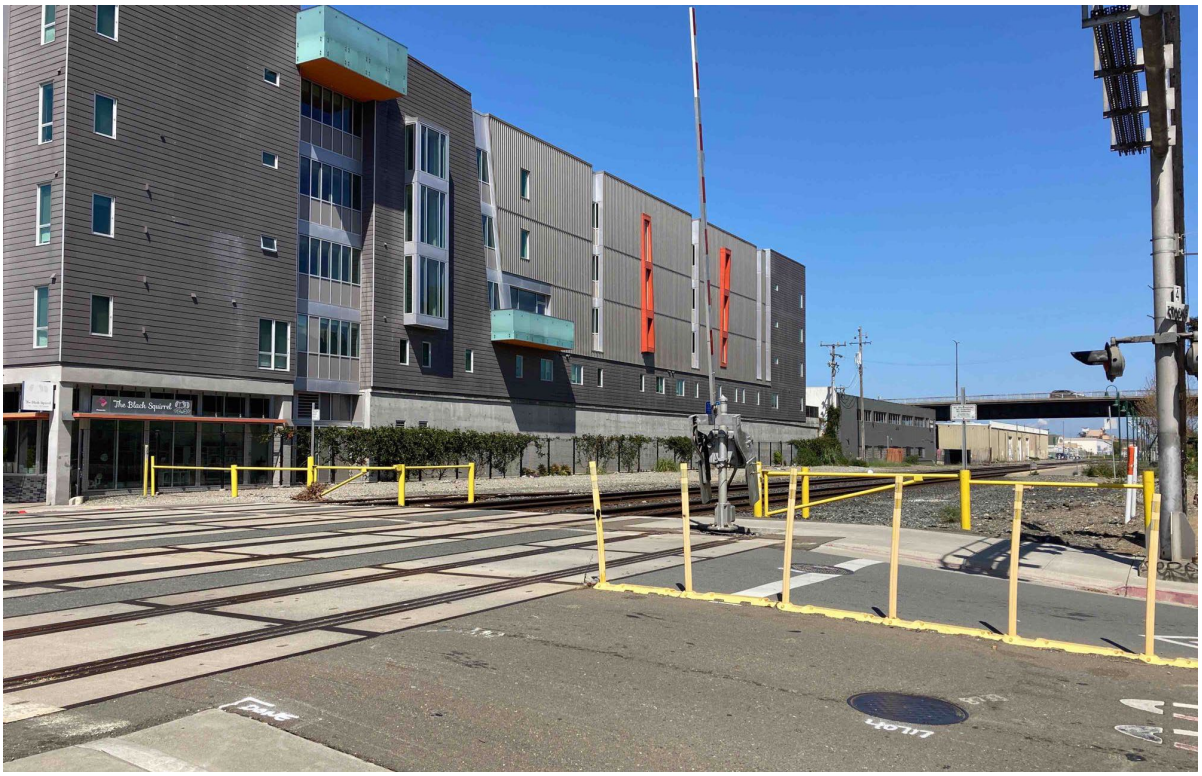
Photograph 1. View of the railroad crossing at Cedar Street, facing southwest.

Photograph 2. View of the railroad crossing at Cedar Street, facing northwest.

Photograph 3. View of the railroad crossing at Cedar Street, facing east.

Photograph 4. View of the railroad crossing at Cedar Street, facing northeast.

Photograph 5. View of the railroad crossing at Addison Street, facing northeast.



Photograph 6. View of the railroad crossing at Addison Street, facing northwest.

Photograph 7. View of the railroad crossing at Addison Street, facing south.

Photograph 8. View of the railroad crossing at Addison Street, facing south-southwest.

Photograph 9. View of the railroad crossing at Bancroft Way, facing east.

Photograph 10. View of the railroad crossing at Bancroft Way, facing west.

Photograph 11. View of landscaping southwest of railroad crossing at Bancroft Way, facing north-northeast.

Photograph 12. View of the existing pavement marking west of the railroad crossing at Bancroft Way, facing west. The Berkeley Aquatic Park can be seen in the background, beyond the study area.

Photograph 13. View of the existing street sign and pavement marking east of the railroad crossing at Bancroft Way, facing southwest. The location of the observed house sparrow nest is visible, above the sliding warehouse door immediately to the right of the crossing sign.

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Appendix C

Floral and Faunal Compendium

Plant Species Observed Within the Study Area on April 15, 2021

Scientific Name	Common Name	Status	Native or Introduced
Trees			
Acacia longifolia	golden wattle	None	Introduced, Cal-IPC Watchlist
Eucalyptus globulus	blue gum eucalyptus	None	Introduced, Cal-IPC Limited
Plantanus acerifolia	London plane tree	None	Introduced
Sequoia sempervirens	coast redwood	None	Native (Planted)
Shrubs			
Callistemon sp.	bottlebrush	None	Introduced
Herbs			
Eschscholzia californica	California poppy	None	Native
Galium parisiense	wall bedstraw	None	Introduced
Helminthotheca echioides	bristly oxtongue	None	Introduced, Cal-IPC Limited
Plantago lanceolata	narrow-leaved plantain	None	Introduced, Cal-IPC Limited
Raphanus raphanistrum	Wild radish	None	Introduced
Sonchus asper	Sow thistle	None	Introduced
Trifolium hirtum	rose clover	None	Introduced, Cal-IPC Limited
Grasses			
Bambusa sp.	bamboo	None	Introduced
Cortaderia selloana	pampas grass	None	Introduced, Cal-IPC High

Cal-IPC=California Invasive Plant Council

Wildlife Species Observed Within the Study Area on April 15, 2021

Scientific Name	Common Name	Status	Native or Introduced
Birds			
Columba livia	rock pigeon	None	Introduced
Corvus brachyrhynchos	American crow	None	Native
Falco peregrinus anatum	American peregrine falcon	FD/SD/FP	Native
Haemorhous mexicanus	house finch	None	Native
Junco hyemalis	dark-eyed junco	None	Native
Larus occidentalis	western gull	None	Native
Passer domesticus	house sparrow	None	Introduced
Phalacrocorax auritus	double-crested cormorant	None	Native
Zonotrichia leucophrys	white-crowned sparrow	None	Native

FD= Federally Delisted SD= State Delisted FP= State Fully Protected

Appendix D

Special-status Species Evaluation Tables

Special Status Plant and Lichen Species in the Regional Vicinity of the Study Area

Scientific Name Common Name	Status Fed/State ESA CRPR	Habitat Requirements	Potential to Occur/Effect Determination	Rationale
Allium peninsulare var. *franciscanum* Franciscan onion	None/None G5T2/S2 1B.2	Cismontane woodland, Valley and foothill grassland. Clay, volcanic, often serpentinite soils. 52 - 305 m. Perennial bulbiferous herb. Blooms (Apr) May-Jun.	Not Expected	No suitable elevation, habitat (i.e., cismontane woodland, valley and foothill grassland), or soils are present. The species is not expected to occur within the study area.
Amorpha californica var. *napensis* Napa false indigo	None/None G4T2/S2 1B.2	Broadleafed upland forest (openings), Chaparral, Cismontane woodland. 50 - 2000 m. Perennial deciduous shrub. Blooms Apr-Jul.	Not Expected	No suitable elevations or habitat (i.e., broadleafed upland forest, chaparral, cismontane woodland) are present. The species is not expected to occur within the study area.
Amsinckia lunaris bent-flowered fiddleneck	None/None G3/S3 1B.2	Coastal bluff scrub, Cismontane woodland, Valley and foothill grassland. 3 - 500 m. Annual herb. Blooms Mar-Jun.	Not Expected	No suitable habitat (i.e., cismontane woodland, valley and foothill grassland, coastal bluff scrub) is present. There are four documented occurrences of the species within 5 miles (CDFW 2021a), but the species is not expected to occur within the study area.
Arctostaphylos franciscana Franciscan manzanita	FE/None G1/S1 1B.1	Coastal scrub (serpentinite). 60 - 300 m. Perennial evergreen shrub. Blooms Feb-Apr.	Not Expected/ No Effect	No suitable habitat (i.e., chaparral) or elevations are present. The species is not expected to occur within study area.
Arctostaphylos imbricata San Bruno Mountain manzanita	None/SE G1/S1 1B.1	Chaparral, Coastal scrub. Rocky. 275 - 370 m. Perennial evergreen shrub. Blooms Feb-May.	Not Expected	No suitable habitat (i.e., chaparral and coastal scrub) or elevations are present. The species is not expected to occur within study area.
Arctostaphylos montana ssp. *ravenii* Presidio manzanita	FE/SE G3T1/S1 1B.1	Chaparral, Coastal prairie, Coastal scrub. Serpentinite outcrop. 45 - 215 m. Perennial evergreen shrub. Blooms Feb-Mar.	Not Expected/ No Effect	No suitable habitat (i.e., chaparral, coastal prairie or scrub), elevations, or soils are present. The species is not expected to occur within the study area.
Arctostaphylos montaraensis Montara manzanita	None/None G1/S1 1B.2	Chaparral (maritime), Coastal scrub. 80 - 500 m. Perennial evergreen shrub. Blooms Jan-Mar.	Not Expected	No suitable habitat (i.e., chaparral and coastal scrub) or elevations are present. The species is not expected to occur within study area.
Arctostaphylos pacifica Pacific manzanita	None/SE G1/S1 1B.1	Chaparral, Coastal scrub. 330 - 330 m. Evergreen shrub. Blooms Feb-Apr.	Not Expected	No suitable habitat (i.e., coastal scrub and chaparral) or elevations are present. The species is not expected to occur within the study area.

Scientific Name Common Name	Status Fed/State ESA CRPR	Habitat Requirements	Potential to Occur/Effect Determination	Rationale
Arctostaphylos pallida pallid manzanita	FT/SE G1/S1 1B.1	Broadleafed upland forest, Closed-cone coniferous forest, Chaparral, Cismontane woodland, Coastal scrub. Siliceous shale, sandy or gravelly. 185 - 465 m. Perennial evergreen shrub. Blooms Dec-Mar.	Not Expected/ No Effect	No suitable habitat (i.e., broadleafed upland forest, chaparral, cismontane woodland or coastal scrub), elevations, or soils are present. Two occurrences of the species are documented within five miles of the study area (CDFW 2021a), but the species is not expected to occur.
Arenaria paludicola marsh sandwort	FE/SE G1/S1 1B.1	Sandy substrates and openings within freshwater or brackish marshes and swamps. 3-170 m. Blooms May-Aug.	Not Expected/ No Effect	No suitable marsh habitat or sandy soils are present. The species is not expected to occur within the study area.
Astragalus tener var. *tener* alkali milk-vetch	None/None G2T1/S1 1B.2	Playas, Valley and foothill grassland (adobe clay), Vernal pools. Alkaline. 1 - 60 m. Annual herb. Blooms Mar-Jun.	Not Expected	No suitable habitat (i.e., alkali playa, valley and foothill grassland, or vernal pools) or soils are present. Two occurrences of the species are documented within 5 miles, but these are from 1882 and 1900 and the species is now considered extirpated in the region. The species is not expected to occur within the study area.
Balsamorhiza macrolepis big-scale balsamroot	None/None G2/S2 1B.2	Perennial herb. Chaparral, valley and foothill grassland, cismontane woodland. Sometimes on serpentine. 90-1555 m. Blooms Mar-June.	Not Expected	No suitable habitat (i.e., chaparral, valley and foothill grassland, cismontane woodland), elevations, or soils are present. The species is not expected to occur within the study area.
Calochortus pulchellus Mt. Diablo fairy-lantern	None/None G2/S2 1B.2	Chaparral, Cismontane woodland, Riparian woodland, Valley and foothill grassland. 30 - 840 m. perennial bulbiferous herb. Blooms Apr-Jun	Not Expected	No suitable habitat (i.e., broadleafed upland forest, chaparral, cismontane woodland or coastal scrub) or elevations are present. The species is not expected to occur within the study area.
Calochortus tiburonensis Tiburon mariposa lily	FT/ST G1/S1 1B.1	Valley and foothill grassland (serpentinite). 50 - 150 m. Perennial bulbiferous herb. Blooms Mar-Jun.	Not Expected/ No Effect	No suitable valley and foothill grassland habitat, elevations, or soils are present. The species is not expected to occur within the study area.

Scientific Name Common Name	Status Fed/State ESA CRPR	Habitat Requirements	Potential to Occur/Effect Determination	Rationale
Calystegia purpurata ssp. *Saxicola* coastal bluff morning-glory	None/None G4T2T3/S2S3 1B.2	Coastal bluff scrub, Coastal dunes, Coastal scrub, North Coast coniferous forest. 0 - 105 m. Perennial herb. Blooms (Mar) Apr-Sep.	Not Expected	No suitable coastal scrub, dune, or forest habitat is present. There is one documented occurrence of the species within 5 miles of the study area from 1893 (CDFW 2021a). The species is not expected to occur within the study area.
Carex comosa bristly sedge	None/None G5/S2 2B.1	Coastal prairie, Marshes and swamps (lake margins), Valley and foothill grassland. 0 - 625 m. Perennial rhizomatous herb. Blooms May-Sep.	Not Expected	No suitable marsh habitat is present. The species is not expected to occur within the study area.
Carex praticola northern meadow sedge	None/None G5/S2 2B.2	Meadows and seeps (mesic). 0 - 3200 m. Perennial herb. Blooms May-Jul.	Not Expected	No suitable meadow habitats are present. The species is not expected to occur within the study area.
Castilleja affinis var. *neglecta* Tiburon paintbrush	FE/ST G4G5T1T2/S1S2 1B.2	Valley and foothill grassland (serpentinite). 60 - 400 m. Perennial herb (hemiparasitic). Blooms Apr-Jun.	Not Expected/ No Effect	No suitable valley and foothill grassland habitat or elevations are present. The species is not expected to occur within the study area.
Centromadia parryi ssp. *congdonii* Congdon's tarplant	None/None G3T1T2/S1S2 1B.1	Valley and foothill grassland (alkaline). 0 - 230 m. Annual herb. Blooms May-Oct (Nov).	Not Expected	No suitable valley and foothill grassland habitat or alkaline soils are present. The species is not expected to occur within the study area.
Centromadia parryi ssp. *parryi* pappose tarplant	None/None G3T2/S2 1B.2	Chaparral, Coastal prairie, Meadows and seeps, Marshes and swamps (coastal salt), Valley and foothill grassland (vernally mesic), often alkaline. 0 - 420 m. Annual herb. Blooms May-Nov.	Not Expected	No suitable habitat (i.e., chaparral, coastal prairie or saltmarsh, valley and foothill grassland, meadows and seeps) or soils are present. The species is not expected to occur within the study area.
Chloropyron maritimum ssp. *palustre* Point Reyes bird's-beak	None/None G4?T2/S2 1B.2	Marshes and swamps (coastal salt). 0 - 10 m. annual herb (hemiparasitic). Blooms Jun-Oct.	Not Expected	No suitable coastal salt marsh habitat is present. One occurrence of the species is documented within 5 miles of the study area (CDFW 2021a). This occurrence was a transplant in Eastshore State Park. The species is not expected to occur within the study area.

Scientific Name Common Name	Status Fed/State ESA CRPR	Habitat Requirements	Potential to Occur/Effect Determination	Rationale
Chorizanthe cuspidata var. *cuspidate* San Francisco Bay spineflower	None/None G2T1/S1 1B.2	Coastal bluff scrub, Coastal dunes, Coastal prairie, Coastal scrub. Sandy soils. 3 - 215 m. Annual herb. Blooms Apr-Jul (Aug).	Not Expected	No suitable coastal scrub, dunes, or prairie habitat is present. One occurrence of the species is documented within 5 miles of the study area (CDFW 2021a). This occurrence was a transplant in Eastshore State Park. The species is not expected to occur within the study area.
Chorizanthe robusta var. *robusta* robust spineflower	FE/None G2T1/S1 1B.1	Chaparral (maritime), Cismontane woodland (openings), Coastal dunes, Coastal scrub. Sandy or gravelly soil. 3 - 300 m. Annual herb. Blooms Apr-Sep.	Not Expected/ No Effect	No suitable habitat (i.e., cismontane woodland, coastal dunes, coastal scrub, chaparral) is present. The species is not expected to occur within the study area.
Cicuta maculata var. *bolanderi* Bolander's water-hemlock	None/None G5T4T5/S2? 2B.1	Marshes and swamps Coastal, fresh or brackish water. 0 - 200 m. Perennial herb. Blooms Jul-Sep.	Not Expected	No suitable marsh habitats are present. The species is not expected to occur within the study area.
Cirsium andrewsii Franciscan thistle	None/None G3/S3 1B.2	Broadleafed upland forest, Coastal bluff scrub, Coastal prairie, Coastal scrub. Mesic, sometimes serpentinite. 0 - 150 m. Perennial herb. Blooms Mar-Jul.	Not Expected	No suitable habitat (i.e., coastal bluff scrub, broadleafed upland forest, coastal scrub, coastal prairie) or soils are present. One occurrence of the species is documented within 5 miles of the study area (CDFW 2021a). This occurrence was a transplant in Eastshore State Park. The species is not expected to occur within the study area.
Cirsium hydrophilum var. *vaseyi* Mt. Tamalpais thistle	None/None G2T1/S1 1B.2	Broadleafed upland forest, Chaparral, Meadows and seeps. serpentinite seeps. 240 - 620 m. Perennial herb. Blooms May-Aug.	Not Expected	No suitable habitat (i.e., broadleafed upland forest, chaparral, meadows and seeps), elevations, or soils are present. The species is not expected to occur within the study area.
Cirsium occidentale var. *compactum* compact cobwebby thistle	None/None G3G4T2/S2 1B.2	Chaparral, Coastal dunes, Coastal prairie, Coastal scrub. 5 - 150 m. Perennial herb. Blooms Apr-Jun.	Not Expected	No suitable habitat (i.e., chaparral and coastal dunes, prairie, and scrub) is present. The species is not expected to occur within the study area.
Clarkia franciscana Presidio clarkia	FE/SE G1/S1 1B.1	Coastal scrub, Valley and foothill grassland (serpentinite). 25 - 335 m. Annual herb. Blooms May-Jul.	Not Expected/ No Effect	No suitable coastal scrub habitat or soils are present. The species is not expected to occur within the study area.

Scientific Name Common Name	Status Fed/State ESA CRPR	Habitat Requirements	Potential to Occur/Effect Determination	Rationale
Collinsia corymbose round-headed Chinese-houses	None/None G1/S1 1B.2	Coastal dunes. 0 - 20 m. Annual herb. Blooms Apr-Jun.	Not Expected	No suitable coastal dunes habitat is present. The species is not expected to occur within the study area.
Collinsia multicolor San Francisco collinsia	None/None G2/S2 1B.2	Annual herb. Closed-cone coniferous forest, coastal scrub on decomposed shale (mudstone) mixed with humus. 30-250 m. Blooms Mar-May.	Not Expected	No suitable habitat (i.e., closed-cone coniferous forest or coastal scrub) or soils are present. The species is not expected to occur within the study area.
Dirca occidentalis western leatherwood	None/None G2/S2 1B.2	Broadleafed upland forest, Closed-cone coniferous forest, Chaparral, Cismontane woodland, North Coast coniferous forest, Riparian forest, Riparian woodland. mesic. 25 - 425 m. Perennial deciduous shrub. Blooms Jan-Mar (Apr).	Not Expected	No suitable habitats (i.e., broadleafed upland forest, chaparral, closed-cone coniferous forest, cismontane woodland, north coast coniferous forest, riparian forest, riparian woodland) are present. Historical occurrences (prior to 1900) and one recent occurrence (2008) are documented within 5 miles of the study area (CDFW 2021a). The 2008 occurrence was a transplant in Eastshore State Park. The species is not expected to occur within the study area.
Eriogonum luteolum var. *caninum* Tiburon buckwheat	None/None G5T2/S2 1B.2	Chaparral, Cismontane woodland, Coastal prairie, Valley and foothill grassland. Serpentinite, sandy to gravelly soil. 0 - 700 m. Annual herb. Blooms May-Sep.	Not Expected	No suitable habitat (i.e., chaparral, valley and foothill grassland, cismontane woodland, coastal prairie) or soils are present. The species is not expected to occur within the study area.
Eryngium jepsonii Jepson's coyote thistle	None/None G2?/S2? 1B.2	Valley and foothill grassland, Vernal pools. clay. 3 - 300 m. Perennial herb. Blooms Apr-Aug.	Not Expected	No suitable vernal pool habitat or soils are present. The species is not expected to occur within the study area.
Extriplex joaquinana San Joaquin spearscale	None/None G2/S2 1B.2	Annual herb. Chenopod scrub, alkali meadow, playas, valley and foothill grassland. In seasonal alkali wetlands or alkali sink scrub with *Distichlis spicata, Frankenia*, etc. 1-835 m. Blooms Apr- Oct.	Not Expected	No suitable alkali wetlands habitat or soils are present. One historical occurrence of the species (1863) is documented within 5 miles of the study area, but the species is now considered extirpated in the region (CDFW 2021a). The species is not expected to occur within the study area.

Scientific Name Common Name	Status Fed/State ESA CRPR	Habitat Requirements	Potential to Occur/Effect Determination	Rationale
Fissidens pauperculus minute pocket moss	None/None G3?/S2 1B.2	North Coast coniferous forest (damp coastal soil). 10 - 1024 m. moss. Blooms	Not Expected	No suitable north coast coniferous forest habitat or soils are present. The species is not expected to occur within the study area.
Fritillaria liliacea fragrant fritillary	None/None G2/S2 1B.2	Cismontane woodland, Coastal prairie, Coastal scrub, Valley and foothill grassland. Often serpentinite soils. 3 - 410 m. Perennial bulbiferous herb. Blooms Feb-Apr.	Not Expected	No suitable habitat (i.e., coastal scrub, valley and foothill grassland, coastal prairie, cismontane woodland) or soils are present. The species is not expected to occur within the study area.
Gilia capitata ssp. *chamissonis* blue coast gilia	None/None G5T2/S2 1B.1	Coastal dunes, Coastal scrub. 2 - 200 m. Annual herb. Blooms Apr-Jul.	Not Expected	No suitable coastal dune or scrub habitat is present. The species is not expected to occur within the study area.
Gilia millefoliata dark-eyed gilia	None/None G2/S2 1B.2	Coastal dunes. 2 - 30 m. Annual herb. Blooms Apr-Jul.	Not Expected	No suitable coastal dunes habitat is present. Six occurrences of the species are documented within 5 miles of the study area (CDFW 2021a), but the species is not expected to occur within the study area.
Helianthella castanea Diablo helianthella	None/None G2/S2 1B.2	Broadleafed upland forest, Chaparral, Cismontane woodland, Coastal scrub, Riparian woodland, Valley and foothill grassland. Usually rocky, axonal soils. Often in partial shade. 60 - 1300 m. Perennial herb. Blooms Mar-Jun.	Not Expected	No suitable habitat (i.e., broadleafed upland forest, chaparral, cismontane woodland, coastal scrub, riparian woodland, valley and foothill grassland) or soils are present. One historical occurrence of the species (1863) is documented within 5 miles of the study area, but the species is not expected to occur within the study area.
Hemizonia congesta ssp. *congesta* congested-headed hayfield tarplant	None/None G5T2/S2 1B.2	Valley and foothill grassland. sometimes roadsides. 20 - 560 m. Annual herb. Blooms Apr-Nov.	Not Expected	No suitable valley and foothill grassland habitat or elevations are present. While this species can occur in ruderal areas such as roadsides, the study area is developed with no natural plant communities and there are no recorded occurrences within 5 miles of the study area (CNDDB 2021a, Calflora 2021), thus the species is not expected to occur the within study area.
Hesperevax sparsiflora var. *brevifolia* short-leaved evax	None/None G4T3/S2 1B.2	Coastal bluff scrub (sandy), Coastal dunes, Coastal prairie. 0 - 215 m. Annual herb. Blooms Mar-Jun.	Not Expected	No suitable coastal scrub, dune, or prairie habitat is present. The species is not expected to occur within the study area.

Scientific Name Common Name	Status Fed/State ESA CRPR	Habitat Requirements	Potential to Occur/Effect Determination	Rationale
Hesperolinon congestum Marin western flax	FT/ST G1/S1 1B.1	Chaparral, Valley and foothill grassland. Serpentinite soils. 5 - 370 m. Annual herb. Blooms Apr-Jul.	Not Expected/ No Effect	No suitable habitat (i.e., chaparral, valley and foothill grassland) or soils are present. The species is not expected to occur within the study area.
Heteranthera dubia water star-grass	None/None G5/S2 2B.2	Marshes and swamps (alkaline, still or slow-moving water). Requires a pH of 7 or higher, usually in slightly eutrophic waters. 30 - 1495 m. Perennial herb (aquatic). Blooms Jul-Oct.	Not Expected	No suitable marsh habitat or waters are present. The species is not expected to occur within the study area.
Hoita strobilina Loma Prieta hoita	None/None G2?/S2? 1B.1	Chaparral, Cismontane woodland, Riparian woodland. usually serpentinite, mesic. 30 - 860 m. Perennial herb. Blooms May-Jul (Aug-Oct).	Not Expected	No suitable habitat (i.e., chaparral, cismontane woodland, riparian woodland) or soils are present. The species is not expected to occur within the study area.
Holocarpha macradenia Santa Cruz tarplant	FT/SE G1/S1 1B.1	Coastal prairie, Coastal scrub, Valley and foothill grassland. often clay, sandy. 10 - 220 m. Annual herb. Blooms Jun-Oct.	Not Expected/ No Effect	No suitable coastal habitat or soils are present. Historical occurrences of the species (1893) are documented within 5 miles of the study area (CDFW 2021a), but the species is not expected to occur within the study area.
Horkelia cuneata var. *sericea* Kellogg's horkelia	None/None G4T1?/S1? 1B.1	Closed-cone coniferous forest, Chaparral (maritime), Coastal dunes, Coastal scrub. sandy or gravelly, openings. 10 - 200 m. Perennial herb. Blooms Apr-Sep.	Not Expected	No suitable coastal dunes habitat or soils are present. One historical occurrence of the species (1893) is documented within 5 miles of the study area (CDFW 2021a), but the species is not expected to occur within the study area.
Horkelia marinensis Point Reyes horkelia	None/None G2/S2 1B.2	Coastal dunes, Coastal prairie, Coastal scrub. sandy. 5 - 755 m. Perennial herb. Blooms May-Sep	Not Expected	No suitable coastal habitat or sandy soils are present. The species is not expected to occur within the study area.
Hypogymnia schizidiata island rock lichen	None/None G2/S1 1B.3	Closed-cone coniferous forest, Chaparral. On bark and wood of hardwoods and conifers. 360 - 405 m. Foliose lichen.	Not Expected	No suitable habitat (i.e., chaparral and closed-cone coniferous forest) is present. The species is not expected to occur within the study area.
Isocoma arguta Carquinez goldenbush	None/None G1/S1 1B.1	Valley and foothill grassland (alkaline). 1 - 20 m. Perennial shrub. Blooms Aug-Dec.	Not Expected	No suitable valley and foothill grassland habitat or soils are present. The species is not expected to occur within the study area.

Scientific Name Common Name	Status Fed/State ESA CRPR	Habitat Requirements	Potential to Occur/Effect Determination	Rationale
Lasthenia conjugens Contra Costa goldfields	FE/None G1/S1 1B.1	Cismontane woodland, Playas (alkaline), Valley and foothill grassland, Vernal pools. mesic. 0 - 470 m. Annual herb. Blooms Mar-Jun.	Not Expected/ No Effect	No suitable vernal pool habitat or soils are present. The species is not expected to occur within the study area.
Lathyrus jepsonii var. *jepsonii* Delta tule pea	None/None G5T2/S2 1B.2	Marshes and swamps (freshwater and brackish). 0 - 5 m. Perennial herb. Blooms May-Jul (Aug-Sep).	Not Expected	No suitable marsh habitat is present. The species is not expected to occur within the study area.
Layia carnosa beach layia	FE/SE G2/S2 1B.1	Coastal dunes, Coastal scrub (sandy). 0 - 60 m. Annual herb. Blooms Mar-Jul.	Not Expected/ No Effect	No suitable coastal habitat or soils are present. The species is not expected to occur within the study area.
Leptosiphon rosaceus rose leptosiphon	None/None G1/S1 1B.1	Coastal bluff scrub. 0 - 100 m. annual herb. Blooms Apr-Jul	Not Expected	No suitable coastal bluff scrub habitat is present. The species is not expected to occur within the study area.
Lessingia germanorum San Francisco lessingia	FE/SE G1/S1 1B.1	Coastal scrub (remnant dunes). 25 - 110 m. Annual herb. Blooms (Jun) Jul-Nov.	Not Expected/ No Effect	No suitable coastal scrub habitat or sandy soils are present. The species is not expected to occur within the study area.
Malacothamnus arcuatus arcuate bush-mallow	None/None G2Q/S2 1B.2	Chaparral, Cismontane woodland. 15 - 355 m. Perennial evergreen shrub. Blooms Apr-Sep.	Not Expected	No suitable chaparral or cismontane woodland habitat is present. The species is not expected to occur within the study area.
Meconella oregana Oregon meconella	None/None G2G3/S2 1B.1	Coastal prairie, Coastal scrub. 250 - 620 m. Annual herb. Blooms Mar-Apr.	Not Expected	No suitable coastal scrub or prairie habitat or elevations are present. One historical occurrence of the species (1893) is documented within 5 miles (CDFW 2021a), but the species is not expected to occur within the study area.
Microseris paludosa marsh microseris	None/None G2/S2 1B.2	Closed-cone coniferous forest, Cismontane woodland, Coastal scrub, Valley and foothill grassland. 5 - 355 m. Perennial herb. Blooms Apr-Jun (Jul).	Not Expected	No suitable habitat (i.e., Closed-cone coniferous forest, Cismontane woodland, Coastal scrub, Valley and foothill grassland) is present. The species is not expected to occur within the study area.

Scientific Name Common Name	Status Fed/State ESA CRPR	Habitat Requirements	Potential to Occur/Effect Determination	Rationale
Monardella sinuata ssp. *nigrescens* northern curly-leaved monardella	None/None G3T2/S2 1B.2	Chaparral (SCR Co.), Coastal dunes, Coastal scrub, Lower montane coniferous forest (SCR Co., ponderosa pine sandhills). Sandy soils. 0 - 300 m. Annual herb. Blooms (Apr) May-Jul (Aug-Sep).	Not Expected	No suitable habitat or sandy soils are present. The species is not expected to occur within the study area.
Monolopia gracilens woodland woolythreads	None/None G3/S3 1B.2	Broadleafed upland forest (openings), Chaparral (openings), Cismontane woodland, North Coast coniferous forest (openings), Valley and foothill grassland. Serpentine. 100 - 1200 m. annual herb. Blooms (Feb) Mar-Jul.	Not Expected	No suitable habitat (i.e., chaparral, valley and foothill grassland, cismontane woodland, broadleafed upland forest, north coast coniferous forest), elevations, or soils are present. The species is not expected to occur within the study area.
Pentachaeta bellidiflora white-rayed pentachaeta	FE/SE G1/S1 1B.1	Cismontane woodland, Valley and foothill grassland (often serpentinite). 35 - 620 m. Annual herb. Blooms Mar-May.	Not Expected/ No Effect	No suitable habitat (i.e., valley and foothill grassland, cismontane woodland) or soils are present. The species is not expected to occur within the study area.
Plagiobothrys chorisianus var. *chorisianus* Choris' popcornflower	None/None G3T1Q/S1 1B.2	Chaparral, Coastal prairie, Coastal scrub. mesic. 3 - 160 m. Annual herb. Blooms Mar-Jun.	Not Expected	No suitable chaparral or coastal habitat is present. One occurrence of the species was documented within 5 miles of the study area in 1890 but the species is now extirpated in the region (CDFW 2021a). The species is not expected to occur within the study area.
Plagiobothrys diffuses San Francisco popcornflower	None/SE G1Q/S1 1B.1	Coastal prairie, Valley and foothill grassland. 60 - 360 m. Annual herb. Blooms Mar-Jun.	Not Expected	No suitable coastal marine habitat or native grasslands are present. The species is not expected to occur within the study area.
Plagiobothrys glaber hairless popcornflower	None/None GH/SH 1A	Meadows and seeps (alkaline), Marshes and swamps (coastal salt). 15 - 180 m. Annual herb. Blooms Mar-May.	Not Expected	No suitable habitat (i.e., meadows and seeps, coastal salt marshes and swamps) is present. The species is not expected to occur within the study area.
Polemonium carneum Oregon polemonium	None/None G3G4/S2 2B.2	Coastal prairie, Coastal scrub, Lower montane coniferous forest. 0 - 1830 m. Perennial herb. Blooms Apr-Sep.	Not Expected	No suitable coastal habitat or coniferous forests are present. The species is not expected to occur within the study area.

Scientific Name Common Name	Status Fed/State ESA CRPR	Habitat Requirements	Potential to Occur/Effect Determination	Rationale
Sanicula maritima adobe sanicle	None/SR G2/S2 1B.1	Chaparral, Coastal prairie, Meadows and seeps, Valley and foothill grassland. clay, serpentinite. 30 - 240 m. Perennial herb. Blooms Feb-May.	Not Expected	No suitable habitat (i.e., meadows and seeps, valley and foothill grassland, chaparral, coastal prairie) or soils are present. The species is not expected to occur within the study area.
Senecio aphanactis chaparral ragwort	None/None G3/S2 2B.2	Chaparral, Cismontane woodland, Coastal scrub. sometimes alkaline. 15 - 800 m. Annual herb. Blooms Jan-Apr (May).	Not Expected	No suitable habitat (i.e., chaparral, cismontane woodland, coastal scrub) or soils are present. The species is not expected to occur within the study area.
Silene scouleri ssp. *scouleri* Scouler's catchfly	None/None G5T4T5/S2S3 2B.2	Coastal bluff scrub, Coastal prairie, Valley and foothill grassland. 0 - 600 m. Perennial herb. Blooms (Mar-May) Jun-Aug (Sep).	Not Expected	No suitable coastal or valley and foothill grassland habitat is present. The species is not expected to occur within the study area.
Silene verecunda ssp. *verecunda* San Francisco campion	None/None G5T1/S1 1B.2	Coastal bluff scrub, Chaparral, Coastal prairie, Coastal scrub, Valley and foothill grassland. Sandy soil. 30 - 645 m. Perennial herb. Blooms July.	Not Expected	No suitable coastal habitat or sandy soils are present. The species is not expected to occur within the study area.
Spergularia macrotheca var. *longistyla* long-styled sand-spurrey	None/None G5T2/S2 1B.2	Meadows and seeps, Marshes and swamps. Alkaline. 0 - 255 m. Perennial herb. Blooms Feb-May (Jun).	Not Expected	No suitable marsh habitat or alkaline soils are present. The species is not expected to occur within the study area.
Stebbinsoseris decipiens Santa Cruz microseris	None/None G2/S2 1B.2	Broadleafed upland forest, Closed-cone coniferous forest, Chaparral, Coastal prairie, Coastal scrub, Valley and foothill grassland. open areas, sometimes serpentinite. 10 - 500 m. Annual herb. Blooms Apr-May.	Not Expected	No suitable habitat (i.e., broadleafed upland forest, closed-cone coniferous forest, chaparral, coastal prairie, coastal scrub, valley and foothill grassland) or soils are present. The species is not expected to occur within the study area.
Streptanthus albidus ssp. *peramoenus* most beautiful jewelflower	None/None G2T2/S2 1B.2	Chaparral, Cismontane woodland, Valley and foothill grassland. serpentinite. 95 - 1000 m. Annual herb. Blooms (Mar) Apr-Sep (Oct).	Not Expected	No suitable habitat (i.e., chaparral, valley and foothill grassland, cismontane woodland) or soils are present. Two historical occurrences (1893, 1900) are documented within 5 miles (CDFW 2021a) but the species is not expected to occur within the study area.

Scientific Name Common Name	Status Fed/State ESA CRPR	Habitat Requirements	Potential to Occur/Effect Determination	Rationale
Streptanthus glandulosus ssp. *niger* Tiburon jewelflower	FE/SE G4T1/S1 1B.1	Valley and foothill grassland (serpentinite). 30 - 150 m. Annual herb. Blooms May-Jun.	Not Expected/ No Effect	No suitable valley and foothill grassland habitat or soils are present. The species is not expected to occur within the study area.
Stuckenia filiformis ssp. *alpine* slender-leaved pondweed	None/None G5T5/S2S3 2B.2	Marshes and swamps (assorted shallow freshwater). 300 - 2150 m. Perennial rhizomatous herb (aquatic). Blooms May-Jul.	Not Expected	No suitable marsh habitat or elevations are present. The species is not expected to occur within the study area.
Suaeda californica California seablite	FE/None G1/S1 1B.1	Marshes and swamps (coastal salt). 0 - 15 m. Perennial evergreen shrub. Blooms Jul-Oct.	Not Expected/ No Effect	No suitable coastal salt marsh habitat is present. There are two occurrences of the species documented within 5 miles (CDFW 2021a), but one is from 1912 and the other was a transplant outside of the native range of the species. The species is not expected to occur within the study area.
Symphyotrichum lentum Suisun Marsh aster	None/None G2/S2 1B.2	Marshes and swamps (brackish and freshwater). 0 - 3 m. Perennial rhizomatous herb. Blooms (Apr) May-Nov.	Not Expected	No suitable marsh habitat or swamps are present. The species is not expected to occur the within study area.
Trifolium amoenum two-fork clover	FE/None G1/S1 1B.1	Coastal bluff scrub, Valley and foothill grassland (sometimes serpentinite). 5 - 415 m. Annual herb. Blooms Apr-Jun.	Not Expected/ No Effect	No suitable habitat (i.e., valley and foothill grassland, coastal bluff scrub) or soils are present. The species is not expected to occur within the study area.
Trifolium hydrophilum saline clover	None/None G2/S2 1B.2	Marshes and swamps, Valley and foothill grassland (mesic, alkaline), Vernal pools. 0 - 300 m. Annual herb. Blooms Apr-Jun.	Not Expected	No suitable habitat (marsh, valley and foothill grassland, vernal pools) is present. Multiple occurrences of the species are documented within 5 miles (CDFW 2021a), but the only recent occurrences are located on the UC Berkeley campus located approximately two miles to the east. The species is not expected to occur within the study area.
Triphysaria floribunda San Francisco owl's-clover	None/None G2?/S2? 1B.2	Coastal prairie, Coastal scrub, Valley and foothill grassland. usually serpentinite. 10 - 160 m. Annual herb. Blooms Apr-Jun.	Not Expected	No suitable coastal prairie or scrub or valley and foothill grassland habitat is present. No serpentinite soils are present. The species is not expected to occur within the study area.

Scientific Name Common Name	Status Fed/State ESA CRPR	Habitat Requirements	Potential to Occur/Effect Determination	Rationale
Triquetrella californica coastal triquetrella	None/None G2/S2 1B.2	Coastal bluff scrub, Coastal scrub. 10 - 100 m. moss.	Not Expected	No suitable coastal scrub habitat or soils are present. The species is not expected to occur within the study area.
Viburnum ellipticum oval-leaved viburnum	None/None G4G5/S3? 2B.3	Chaparral, Cismontane woodland, Lower montane coniferous forest. 215 - 1400 m. Perennial deciduous shrub. Blooms May-Jun.	Not Expected	No suitable habitat (i.e., chaparral, cismontane woodland, lower montane coniferous forest) or elevations are present. Two occurrences of the species are documented within 5 miles (CDFW 2021a) but the only recent occurrence is on the UC Berkeley campus located approximately 2 miles to the east. The species is not expected to occur within the study area.

Regional Vicinity refers to within a 9 USGS quadrangle search radius of site.

FE = Federally Endangered FT = Federally Threatened FC = Federal Candidate Species

SE = State Endangered ST = State Threatened SC = State Candidate SR = State Rare

CRPR (CNPS California Rare Plant Rank):

1A=Presumed Extinct in California

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

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

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

CRPR Threat Code Extension:

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

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

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

Special Status Wildlife Species in the Regional Vicinity of the Study Area

Scientific Name Common Name	Status Fed/State ESA Global/State CDFW	Habitat Requirements	Potential to Occur/ Effect Determination	Rationale
Invertebrates				
Bombus crotchii Crotch bumble bee	None/SCE G3G4/S1S2	Coastal California east to the Sierra-Cascade crest and south into Mexico. Food plant genera include *Antirrhinum, Phacelia, Clarkia, Dendromecon, Eschscholzia,* and *Eriogonum*.	Not Expected	Suitable host plants are not present and presence within study area is not expected due to disturbance. One occurrence (2015) was recorded within 5 miles (CDFW 2021a).
Bombus occidentalis western bumble bee	None/SCE G2G3/S1	Once common & widespread, species has declined precipitously from central CA to southern B.C., perhaps from disease. Require suitable nesting sites, overwintering sites for the queens, and nectar and pollen resources throughout the spring, summer, and fall.	Not Expected	Suitable host plants are not present and presence within study area is not expected due to disturbance. Five historical occurrences are recorded within 5 miles, the most recent of which was from 1992 (CDFW 2021a).
Branchinecta lynchi vernal pool fairy shrimp	FT/None G3/S3	Endemic to the grasslands of the Central Valley, Central Coast mountains, and South Coast mountains, in astatic rain-filled pools. Inhabit small, clear-water sandstone-depression pools and grassed swale, earth slump, or basalt-flow depression pools.	Not Expected/ No Effect	No suitable grassland habitat or pools are present within the study area. There are no documented occurrences within 5 miles of the study area (CDFW 2021a).
Callophrys mossii bayensis San Bruno elfin butterfly	FE/None G4T1/S3	Coastal, mountainous areas with grassy ground cover, mainly in the vicinity of San Bruno Mountain, San Mateo County. Colonies are located on steep, north-facing slopes within the fog belt. Larval host plant is *Sedum spathulifolium*.	Not Expected/ No Effect	No suitable habitat is present within the study area and is outside of species range. The species is not expected to be present in a fully developed urban area.
Danaus plexippus pop. 1 monarch - California overwintering population	FC/None G4T2T3/S2S3	Winter roost sites extend along the coast from northern Mendocino to Baja California, Mexico. Roosts located in wind-protected tree groves (eucalyptus, Monterey pine, cypress), with nectar and water sources nearby.	Not Expected/ No Effect	Landscaped trees are present; however, groves of trees are absent and due to the dense urban and developed nature of the study area it is unlikely that this species will roost on-site. Six occurrences have been recorded within 5 miles of the study area, all within dense groves of trees (CDFW 2021a).

Scientific Name Common Name	Status Fed/State ESA Global/State CDFW	Habitat Requirements	Potential to Occur/ Effect Determination	Rationale
Euphydryas editha bayensis Bay checkerspot butterfly	FT/None G5T1/S1	Restricted to native grasslands on outcrops of serpentine soil in the vicinity of San Francisco Bay. *Plantago erecta* is the primary host plant; *Orthocarpus densiflorus* & *O. purpurscens* are the secondary host plants.	Not Expected/ No Effect	No suitable habitat is present within the study area. The species is not expected to be present in a fully developed urban area.
Plebejus icarioides missionensis Mission blue butterfly	FE/None G5T1/S1	Inhabits grasslands of the San Francisco peninsula. Three larval host plants: *Lupinus albifrons, L. variicolor*, and *L. formosus*, of which *L. albifrons* is favored.	Not Expected/ No Effect	No suitable habitat is present within the study area, which is outside of the species range.
Speyeria callippe callippe callippe silverspot butterfly	FE/None G5T1/S1	Restricted to the northern coastal scrub of the San Francisco peninsula. Hostplant is Viola pedunculata. Most adults found on E-facing slopes; males congregate on hilltops in search of females.	Not Expected/ No Effect	No suitable habitat is present within the study area, which is outside of the species range.
Fish				
Archoplites interruptus Sacramento perch	None/None G2G3/S1 SSC	Historically found in the sloughs, slow-moving rivers, and lakes of the Central Valley. Prefers warm water. Aquatic vegetation is essental for young. Tolerates wide range of physio-chemical water conditions.	Not Expected	Suitable aquatic habitats are not present.
Eucyclogobius newberryi tidewater goby	FE/None G3/S3	Brackish water habitats along the California coast from Agua Hedionda Lagoon, San Diego County to the mouth of the Smith River. Found in shallow lagoons and lower stream reaches, they need fairly still but not stagnant water and high oxygen levels.	Not Expected/ No Effect	Suitable aquatic habitats are not present.
Hypomesus transpacificus Delta smelt	FT/SE G1/S1	Sacramento-San Joaquin Delta. Seasonally in Suisun Bay, Carquinez Strait & San Pablo Bay. Seldom found at salinities > 10 ppt. Most often at salinities < 2ppt.	Not Expected/ No Effect	Suitable aquatic habitats are not present.
Mylopharodon conocephalus hardhead	None/None G3/S3 SSC	Low to mid-elevation streams in the Sacramento-San Joaquin drainage. Also present in the Russian River. Clear, deep pools with sand-gravel-boulder bottoms and slow water velocity. Not found where exotic centrarchids predominate.	Not Expected	Suitable aquatic habitats are not present.

Scientific Name Common Name	Status Fed/State ESA Global/State CDFW	Habitat Requirements	Potential to Occur/ Effect Determination	Rationale
Spirinchus thaleichthys longfin smelt	FC/ST G5/S1	Euryhaline, nektonic & anadromous. Found in open waters of estuaries, mostly in middle or bottom of water column. Prefer salinities of 15-30 ppt, but can be found in completely freshwater to almost pure seawater.	Not Expected/ No Effect	Suitable aquatic habitats are not present.
Thaleichthys pacificus eulachon	FT/None G5/S2	Found in Klamath River, Mad River, Redwood Creek, and in small numbers in Smith River and Humboldt Bay tributaries. Spawn in lower reaches of coastal rivers with moderate water velocities and bottom of pea-sized gravel, sand, and woody debris.	Not Expected/ No Effect	Suitable aquatic habitats are not present.
Amphibians				
Ambystoma californiense California tiger salamander	FT/ST G2G3/S2S3 WL	Central Valley DPS federally listed as threatened. Santa Barbara and Sonoma counties DPS federally listed as endangered. Need underground refuges, especially ground squirrel burrows, and vernal pools or other seasonal water sources for breeding.	Not Expected/ No Effect	No suitable habitat near vernal pools or seasonal water sources is present within the study area. The species is not expected to be present in a fully developed urban area.
Dicamptodon ensatus California giant salamander	None/None G3/S2S3 SSC	Known from wet coastal forests near streams and seeps from Mendocino County south to Monterey County, and east to Napa County. Aquatic larvae found in cold, clear streams, occasionally in lakes and ponds. Adults known from wet forests under rocks and logs near streams and lakes.	Not Expected	No suitable habitat (i.e., wet coastal forests) is present within the study area. The species is not expected to be present in a fully developed urban area.
Rana boylii foothill yellow-legged frog	None/SE G3/S3 SSC	Partly shaded, shallow streams and riffles with a rocky substrate in a variety of habitats. Needs at least some cobble-sized substrate for egg-laying. Needs at least 15 weeks to attain metamorphosis.	Not Expected	No suitable stream habitat is present within the study area. The species is not expected to be present in a fully developed urban area.
Rana draytonii California red-legged frog	FT/None G2G3/S2S3 SSC	Lowlands and foothills in or near permanent sources of deep water with dense, shrubby or emergent riparian vegetation. Requires 11-20 weeks of permanent water for larval development. Must have access to estivation habitat.	Not Expected/ No Effect	No suitable habitat near permanent sources of water is present within the study area. The species is not expected to be present in a fully developed urban area.
Reptiles				
Chelonia mydas green sea turtle	FT/None G3/S1	Marine. Completely herbivorous; needs adquate supply of seagrasses and algae.	Not Expected/ No Effect	No suitable aquatic habitat exists within the study area.

Scientific Name Common Name	Status Fed/State ESA Global/State CDFW	Habitat Requirements	Potential to Occur/ Effect Determination	Rationale
Emys marmorata western pond turtle	None/None G3G4/S3 SSC	A thoroughly aquatic turtle of ponds, marshes, rivers, streams and irrigation ditches, usually with aquatic vegetation, below 6000 ft elevation. Needs basking sites and suitable (sandy banks or grassy open fields) upland habitat up to 0.5 km from water for egg-laying.	Not Expected	No suitable aquatic habitat is present within the study area. The species is not expected to be present in a fully developed urban area.
Masticophis lateralis euryxanthus Alameda whipsnake	FT/ST G4T2/S2	Typically found in chaparral and scrub habitats but will also use adjacent grassland, oak savanna and woodland habitats. Mostly south-facing slopes and ravines, with rock outcrops, deep crevices or abundant rodent burrows, where shrubs form a vegetative mosaic with oak trees and grasses.	Not Expected/ No Effect	Ten occurrences of the species are documented within 5 miles of the study area, all within non-developed areas (CDFW 2021a). No suitable chaparral or scrub habitats are present within the study area. The species is not expected to be present in a fully developed urban area.
Thamnophis sirtalis tetrataenia San Francisco gartersnake	FE/SE G5T2Q/S2 FP	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.	Not Expected/ No Effect	No suitable aquatic habitat is present within the study area and it is outside of species range. The species is not expected to be present in a fully developed urban area.
Birds				
Accipiter cooperii Cooper's hawk	None/None G5/S4 WL	Woodland, chiefly of open, interrupted or marginal type. Nest sites mainly in riparian growths of deciduous trees, as in canyon bottoms on river floodplains; also, live oaks.	High Potential	This species is likely to forage within the project area and has a low potential to nest in ornamental trees near the study area. Multiple occurrences of the species are documented in eBird within 5 miles of the study area (CDFW 2021a, Cornell Lab of Ornithology 2021a).
Aquila chrysaetos golden eagle	None/None G5/S3 FP WL	Rolling foothills, mountain areas, sage-juniper flats, and desert. Cliff-walled canyons provide nesting habitat in most parts of range; also, large trees in open areas.	Not Expected	No suitable nesting or foraging habitat exists within the study area.
Asio flammeus short-eared owl	None/None G5/S3 SSC	Found in swamp lands, both fresh and salt; lowland meadows; irrigated alfalfa fields. Tule patches/tall grass needed for nesting/daytime seclusion. Nests on dry ground in depression concealed in vegetation.	Not Expected	No suitable habitat is present within the study area. The species is not expected to be present in a fully developed urban area.

Scientific Name Common Name	Status Fed/State ESA Global/State CDFW	Habitat Requirements	Potential to Occur/ Effect Determination	Rationale
Athene cunicularia burrowing owl	None/None G4/S3 SSC	Open, dry annual or perennial grasslands, deserts, and scrublands characterized by low-growing vegetation. Subterranean nester, dependent upon burrowing mammals, most notably, the California ground squirrel.	Not Expected	No suitable habitat is present within the study area. The species is not expected to be present in a fully developed urban area.
Charadrius nivosus nivosus western snowy plover	FT/None G3T3/S2 SSC	Sandy beaches, salt pond levees & shores of large alkali lakes. Needs sandy, gravelly or friable soils for nesting.	Not Expected/ No Effect	No suitable habitat is present within the study area. The species is not expected to be present in a fully developed urban area.
Circus hudsonius northern harrier	None/None G5/S3 SSC	Coastal salt & freshwater marsh. Nest and forage in grasslands, from salt grass in desert sink to mountain cienagas. Nests on ground in shrubby vegetation, usually at marsh edge; nest built of a large mound of sticks in wet areas.	Not Expected	No suitable habitat is present within the study area. The species is not expected to be present in a fully developed urban area.
Coturnicops noveboracensis yellow rail	None/None G4/S1S2 SSC	Summer resident in eastern Sierra Nevada in Mono County. Occurs in freshwater marshlands.	Not Expected	No suitable habitat is present within the study area. The species is not expected to be present in a fully developed urban area.
Elanus leucurus white-tailed kite	None/None G5/S3S4 FP	Rolling foothills and valley margins with scattered oaks & river bottomlands or marshes next to deciduous woodland. Open grasslands, meadows, or marshes for foraging close to isolated, dense-topped trees for nesting and perching.	Not Expected	No suitable habitat is present within the study area. The species is not expected to be present in a fully developed urban area.
Falco columbarius Merlin	None/None G5/S3S4 WL	Grasslands, open forests and coastal areas. Lay eggs in abandoned crow or hawk nests in conifers or deciduous trees of semi-open habitat. Occasionally nest in tree cavities, on cliffs, or on the ground. Feeds primarily on birds.	Moderate Potential	Multiple occurrences are documented in eBird within 5 miles of the study area (Cornell Lab of Ornithology 2021a). The species may be present as a forager within the study area and has a low potential to nest within the vicinity of the study area.

Scientific Name Common Name	Status Fed/State ESA Global/State CDFW	Habitat Requirements	Potential to Occur/ Effect Determination	Rationale
Falco peregrinus anatum American peregrine falcon	FD/SD G4T4/S3S4 FP	Near wetlands, lakes, rivers, or other water; on cliffs, banks, dunes, mounds; also, human-made structures. Nest consists of a scrape or a depression or ledge in an open site.	Present (foraging)	One individual was observed foraging near the Cedar Street crossing during the field reconnaissance survey. There are multiple occurrences of the species documented in within 5 miles of the study area (Cornell Lab of Ornithology 2021a, CDFW 2021a). There is a known nest site on the UC Berkeley campus located approximately 2 miles east of the study area. There is a low potential for the species to nest in buildings within 500 feet of the study area.
Geothlypis trichas sinuosa saltmarsh common yellowthroat	None/None G5T3/S3 SSC	Resident of the San Francisco Bay region, in fresh and saltwater marshes. Requires thick, continuous cover down to water surface for foraging; tall grasses, tule patches, willows for nesting.	Not Expected	No suitable habitat is present within the study area. The species is not expected to be present in a fully developed urban area.
Haliaeetus leucocephalus bald eagle	FD/SE G5/S3 FP	Ocean shore, lake margins, and rivers for both nesting and wintering. Most nests within 1 mile of water. Nests in large, old-growth, or dominant live tree with open branches, especially ponderosa pine. Roosts communally in winter.	Not Expected/ No Effect	No suitable habitat is present within the study area. The species is not expected to be present in a fully developed urban area.
Laterallus jamaicensis coturniculus California black rail	None/ST G3G4T1/S1 FP	Inhabits freshwater marshes, wet meadows and shallow margins of saltwater marshes bordering larger bays. Needs water depths of about 1 inch that do not fluctuate during the year and dense vegetation for nesting habitat.	Not Expected	No suitable habitat is present within the study area. The species is not expected to be present in a fully developed urban area.
Melospiza melodia maxillaris Suisun song sparrow	None/None G5T3/S3 SSC	Resident of brackish-water marshes surrounding Suisun Bay. Inhabits cattails, tules and other sedges, and Salicornia; also known to frequent tangles bordering sloughs.	Not Expected	No suitable habitat is present within the study area. The species is not expected to be present in a fully developed urban area.
Melospiza melodia pusillula Alameda song sparrow	None/None G5T2?/S2S3 SSC	Resident of salt marshes bordering south arm of San Francisco Bay. Inhabits Salicornia marshes; nests low in Grindelia bushes (high enough to escape high tides) and in Salicornia.	Not Expected	No suitable habitat is present within the study area. The species is not expected to be present in a fully developed urban area.

Scientific Name Common Name	Status Fed/State ESA Global/State CDFW	Habitat Requirements	Potential to Occur/ Effect Determination	Rationale
Melospiza melodia samuelis San Pablo song sparrow	None/None G5T2/S2 SSC	Resident of salt marshes along the north side of San Francisco and San Pablo bays. Inhabits tidal sloughs in the Salicornia marshes; nests in Grindelia bordering slough channels.	Not Expected	No suitable habitat is present within the study area. The species is not expected to be present in a fully developed urban area.
Rallus obsoletus obsoletus California Ridgway's rail	FE/SE G5T1/S1 FP	Salt water and brackish marshes traversed by tidal sloughs in the vicinity of San Francisco Bay. Associated with abundant growths of pickleweed, but feeds away from cover on invertebrates from mud-bottomed sloughs.	Not Expected/ No Effect	Suitable aquatic habitats are not present within the study area. The species is not expected to be present in a fully developed urban area.
Riparia riparia bank swallow	None/ST G5/S2	Colonial nester; nests primarily in riparian and other lowland habitats west of the desert. Requires vertical banks/cliffs with fine-textured/sandy soils near streams, rivers, lakes, ocean to dig nesting hole.	Not Expected	Suitable riparian habitat is not present within the study area. No cliffs or vertical banks exist within the vicinity of the study area.
Rynchops niger black skimmer	None/None G5/S2 SSC	Nests on gravel bars, low islets, and sandy beaches, in unvegetated sites. Nesting colonies usually less than 200 pairs.	Not Expected	Suitable aquatic habitats are not present within the study area.
Sternula antillarum browni California least tern	FE/SE G4T2T3Q/S2 FP	Nests along the coast from San Francisco Bay south to northern Baja California. Colonial breeder on bare or sparsely vegetated, flat substrates: sand beaches, alkali flats, landfills, or paved areas.	Not Expected/ No Effect	Suitable aquatic habitats are not present within the study area.
Xanthocephalus xanthocephalus yellow-headed blackbird	None/None G5/S3 SSC	Nests in freshwater emergent wetlands with dense vegetation and deep water. Often along borders of lakes or ponds. Nests only where large insects such as Odonata are abundant, nesting timed with maximum emergence of aquatic insects.	Not Expected	Suitable habitats are not present within the study area.
Mammals				
Antrozous pallidus pallid bat	None/None G5/S3 SSC	Found in a variety of habitats including deserts, grasslands, shrublands, woodlands, and forests. Most common in open, dry habitats with rocky areas for roosting. Roosts in crevices of rock outcrops, caves, mine tunnels, buildings, bridges, and hollows of live and dead trees which must protect bats from high temperatures. Very sensitive to disturbance of roosting sites.	Low Potential	Suitable roosting habitat for the species may be present within the study area, although the species is sensitive to disturbance. Four historical occurrences are recorded within 5 miles of the study area (CDFW 2021a).

Scientific Name Common Name	Status Fed/State ESA Global/State CDFW	Habitat Requirements	Potential to Occur/ Effect Determination	Rationale
Corynorhinus townsendii Townsend's big-eared bat	None/None G3G4/S2 SSC	Occurs throughout California in a wide variety of habitats. Most common in mesic sites, typically coniferous or deciduous forests. Roosts in the open, hanging from walls; ceilings in caves, lava tubes, bridges, and buildings. This species is extremely sensitive to human disturbance.	Not Expected	The species is not expected to be present in a fully developed urban area and is considered possibly extirpated in the region. One historical occurrence (1938) is documented within 5 miles of the study area (CDFW 2021a).
Enhydra lutris nereis southern sea otter	FT/None G4T2/S2 FP	Occurs in nearshore marine environments from Año Nuevo in San Mateo County to Point Sal in Santa Barbara County. Requires canopies of giant kelp or bull kelp for rafting and feeding. Prefers rocky substrates with abundant invertebrates to prey on.	Not Expected/ No Effect	Suitable aquatic habitats are not present.
Eumetopias jubatus Steller (northern) sea-lion	FD/None G3/S2	Breeds on Año Nuevo, San Miguel and Farallon islands, Point St. George, & Sugarloaf. Hauls-out on islands & rocks. Needs haul-out and breeding sites with unrestricted access to water, near aquatic food supply and with no human disturbance.	Not Expected/ No Effect	Suitable aquatic habitats are not present.
Lasiurus blossevillii western red bat	None/None G5/S3 SSC	Roosts in trees in forests and woodlands of varying elevations. Forages in grasslands, shrublands, open woodlands and forests, and agriculture. Typically found in riparian habitats, does not occur in deserts.	Not Expected	No suitable habitat is present within the study area. The species is not expected to be present in a fully developed urban area.
Microtus californicus sanpabloensis San Pablo vole	None/None G5T1T2/S1S2 SSC	Saltmarshes of San Pablo Creek, on the south shore of San Pablo Bay. Constructs burrow in soft soil. Feeds on grasses, sedges and herbs. Forms a network of runways leading from the burrow.	Not Expected	No suitable habitat is present within the study area. The species is not expected to be present in a fully developed urban area.
Neotoma fuscipes annectens San Francisco dusky-footed woodrat	None/None G5T2T3/S2S3 SSC	Typically found in forest habitats with moderate to dense understory. Can occur in chaparral, riparian woodlands, and coniferous forests, particularly redwood. Builds middens out of grasses, leaves, and woody debris. This subspecies is found only in the San Francisco Bay region.	Not Expected	No suitable habitat is present within the study area. The species is not expected to be present in a fully developed urban area.

Scientific Name Common Name	Status Fed/State ESA Global/State CDFW	Habitat Requirements	Potential to Occur/ Effect Determination	Rationale
Nyctinomops macrotis big free-tailed bat	None/None G5/S3 SSC	Low-lying arid areas in Southern California. Need high cliffs or rocky outcrops for roosting sites. Feeds principally on large moths.	Not Expected	Limited suitable roosting habitat for the species may be present within the study area in the form of man-made structures. However, only one historical occurrence (1916) is documented within 5 miles of the study area (CDFW 2021a) and the species is not expected to occur.
Reithrodontomys raviventris salt-marsh harvest mouse	FE/SE G1G2/S1S2 FP	Only in the saline emergent wetlands of San Francisco Bay and its tributaries. Pickleweed is primary habitat, but may occur in other marsh vegetation types and in adjacent upland areas. Does not burrow; builds loosely organized nests. Requires higher areas for flood escape.	Not Expected/ No Effect	No suitable saline emergent wetland or marsh habitat present within the study area. The species is not expected to be present in a fully developed urban area.
Scapanus latimanus parvus Alameda Island mole	None/None G5THQ/SH SSC	Only known from Alameda Island. Found in a variety of habitats, especially annual and perennial grasslands. Prefers moist, friable soils. Avoids flooded soils.	Not Expected	The study area does not overlap with the species range.
Sorex vagrans halicoetes salt-marsh wandering shrew	None/None G5T1/S1 SSC	Salt marshes of the south arm of San Francisco Bay. Medium high marsh 6-8 ft above sea level where abundant driftwood is scattered among Salicornia.	Not Expected	No suitable salt marsh habitat is present within the study area. The species is not expected to be present in a fully developed urban area.
Taxidea taxus American badger	None/None G5/S3 SSC	Most abundant in drier open stages of most shrub, forest, and herbaceous habitats, with friable soils. Needs sufficient food, friable soils and open, uncultivated ground. Preys on burrowing rodents. Digs burrows.	Not Expected	No suitable habitat is present within the study area. The species is not expected to be present in a fully developed urban area.
Zapus trinotatus orarius Point Reyes jumping mouse	None/None G5T1T3Q/S1S3 SSC	Primarily in bunch grass marshes on the uplands of Point Reyes. Also present in coastal scrub, grassland, and meadows. Eats mainly grass seeds w/ some insects & fruit taken. Builds grassy nests on ground under vegetation, burrows in winter.	Not Expected	No suitable bunch grass marsh habitat is present within the study area. The species is not expected to be present in a fully developed urban area.

Regional Vicinity refers to within a 9 USGS quadrangle search radius of site.

FE = Federally Endangered FT = Federally Threatened FC = Federal Candidate Species FS=Federally Sensitive

SE = State Endangered ST = State Threatened SC = State Candidate SS=State Sensitive

SSC = CDFW Species of Special Concern SFP = State Fully Protected

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