Alameda County Transportation Commission Rail Safety Enhancement Program – San Leandro, Hayward, and Alameda County

Biological Resources Assessment

prepared for

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April 2022

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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 improvement projects at seven railroad crossings and one trespass area in San Leandro, San Lorenzo, Hayward, and unincorporated 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 areas for this analysis includes the project sites at the crossings of the Union Pacific Railroad and Marina Boulevard (Coast), Washington Avenue, Hesperian Boulevard, Lewelling Boulevard, Tennyson High School, Tennyson Road, and Industrial Parkway, as well as one trespass area at Leidig Court, plus a 50 foot buffer around these sites.

No special-status plant species have potential to occur within the study areas. Twelve special-status wildlife species have a low or moderate potential to occur at the project sites. Two federally-listed species have a low potential to occur within the study areas: steelhead – central California coast DPS (*Oncorhynchus mykiss irideus pop. 8*) and California red-legged frog (*Rana draytonii*, federally threatened, state species of special concern). Tricolored blackbird (*Agelaius tricolor*) is a state threatened species that also has a low potential to occur within the study areas. The following four special-status wildlife species have a moderate potential to occur within the study areas: Cooper's hawk (*Accipter cooperii*, state watchlist species); pallid bat (*Antrozous pallidus*, state species of special concern); Townsend's big-eared bat (*Corynorhinus townsendii*, state species of special concern); and western mastiff bat (*Eumops perotis californicus*, state species of special concern). Four additional special-status wildlife species have a low potential to occur within the study areas: golden eagle (*Aquila chrysaetos*, state fully protected and watchlist species); burrowing owl (*Athene cunicularia*, state species of special concern); white-tailed kite (*Elanus leucurus,* state fully protected species); and American peregrine falcon (*Falco peregrinus anatum*, state fully protected species). For purposes of CEQA analysis species with low potential to occur will not be addressed further. For purposes of NEPA analysis, those federally listed species with low potential to occur are addressed below.

The study area includes a perennial stream, freshwater emergent wetlands, and drainage ditches that may be jurisdictional under United States Army Corps of Engineers, California Department of Fish and Wildlife, and/or Regional Water Quality Control Board. Impacts to these potentially jurisdictional features will be avoided.

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

1 Introduction

Rincon Consultants, Inc. (Rincon) prepared this Biological Resources Assessment (BRA) to document the existing biological conditions where safety improvements are planned at seven railroad crossings and one trespass area (project) in San Leandro, San Lorenzo, Hayward, and unincorporated Alameda County, 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. Alameda County Transportation Commission (Alameda CTC) is the lead agency under CEQA. The Federal Railroad Administration is the lead agency under NEPA.

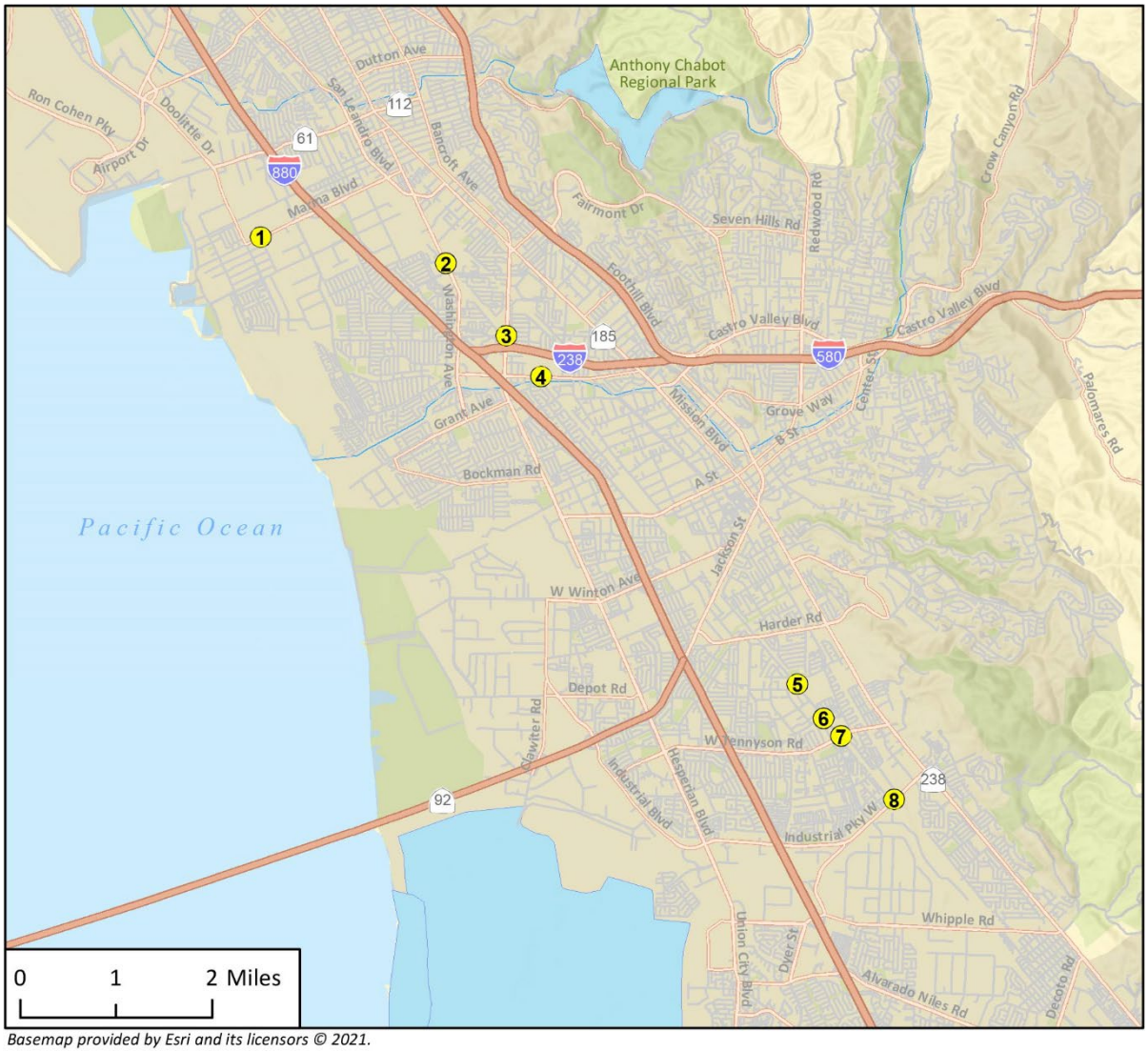
1.1 Project Location and Study Area

The proposed project to install rail safety improvements is located at seven railroad crossings and two trespass areas in San Leandro, San Lorenzo, Hayward, and unincorporated Alameda County, California (Figure 1). The project site consists of three existing at-grade rail crossings in the City of San Leandro (Marina Boulevard [Coast]), Washington Avenue, and Hesperian Boulevard), one crossing (Lewelling Boulevard) in unincorporated Alameda County, and three crossings (Tennyson High School Pedestrian Crossing, Tennyson Road, and Industrial Parkway) and one trespass area (at Leidig Court) in the City of Hayward. The crossings and trespass area are relatively spread out, extending from the central to southern portion of San Leandro to the southern portion of Hayward. The crossings are along Union Pacific Railroad (UPRR) tracks where UPRR tracks intersect with local street intersections. The study area for this project is defined as the work areas at the crossings and trespass areas and surrounding 50-foot buffers to account for indirect or temporary impacts (Figure 2a through Figure 2f).

1.2 Project Description

The project proposes improvements for rail safety at seven existing railroad crossing locations and one trespass area in San Leandro, San Lorenzo, Hayward, and unincorporated Alameda County, California (Figure 1). Design of improvements may vary from site-to-site, but will include removing portions of existing pavement/concrete and installing new roadway striping/pavement marking, roadside signs, medians, curb and gutter, security access gates/fencing, signage, pavement, k-rail, pedestrian path, or ADA-detectable pavers. These improvements are meant to upgrade outdated or non-functioning safety equipment that already occurs at the crossings and will involve minor excavation to replace paved areas. Construction of the crossings is expected to take approximately 12 months, beginning in the third quarter of 2022 and concluding in the third quarter of 2023.

Figure 1 Regional Location



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- Project Location
1. Marina Boulevard (Coast)
2. Washington Avenue
3. Hesperian Boulevard
4. Lewelling Boulevard
5. Tennyson High School
6. Leidig Trespass Area
7. Tennyson Road
8. Industrial Parkway

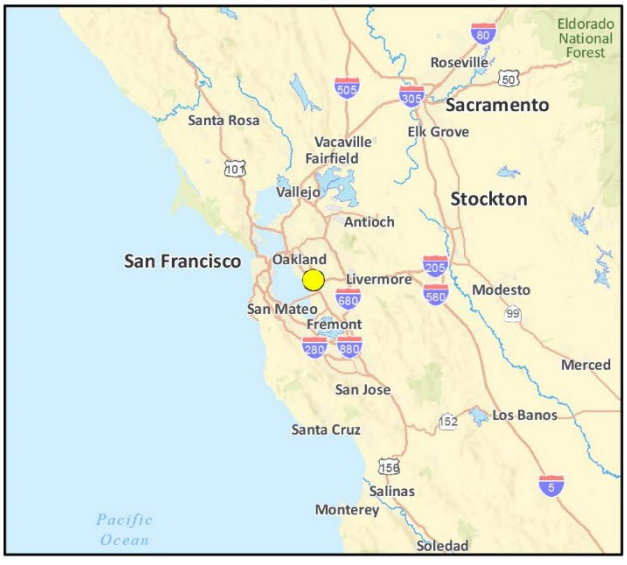
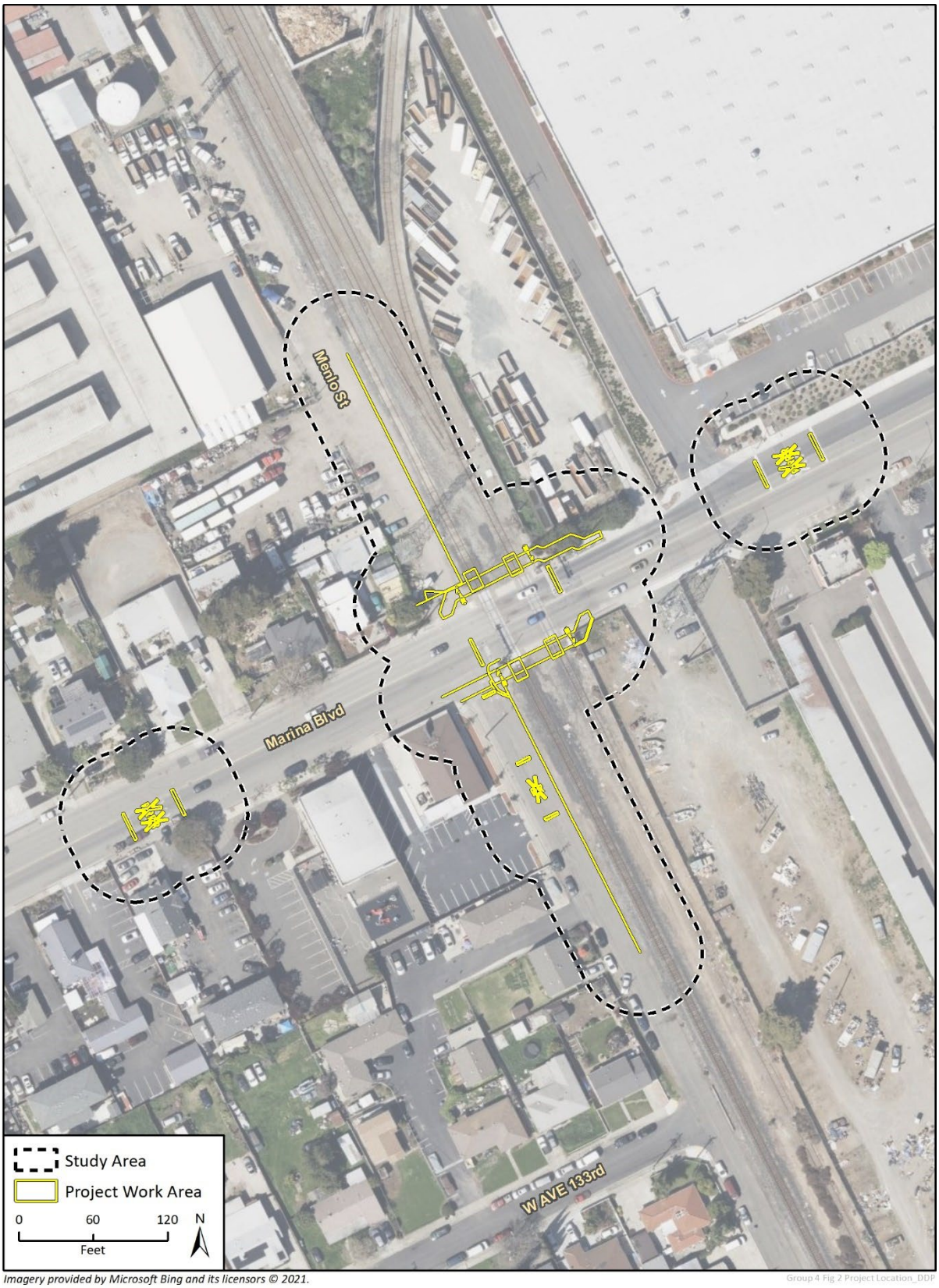


Figure 2a Project Location – Marina Boulevard (Coast)



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Group 4 Fig 2 Project Location_DDP

Figure 2b Project Location – Washington Avenue

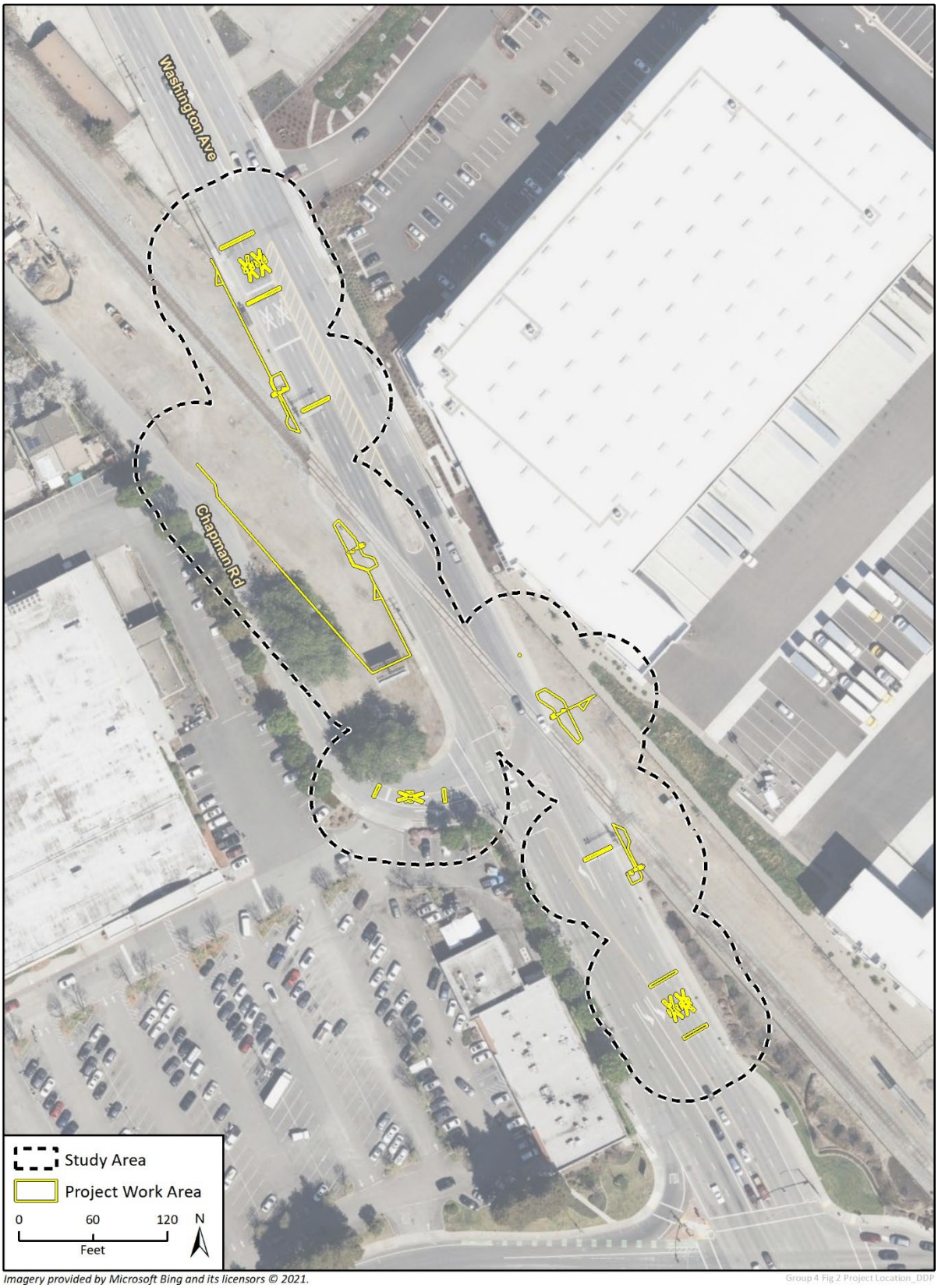

Figure 2c Project Location – Hesperian Boulevard

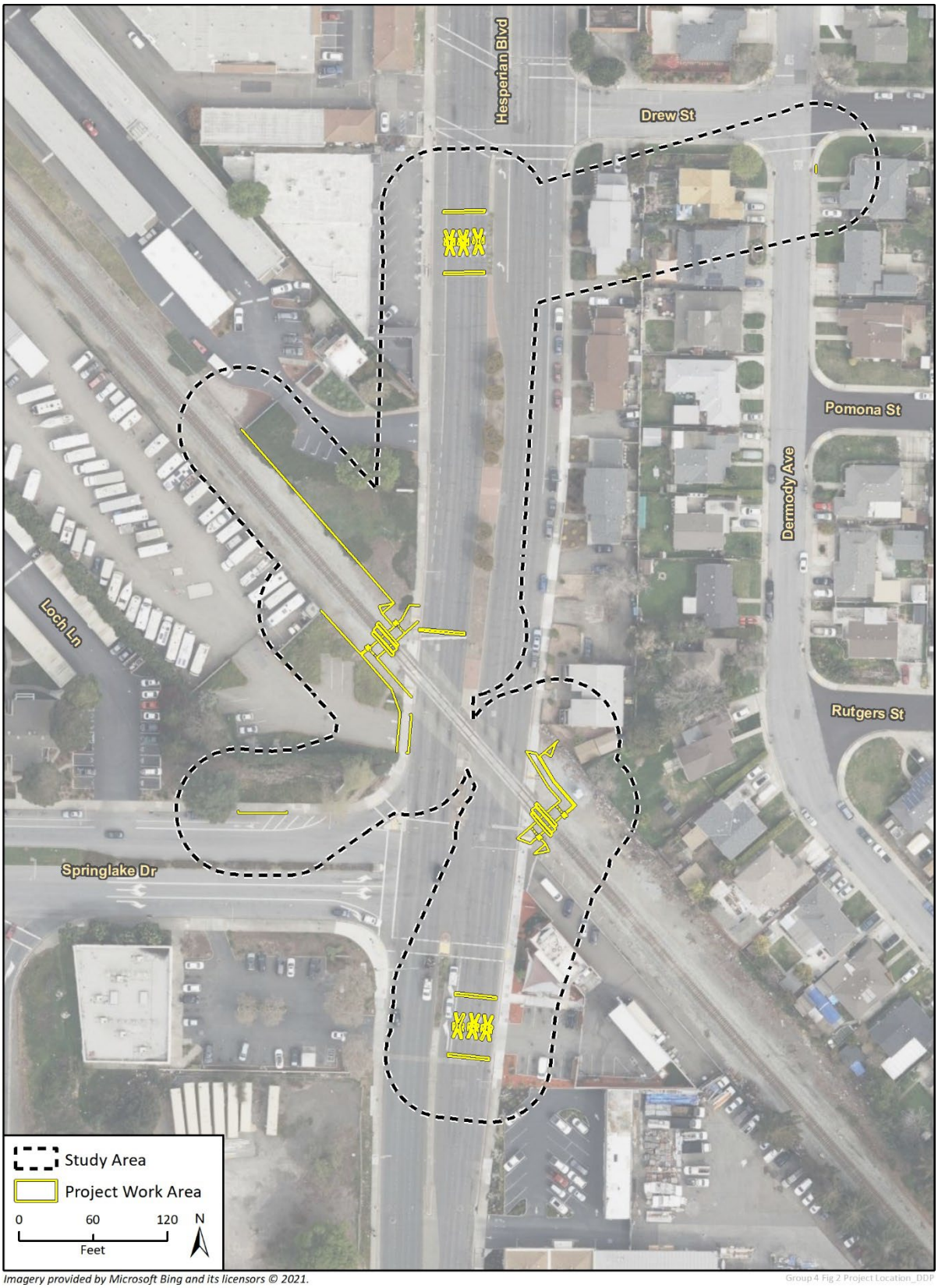

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Figure 2d Project Location – Lewelling Boulevard

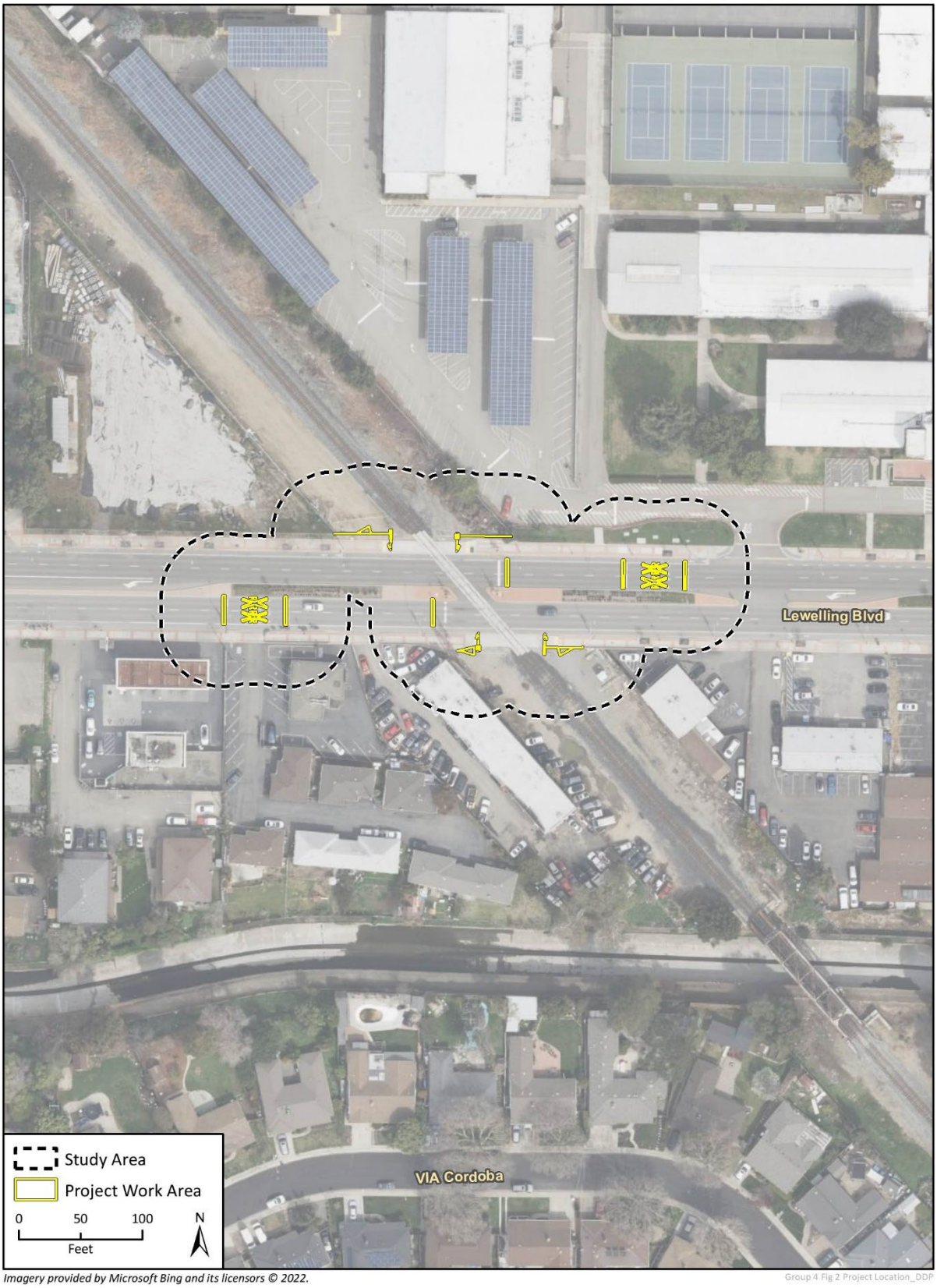

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Figure 2e Project Location – Tennyson High School Pedestrian Crossing, Leidig Trespass Area, and Tennyson Road

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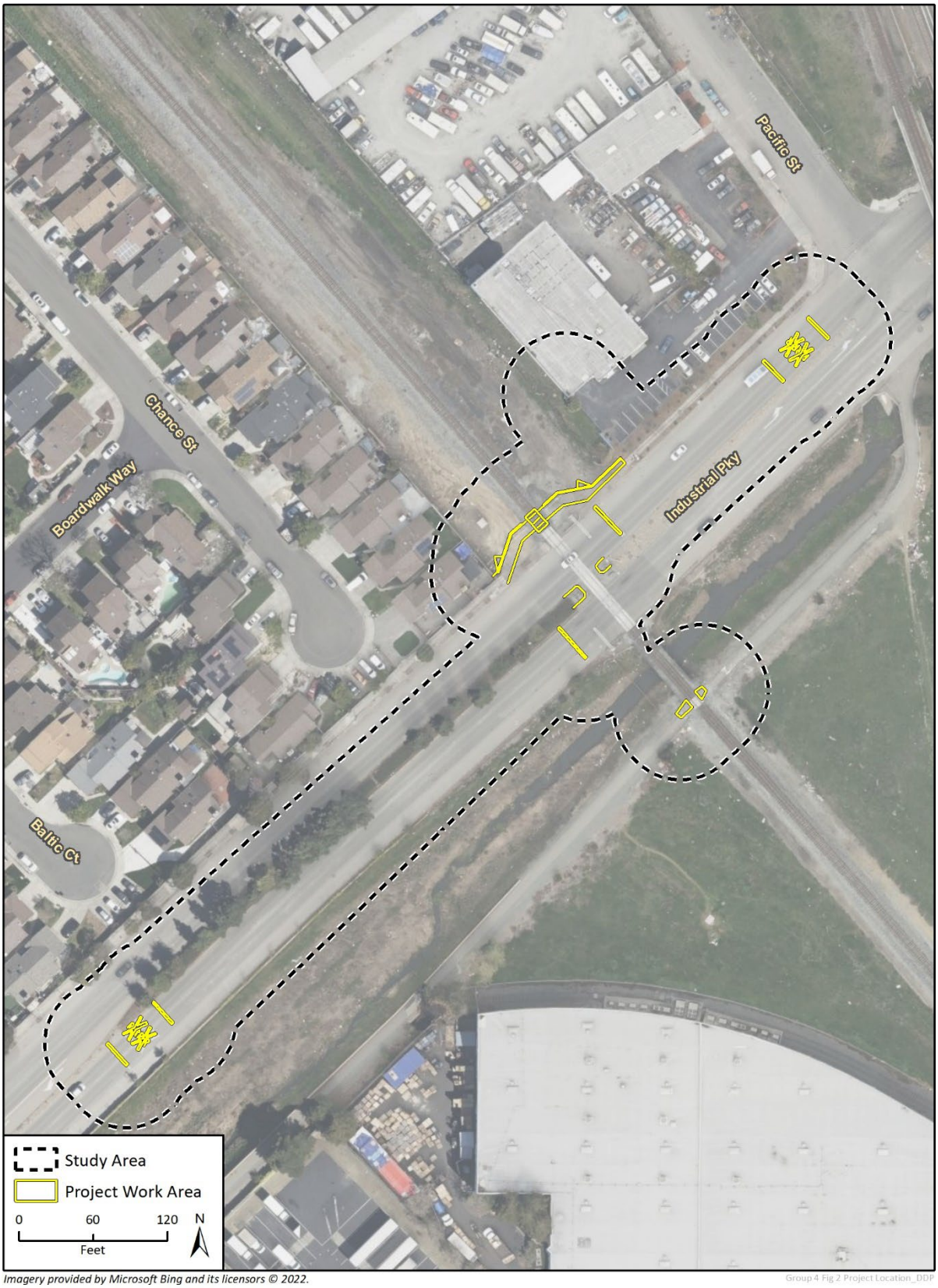
Group 4 Fig 2 Project Location_DDP

Figure 2f Project Location – Industrial Parkway



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2 Methodology

2.1 Regulatory Overview

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

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 (ESA)[1] by the U.S. Fish and Wildlife Service (USFWS) or National Marine Fisheries Service (NMFS);
- Species listed as candidate, rare, threatened, or endangered under the California Endangered Species Act (CESA) or Native Plant Protection Act by the California Department of Fish and Wildlife (CDFW);
- Species designated as Fully Protected (FP), Species of Special Concern (SSC), or Watch List (WL) by the CDFW;
- Raptors and nesting birds protected by California Fish and Game Code (CFGC) Section 3503 and the Migratory Bird Treaty Act (MBTA);
- Species designated as locally important by the Local Agency and/or otherwise protected through ordinance or local policy; and
- Plants ranked as California Rare Plant Rank (CRPR) 1 and 2, per the following definitions:
  - **Rank 1A** = Plants presumed extinct in California
  - **Rank 1B.1** = Rare or endangered in California and elsewhere; seriously endangered in California (over 80% of occurrences threatened/high degree and immediacy of threat)
  - **Rank 1B.2** = Rare or endangered in California and elsewhere; fairly endangered in California (20-80% occurrences threatened)
  - **Rank 1B.3** = Rare or endangered in California and elsewhere, not very endangered in California (<20% of occurrences threatened, or no current threats known)
  - **Rank 2** = Rare, threatened or endangered in California, but more common elsewhere

CRPR 1B and 2 plant species are typically regarded as rare, threatened, or endangered under the CEQA by lead CEQA agencies and were considered as such in this document. CRPR 3 and 4 plant species are typically not considered for analysis under CEQA except where they are designated as rare or otherwise protected by local governments or where cumulative impacts could result in

[1] Species that are under review may be included if there is a reasonable expectation of listing within the life of the project.

population–level effects. Alameda County does not provide additional protection for CRPR 3 and 4 plants.

Plant communities are considered sensitive biological resources if they have limited distributions, have high wildlife value, include sensitive species, or are particularly susceptible to disturbance. CDFW ranks sensitive communities as "threatened" or "very threatened" and keeps records of their occurrences in the CNDDB. However, the Sensitive Natural Communities List in the CNDDB is not currently maintained and no new information has been added in recent years. CDFW is working to classify and rank vegetation statewide according to state standards that comply with the National Vegetation Classification System, consistent with the approach used in A Manual of California Vegetation. Currently, CDFW publishes the California Sensitive Natural Communities List online (CDFW 2020). Vegetation rarity ranking is based on a rank calculator developed by NatureServe. According to the CDFW Vegetation Program, alliances with State ranks of S1-S3, as well as certain additional associations specifically noted as sensitive in the list, are considered to be imperiled, and thus, potentially of special concern.

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 (NEPA)
- Alameda County General Plan
- San Leandro 2035 General Plan
- Hayward General Plan 2040

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 would be the lead NEPA agency for this project.

2.2 Literature Review

Rincon reviewed relevant agency databases and literature for baseline information on biological resources potentially occurring within the *Hayward* and *San Leandro*, California USGS 7.5-minute topographic quadrangles and the 10 surrounding quadrangles (*Dublin*, *Niles*, *Newark*, *Redwood Point*, *San Mateo*, *Hunters Point*, *Oakland West*, *Oakland*, *Las Trampas Ridge*, and *Diablo*). 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 USFWS Information for Planning and Consultation (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 2021c), the CDFW Special Vascular Plants, Bryophytes, and Lichens List (CDFW 2021d), 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 site. 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 field reconnaissance survey of the study areas on three days in April 2021. On April 14, Ms. Ennis surveyed Lewelling Boulevard and Washington Avenue between the hours of 1215 and 1530. Temperatures ranged between 65 and 70 degrees Fahrenheit (°F) with clear skies and winds at approximately 5 miles per hour. On April 15, Ms. Ennis visited Industrial Parkway, Tennyson Road, Leidig/Tennyson High School Trespass Area, Tennyson High

School Pedestrian Crossing, and Marina Boulevard (Coast) between the hours of 1555 and 1800. The temperature was 64 °F and sunny with winds up to 12 miles per hour. On April 17, Ms. Ennis surveyed Hesperian Boulevard between the hours of 0930 and 1030. The temperature was 54 °F with 70 percent cloud cover and winds at approximately 5 miles per hour. The reconnaissance survey consisted of pedestrian transects through the study areas, which allowed the biologist to assess the habitat suitability for potential special-status flora and fauna, plant communities, nesting birds, and note potential jurisdictional waters and wetlands.

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 features. Focused protocol surveys were not conducted. Prior to conducting the reconnaissance survey, Rincon biologists reviewed aerial photographs and database search results for special-status species records in the vicinity of the project.

Additionally, the biologist evaluated the general health and level of existing disturbances to vegetation communities. The biologist 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 potential impacts to existing biological resources on the project site.

Representative photographs were taken to document existing conditions, vegetation communities, species sign, or other notable biological resource observations. Photographs are included in Appendix B. Compendia of plants and wildlife observed during surveys are included in Appendix C.

3 Existing Conditions

3.1 Physical Characteristics

The project sites are dispersed along the UPRR tracks from central to southern San Leandro to the southern portion of Hayward. Both San Leandro and Hayward are located along the eastern shoreline of the San Francisco Bay. This region has a Mediterranean climate with rains falling mostly in the winter and spring, as is the case with most of the San Francisco Bay area. Due to the coastal location of the project, fog and cool temperatures are common in the summer. The average annual high temperature is approximately 76 °F and the average annual low temperature is 42 °F. Average annual precipitation is approximately 18 inches (Western Regional Climate Center 2021).

The rail crossings and trespass areas are all located on relatively flat ground with elevations at each the project site ranging from approximately 12 to 44 feet (3.6 to 13.4 meters) above mean sea level. In general, the project sites are in or near residential areas. Notable exceptions are the Washington Avenue crossing in San Leandro and the Industrial Parkway crossing in Hayward, both of which are characterized by a mix of industrial and commercial uses. Additionally, the Lewelling Boulevard, Tennyson Road, and Tennyson High School crossings are all adjacent to schools (San Lorenzo High School, Cesar Chavez Middle School, and Tennyson High School, respectively).

3.1.1 Watershed and Drainages

The study areas for the seven railroad crossings and two trespass areas occur across the Sausal Creek (Hydrologic Unit Codes [HUC]: 180500040805), San Lorenzo Creek (HUC: 180500040802) and Ward Creek (HUC: 180500040804) subwatersheds within the larger San Lorenzo Creek Frontal San Francisco Bay Estuaries Watershed (United States Environmental Protection Agency [US EPA] 2021). The Sausal Creek watershed encompasses approximately 46 square miles in the southern portion of San Leandro. The San Lorenzo Creek watershed drains 48 square miles, covering parts of Castro Valley, Hayward, Ashland, San Lorenzo, and San Leandro. The Ward Creek watershed drains from the foothills west to the Hayward Regional Shoreline and encompasses approximately 28 square miles across the City of Hayward.

At the Industrial Parkway crossing site, the NWI maps a perennial stream (Riverine [R], Lower Perennial [2], Unconsolidated Bottom [UB], Permanently Flooded [H], and Excavated [x]) crossing under the UPRR tracks. The NWI also maps an estuarine and marine wetland (Estuarine [E], Intertidal [2], Emergent [EM], Persistent [1], and Regularly Flooded [N]), which the perennial stream feeds into on the northern side of the Industrial Parkway study area. The field survey also identified a small drainage ditch within this study area, which flows under a culvert into the wetland and perennial stream to the south.

The field survey also identified a drainage ditch at the Tennyson Road crossing study area. The ditch is located to the southeast of the UPRR crossing and appears to flow into a culverted storm drain system under Tennyson Road.

3.1.2 Soils

A database search for the study areas at each project site was conducted using the most recent U.S. Department of Agriculture, Natural Resources Conservation Service (USDA, NRCS) soil survey for *Alameda County, California, Western Part* (USDA, NRCS 2021). Figure 3a through Figure 3f show soil maps for each study area, and each soil map unit is described in detail below.

Botella loam, 0 to 2 percent slopes occur on footslopes and toeslopes of alluvial fans and fan terraces. This soil type is derived from Alluvium derived from sedimentary rock. This soil type is located at the Hesperian Boulevard rail crossing site. A typical soil profile consists of loam to 16 inches, clay loam from 16 to 79 inches. This soil is considered well drained with a depth to restrictive feature of more than 80 inches. This soil is considered a hydric soil type.

Danville silty clay loam, 0 to 2 percent slopes occur on footslopes of fan terraces and alluvial fans. This soil type is derived from Residuum weathered from sedimentary rock. This soil type is located at the Hesperian Boulevard, Marina Boulevard (Coast), and Washington Avenue crossing sites. A typical soil profile consists of silty clay loam to 21 inches, silty clay from 21 to 53 inches and silty clay loam from 53 to 80 inches. This soil is considered well drained with a depth to restrictive feature of more than 80 inches. This soil is considered a hydric soil type.

Clear Lake clay, drained, 0 to 2 percent slopes occur on tread of basin floors. This soil type is derived from Basin alluvium derived from igneous, metamorphic and sedimentary rock. This soil type is found at the Washington Avenue, Tennyson High School, Tennyson Avenue, and Industrial Parkway crossings as well as the Leidig Trespass Area. A typical soil profile consists of clay to 60 inches. This soil is considered poorly drained with a depth to restrictive feature of more than 80 inches. This soil is considered a hydric soil type.

Rincon clay loam, 0 to 2 percent slopes occur on terraces and alluvial fans. This soil type is derived from Alluvium derived from sedimentary rock. This soil type is found at the Industrial Parkway crossing site. A typical soil profile consists of clay loam to 12 inches, clay from 12 to 29 inches, silty clay loam from 29 to 38 inches, and loam from 38 to 79 inches. This soil is considered well drained with a depth to restrictive feature of more than 80 inches. This soil is considered a hydric soil type.

Yolo silt loam, 0 to 3 percent slopes occur on toeslopes of alluvial fans. This soil type is derived from silty alluvium derived from sedimentary rock. This soil type is located at the Lewelling Boulevard crossing. A typical soil profile consists of silt loam to 60 inches. This soil is considered well drained with a depth to restrictive feature of more than 80 inches. This soil is not considered a hydric soil type.

Figure 3a Soil Map – Marina Boulevard (Coast)

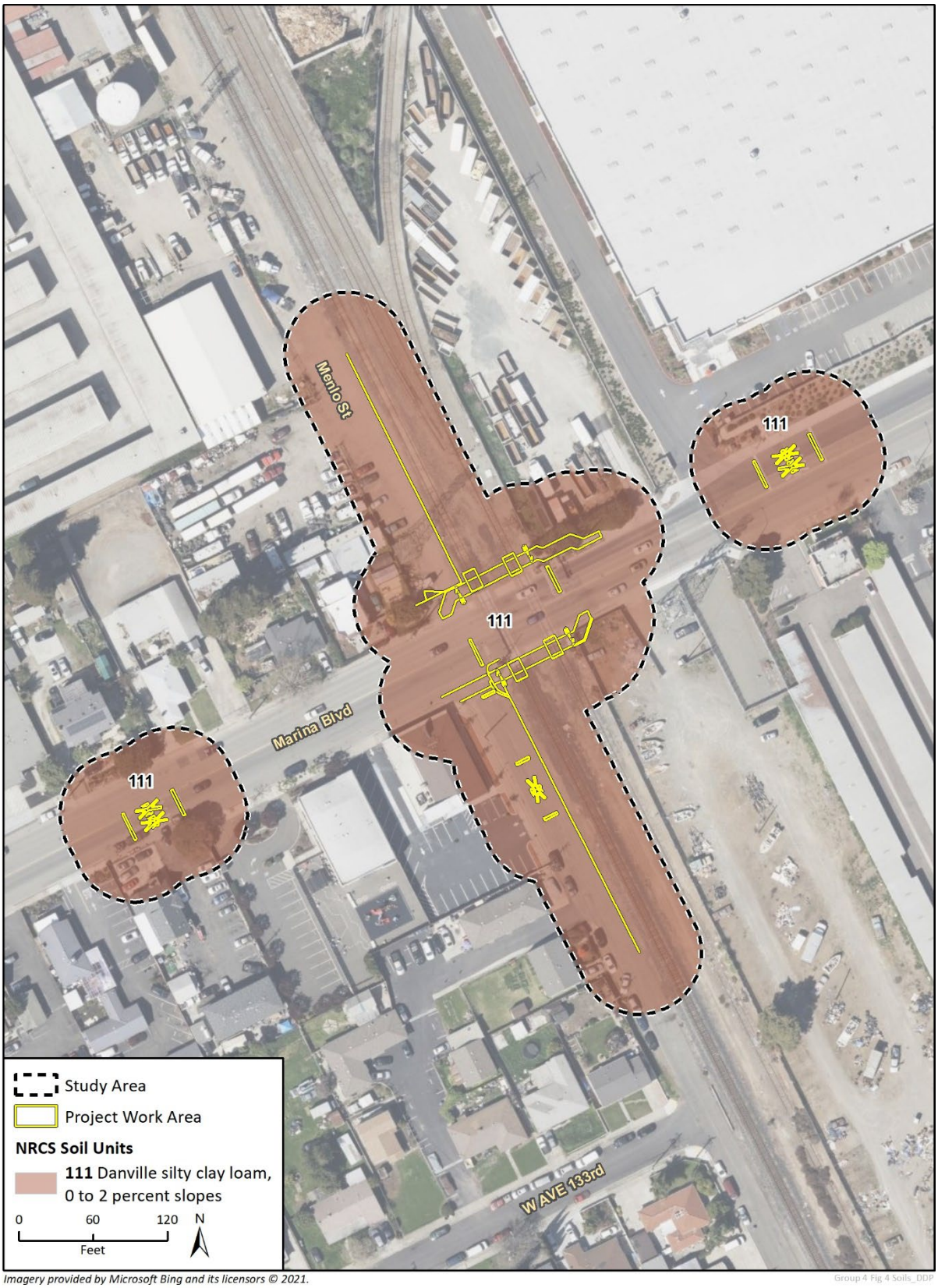

Figure 3b Soil Map – Washington Avenue

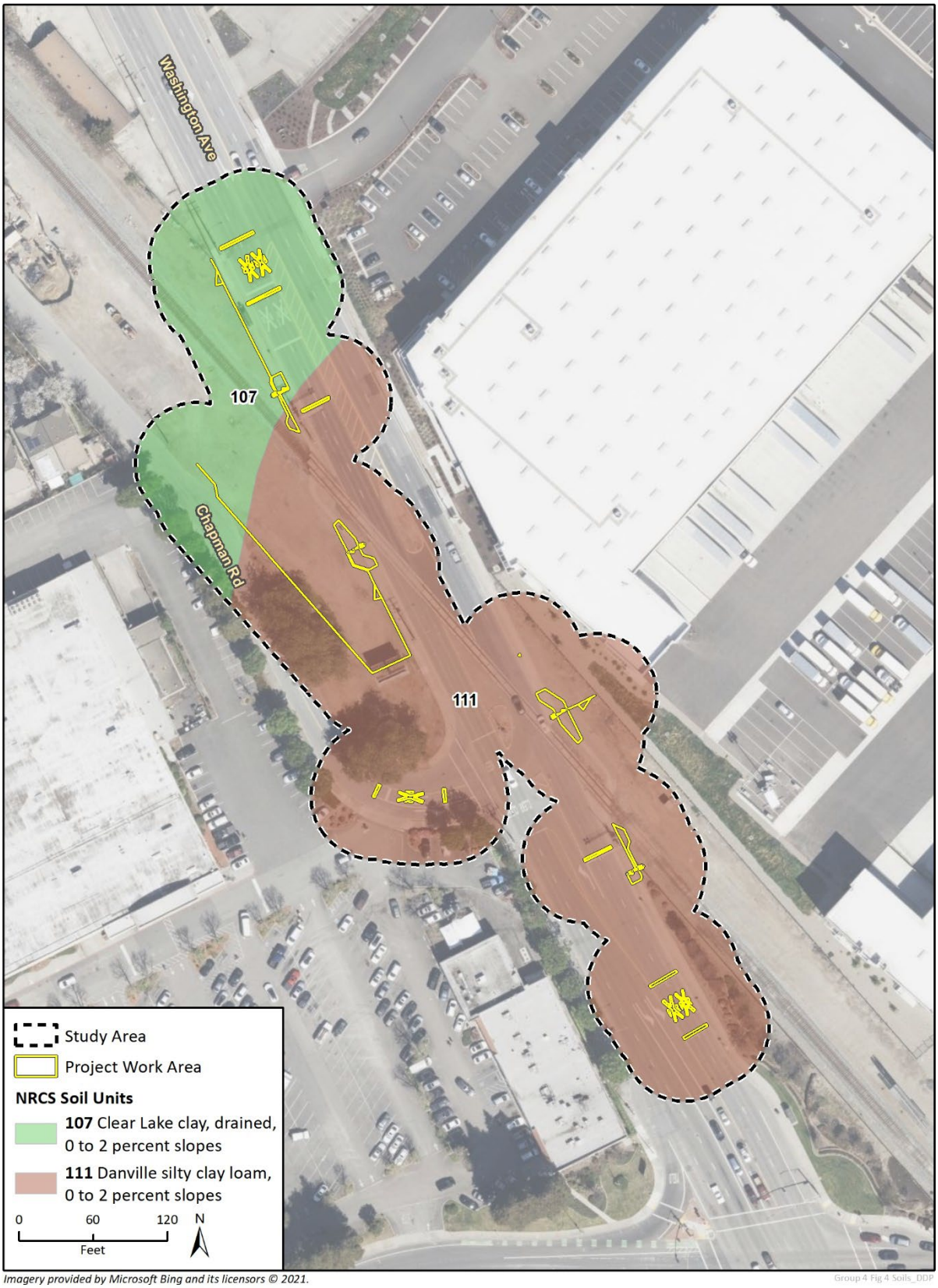

Figure 3c Soil Map – Hesperian Boulevard

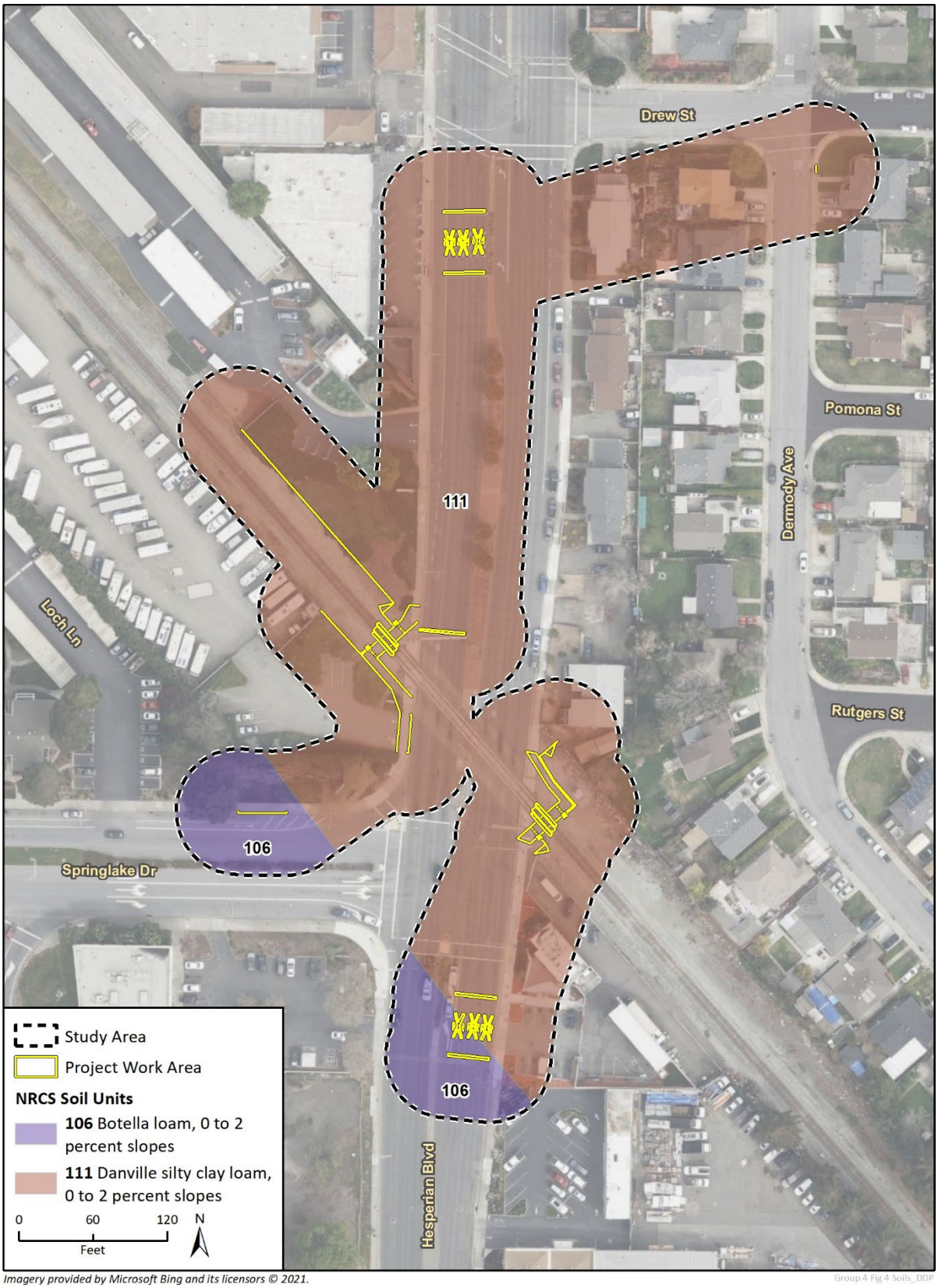

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Figure 3d Soil Map – Lewelling Boulevard

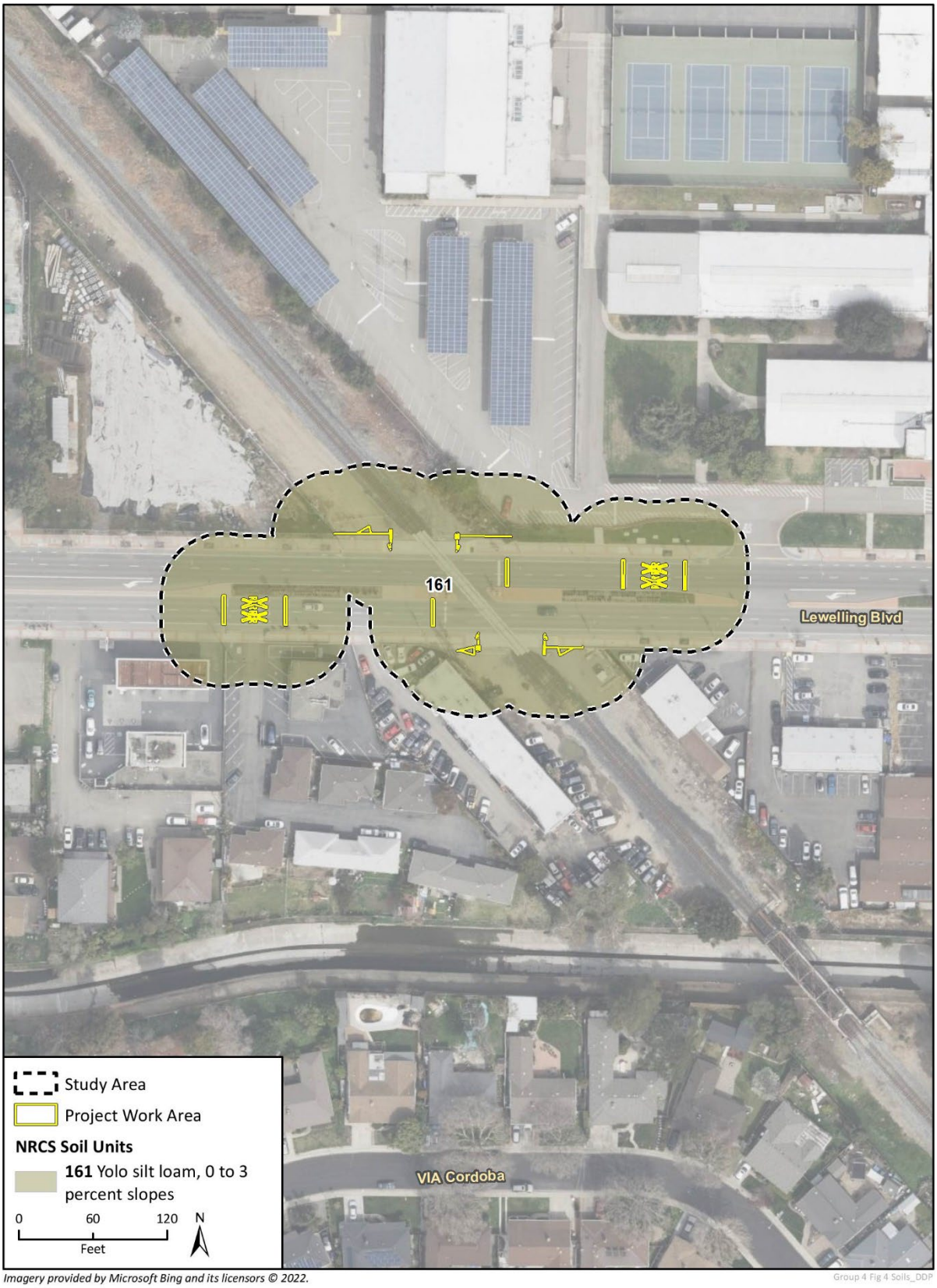

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Figure 3e Soil Map – Tennyson High School Pedestrian Crossing, Leidig Trespass Area, and Tennyson Road

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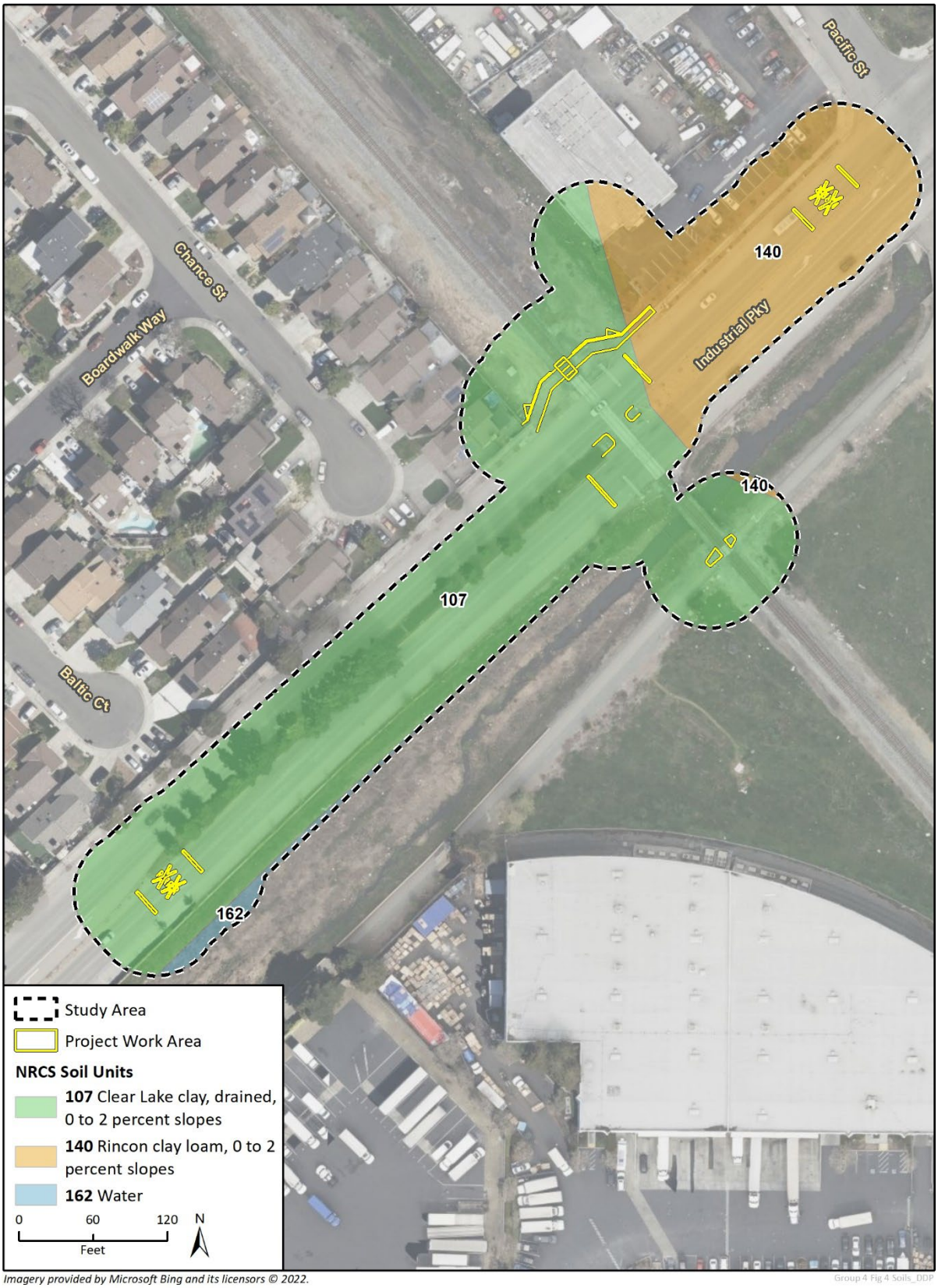
Group 4 Fig 4 Soils_DDP

Figure 3f Soil Map – Industrial Parkway



3.2 Vegetation and Other Land Cover

One vegetation community and five land cover types were documented within the study areas: 1) developed; 2) freshwater emergent wetland; 3) ruderal; 4) landscaped; 5) perennial stream; and 6) drainage ditch (Figure 4a through Figure 4g). Brief descriptions of the natural vegetation communities and the other land cover types present in the project site are provided below. The vegetation community characterizations for this analysis were based on the classification systems presented in *A Manual of California Vegetation, Second Edition* ([MCV2] Sawyer et al. 2009) but have been modified slightly to most accurately reflect the existing site conditions. The *Preliminary Description of Terrestrial Natural Communities of California* (Holland 1986) has been superseded by the MCV2 but is included for reference. Plant species nomenclature and taxonomy used for this BRA follows the treatments within the second edition of *The Jepson Manual* (Baldwin et al. 2012).

Developed

The majority of all the study areas consist of developed land. 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 areas, this land cover type consists of paved roads, UPRR railroad tracks, and other infrastructure associated with the UPRR crossing.

Freshwater Emergent Wetland

This vegetation community occurs along the perennial stream located at the Industrial Parkway crossing study area and consists of a mix of upland and wetland vegetation. The dominant species observed in this community are cattails (*Typha latifolia*) and non-native annual grasses such as brome (*Bromus* spp.) and wild oats (*Avena* spp.). This community most closely resembles the *Typha* (*angustifolia, domingensis, latifolia*) Herbaceous Alliance defined in MCV2 (Sawyer et al. 2009).

Ruderal

Many of the study areas contain ruderal habitat, including the Industrial Parkway, Lewelling Boulevard, and Tennyson Avenue crossings. Habitats that have been heavily disturbed or altered such that natural vegetation has largely been removed are mapped as ruderal areas. These sites do not correspond well with either the Holland (1986) or Sawyer et al. (2009) classification systems. Ruderal areas have had visible disturbance of soil or vegetation and are mostly bare and colonized by weeds and disturbance-tolerant non-natives, such as fiddleneck (*Amsinckia* sp.), wild radish (*Raphanus sativa*), field mustards (*Hirschfeldia* spp., *Brassica* spp.), cheeseweed (*Malva parviflora*), annual grasses and filaree (*Erodium cicutarium*).

Figure 4a Land Cover – Marina Boulevard (Coast)

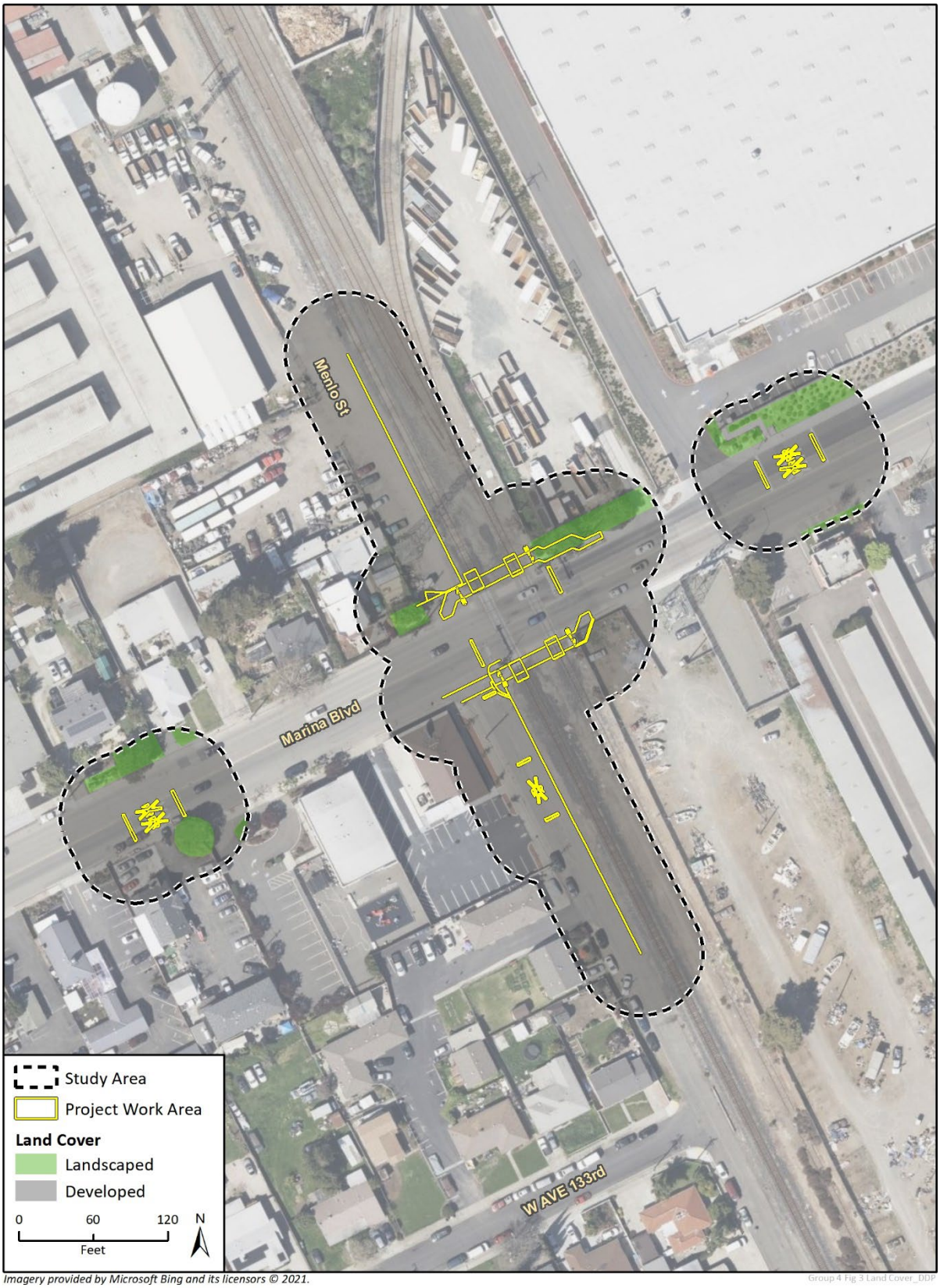


Figure 4b Land Cover – Washington Avenue

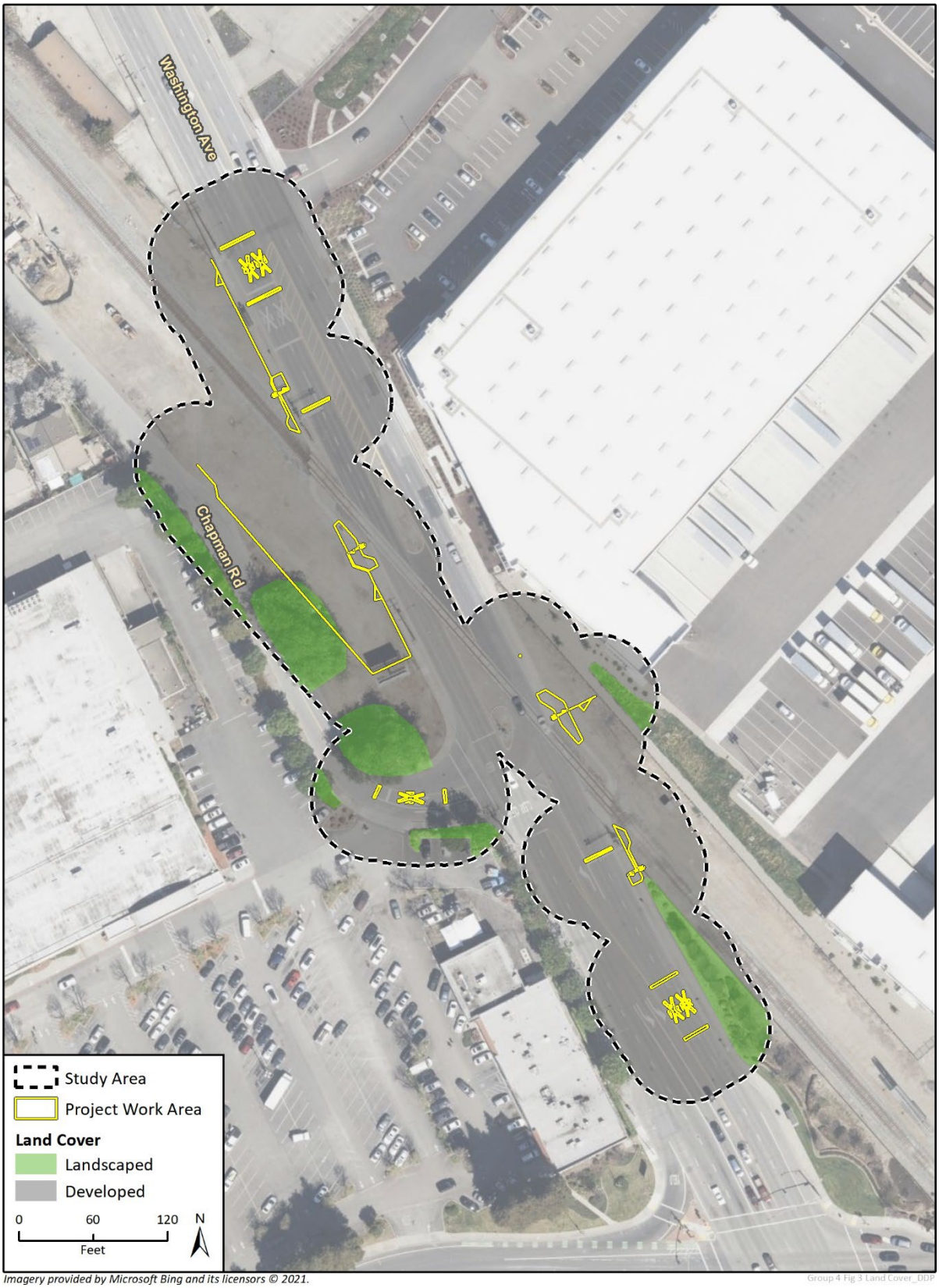


Figure 4c Land Cover – Hesperian Boulevard

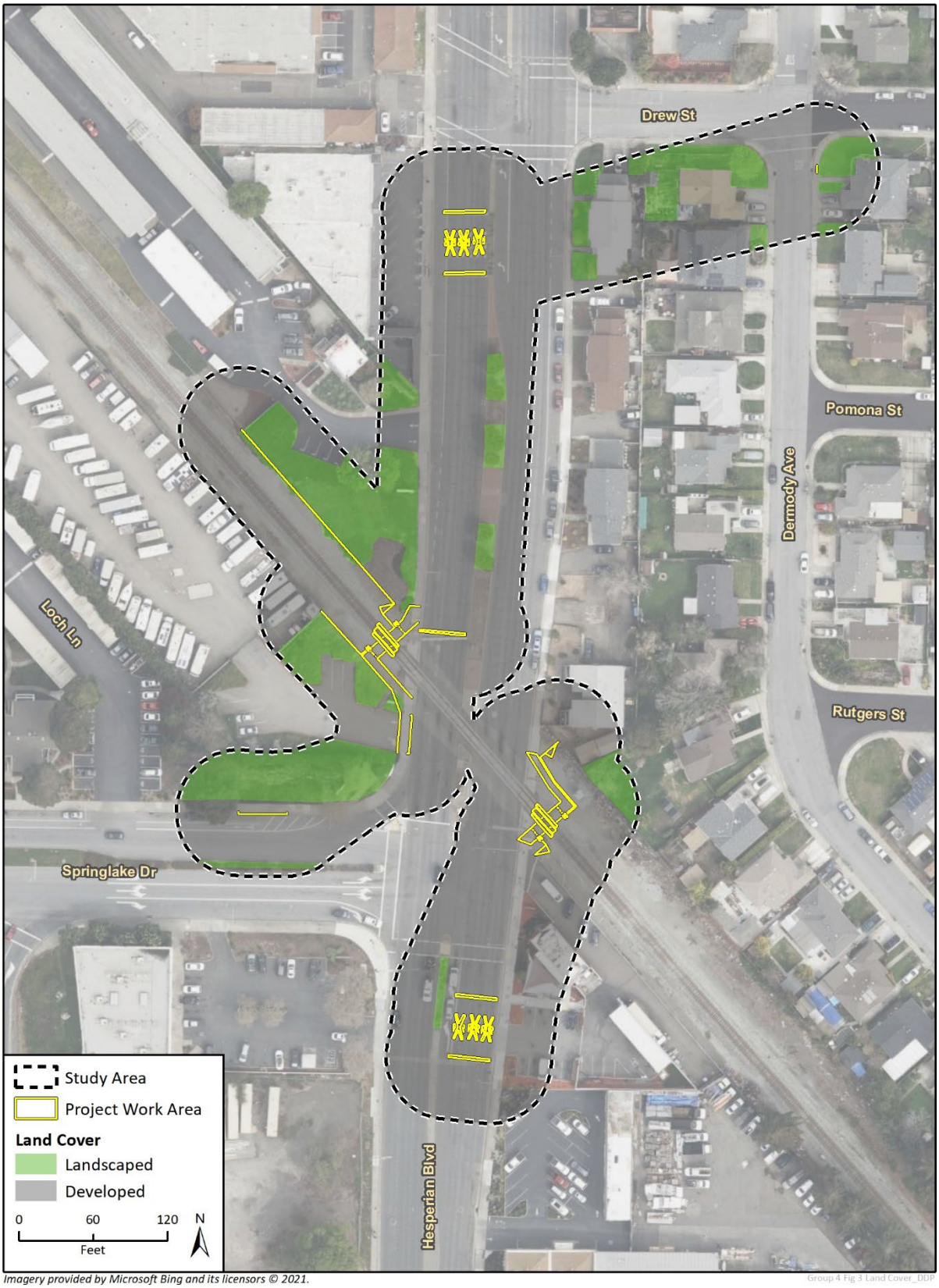


Figure 4d Land Cover – Lewelling Boulevard

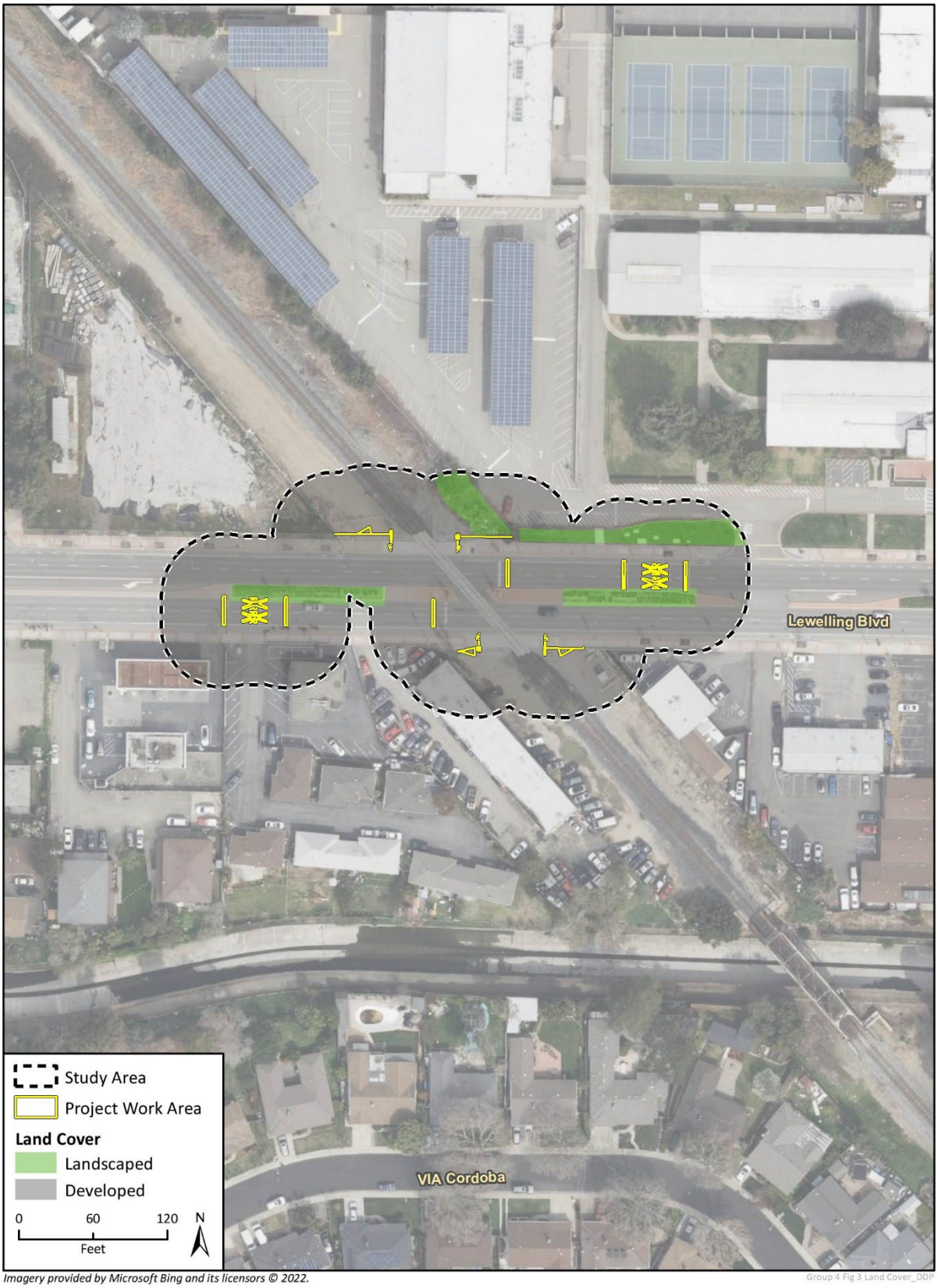
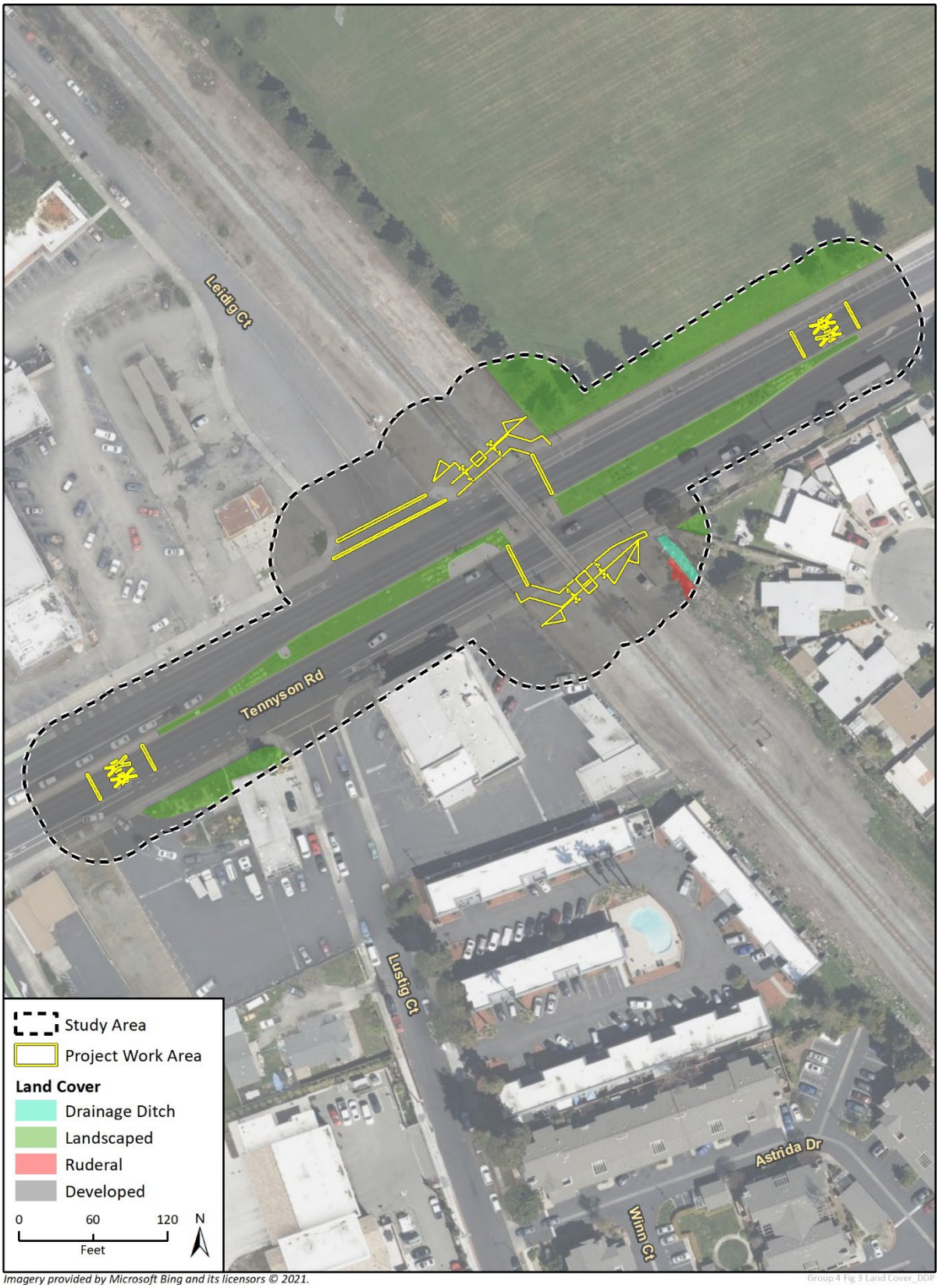


Figure 4e Land Cover – Tennyson High School Pedestrian Crossing and Leidig Trespass Area

Figure 4f Land Cover – Tennyson Road



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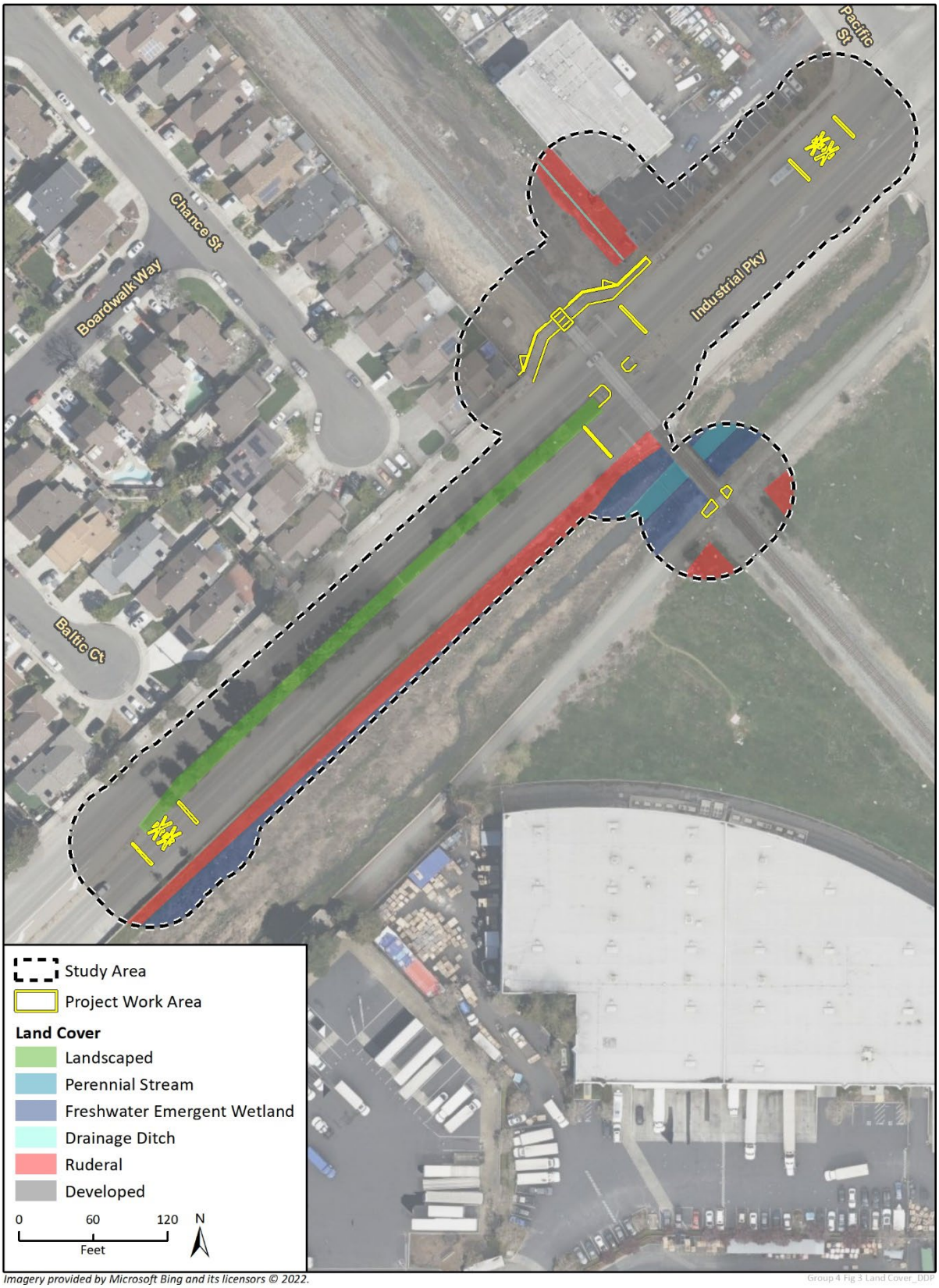
Group 4 Fig 3 Land Cover_DDP

Figure 4g Land Cover – Industrial Parkway



Landscaped

The study areas area all at least partially made up of landscaped cover. This land cover type is not naturally occurring and is not described in either the Holland (1986) or Sawyer et al. (2009) classification systems. It consists of primarily non-native species present as ornamental plantings. Tree species found in this land cover type are highly variable, and typically consist of either non-native (ornamental) species or native species that were planted, and not part of a natural community. Trees observed include Chinese pistache (*Pistacia chinensis*), *Eucalyptus* spp., plum (*Prunus* spp.) and other fruiting and ornamental varieties. Landscape grass species typically include turf grasses and non-native species such as sow thistle (*Sonchus oleraceus*) and burning bush (*Bassia scoparia*). This land cover type was observed at all study areas for the crossing and trespass area sites.

Perennial Stream

A perennial stream runs under the UPRR tracks at the Industrial Parkway crossing study area. This stream is connected to a drainage ditch within this study area. This land cover type is not described by Holland (1986) or Sawyer et al. (2009) as it does not contain dominant vegetation. The perennial stream contains little vegetation and consists primarily of open water, however freshwater emergent wetland vegetation is located along the edges of the perennial stream.

Drainage Ditch

Two drainage ditches are present within the study area. One runs parallel to the UPRR tracks at the Industrial Parkway crossing study area. This land cover type is not described in either the Holland (1986) or Sawyer et al. (2009) classification systems. It consists of primarily of upland vegetation including black mustard (*Brassica nigra*), oats (*Avena* spp.), and other ruderal vegetation. However, curly dock (*Rumex crispus*), a facultative wetland plant, also occurs within the drainage ditch. At the time of the field survey the drainage ditch was not holding water and was primarily dry. The other drainage ditch runs parallel to the UPRR tracks at the Tennyson Road crossing study area. This ditch is overgrown with ruderal grasses with similar species composition to those found at Industrial Parkway and the ditch was dry at the time of the field survey.

3.3 General Wildlife

Wildlife observed within the study areas included several avian species such as cave swallows (*Petrochelidon fulva*), mallard (*Anas platyrhynchos*), American crow (*Corvus brachyrhynchos*), oak titmouse (*Baeolophus inornatus*), house sparrow (*Passer domesticus*), Canada goose (*Branta canadensis*), and house finch (*Haemorhous mexicanus*).

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 sites 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 study areas, previous reports for the study areas, and the results of surveys of the study areas. The potential for each special-status species to occur in the study areas was evaluated according to the following criteria:

- **No Potential.** Habitat on and adjacent to the site is clearly unsuitable for the species requirements (foraging, breeding, cover, substrate, elevation, hydrology, plant community, site history, disturbance regime), and species would have been identifiable on-site if present (e.g., oak trees). Protocol surveys (if conducted) did not detect species.
- **Low Potential.** Few of the habitat components meeting the species requirements are present, and/or the majority of habitat on and adjacent to the site is unsuitable or of very poor quality. The species is not likely to be found on the site. Protocol surveys (if conducted) did not detect species.
- **Moderate Potential**. Some of the habitat components meeting the species requirements are present, and/or only some of the habitat on or adjacent to the site is unsuitable. The species has a moderate probability of being found on the site.
- **High Potential.** All of the habitat components meeting the species requirements are present and/or most of the habitat on or adjacent to the site is highly suitable. The species has a high probability of being found on the site.
- **Present.** Species is observed on the site or has been recorded (e.g., CNDDB, other reports) on the site recently (within the last 5 years).

The following USFWS/NMFS 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 areas:

- "**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/NMFS.
- **"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. These determinations also require written concurrence from the USFWS/NMFS.

4.1 Special-Status Species

Rincon evaluated 74 special-status plant species and 46 special-status wildlife species for their potential to occur within the study areas (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 74 special-status plant species for their potential to occur within the study areas (Appendix D). Twenty-four of these species have documented occurrences within five miles of the study areas (CDFW 2021a, CNPS 2021). No special-status plant species have potential to occur within the project sites 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 sites 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 areas.

4.1.2 Special-Status Animal Species

Rincon evaluated 46 special-status wildlife species for their potential to occur within the study areas (Appendix D). Of these, two federally listed species, one state listed species, and eight other special-status species have either low or moderate potential to occur. The remaining 35 special-status wildlife species that were evaluated are not expected to occur in the study areas 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 areas (Appendix D). For the purposes of CEQA analysis, special-status species with low potential to occur will not be addressed further. For the purposes of NEPA analysis, federally listed species with low potential to occur on site are discussed in further detail below. Table 1 provides a summary of special-status wildlife species with potential to occur within the study areas.

Table 1 Special-status Wildlife Species with Potential to Occur within the Study Areas

Common Name	Scientific Name	Status	Potential to Occur
steelhead – central California coast DPS	*Oncorhynchus mykiss irideus pop. 8*	FT	Low Potential
California red-legged frog	*Rana draytonii*	FT/SSC	Low Potential
Cooper's hawk	*Accipter cooperii*	WL	Moderate Potential
pallid bat	*Antrozous pallidus*	SSC	Moderate Potential
Townsend's big-eared bat	*Corynorhinus townsendii*	SSC	Moderate Potential
western mastiff bat	*Eumops perotis californicus*	SSC	Moderate Potential

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

Steelhead – Central California Coast DPS

The central California coast steelhead is listed as federally threatened. This distinct population segment (DPS) includes naturally spawned anadromous steelhead originating below natural and manmade impassable barriers from the Russian River to and including Aptos Creek, and all drainages of San Francisco and San Pablo Bays eastward to Chipps Island at the confluence of the Sacramento and San Joaquin Rivers (NMFS 2016). This species of fish requires perennial stream habitat with an optimum temperature in the range of 46 to 52 °F. Streams with high velocity and obstacles may hinder steelhead migration to the Pacific Ocean. The preferred depth for spawning ranges from six to 24 inches with an average depth of 14 inches. Steelhead mostly utilize gravel-sized material for spawning but will also use mixtures of sand-gravel and gravel-cobble.

One occurrence of the species is documented in the CNDDB (1990) within five miles of the study areas (CDFW 2021a). This occurrence is recorded in Alameda Creek, to the south of the Industrial Parkway crossing site. The perennial stream at the Industrial Parkway crossing site flows to the west into Ward Creek that then ties into Alameda Creek flowing into the San Francisco Bay. Although the stream habitat at this crossing site is fairly shallow, it may provide marginally suitable aquatic habitat for migrating steelhead. Therefore, this species has a low potential to occur within the study areas during migration.

California Red-legged Frog

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

Five occurrences of the species are documented in the CNDDB within five miles of the study areas, the most recent of which are from 2008 (CDFW 2021a). Some marginally suitable vegetation and upland habitat exists within the study area at the Industrial Parkway crossing site. The CRLF has a low potential to occur within the study area during dispersal, particularly following rain events.

Cooper's Hawk

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).

There are two occurrences of the species (in 2006) documented in the CNDDB within five miles of the study area (CDFW 2021a). There are multiple recent occurrences of the species documented in eBird within five miles of the study area (Cornell Lab or Ornithology 2020a). Suitable nesting habitat for the species exists within the study areas in ornamental trees. Additionally, trees within 500 feet of the project sites may provide suitable nest sites. The species has a moderate potential to nest or forage within the study areas.

4.1.3 Other Protected Species

Special-Status Bats

Pallid bat, Townsend's big-eared bat, and western mastiff bat are all State species of special concern. Pallid bats are found in grasslands, shrublands, woodlands, and forests, and may roost in trees or buildings. Townsend's big-eared bat and western mastiff bat are found in a wide variety of habitats and may roost in abandoned buildings or large trees. Bats prefer open areas or open areas under a tree canopy for foraging, and often roost near water. Several trees containing dense canopy cover as well as buildings or structures present within the study areas and may provide suitable roosting habitat for these special-status bat species. Pallid bat, Townsend's big-eared bat, and western mastiff bat all have a moderate potential to roost in the trees or structures present in the study areas or project vicinity.

Nesting Birds

Non-game migratory birds protected under the MBTA and CFGC have the potential to breed and forage throughout the study areas. Species of birds common to the area that typically occur in the region, such as red-tailed hawk (*Buteo jamaicensis*), California scrub jay (*Aphelocoma californica*), black phoebe (*Sayornis nigricans*), Anna's hummingbird (*Calypte anna*), house finch, American crow, Brewer's blackbird (*Euphagus cyanocephalus*), may nest in trees or structures in the study areas. Suitable nesting habitat within the study areas could include human-made structures and the ground surface. Shrubs and trees within 500 feet of the project sites could provide nesting habitat for nesting birds and raptors.

4.2 Sensitive Plant Communities and Critical Habitats

Four sensitive natural communities are known to occur within the 12-quadrangle search radius. These include Northern Coastal Salt Marsh, Northern Maritime Chaparral, Serpentine Bunchgrass, and Valley Needlegrass Grassland. None of these communities occur within the study areas for the crossings and trespass area.

Critical habitat for the federally threatened CRLF and State and federally threatened Alameda whipsnake (*Masticophis lateralis euryxanthus*) is located approximately 4.5 to five miles east of the study areas alignment along the UPRR tracks (USFWS 2021b).

4.3 Jurisdictional Waters and Wetlands

The perennial stream, drainage ditch, and freshwater emergent wetland at the Industrial Parkway crossing site as well as the drainage ditch at the Tennyson Road crossing site may potentially be under the jurisdiction of the RWQCB. The perennial stream and drainage ditch at the Industrial Parkway crossing site have the potential to be under the jurisdiction of USACE. The perennial stream and freshwater emergent wetland at Industrial Parkway have the potential to be under CDFW jurisdiction because of their potential to provide habitat for special-status species.

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 crossing sites within the study area are all located in developed areas with an active railway running through the sites. An Essential Connectivity Area occurs 1.5 miles to the east of the study area and runs parallel to the sites along the San Leandro Hills and south to the Calaveras Reservoir. A Natural Landscape Block occurs approximately 1.7 miles to the east, surrounding Lake Chabot and the San Leandro Hills. Despite these proximal areas that provide migration corridors and high-quality habitat, the study area does not provide a significant migratory or dispersal corridor for land-based species due to its developed nature and frequent disturbance from trains and vehicles passing through. Avian species are likely to traverse the project sites regularly because of their location near the San Francisco Bay and proximity to undeveloped natural areas.

4.5 Resources Protected by Local Policies and Ordinances

The proposed project is located at sites in San Leandro, San Lorenzo, Hayward, and unincorporated Alameda County. Project activities are subject to the Alameda County General Plan, the San Leandro 2035 General Plan, and the Hayward General Plan 2040. These plans include policies to protect sensitive viewsheds and biological resources, including trees, open space, wetlands, wildlife corridors, and riparian woodland habitat. A list of General Plan policies that pertain to sensitive viewsheds and biological resources can be found in Appendix A.

Additionally, the proposed project is subject to the Alameda County Municipal Code, the City of San Leandro Municipal Code and the Hayward Municipal Code. These Municipal Codes include ordinances for the protection of certain trees within unincorporated Alameda County and the cities of San Leandro and Hayward. A list of relevant ordinances can also be found in Appendix A.

4.6 Habitat Conservation Plans

The study areas do not fall within the boundaries of any Habitat Conservation Plans.

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 expected. The project is expected to have ***no effect*** on any federally protected plant species.

5.1.2 Special-Status Wildlife Species

Impacts to six special-status wildlife species are addressed below. Four have moderate potential and two have low potential to occur within the study areas. For the purposes of CEQA analysis, special-status species with low potential to occur have not been addressed unless they are federally listed. For the purposes of NEPA analysis, potential effects of project implementation to each of the federally listed wildlife species with potential to occur on-site are described below. Recommended avoidance and mitigation measures for reducing potential effects to less than significant are also provided.

Steelhead – Central California Coast DPS

The central California coast DPS of steelhead has a low potential to occur within aquatic habitats in the study area at the Industrial Parkway crossing site. This species may utilize the perennial stream habitat running below the UPRR tracks at the Industrial Parkway crossing during migration. The species is unlikely to be directly impacted by project activities except in the event that individuals are migrating through the study area during construction activity. Impacts to migrating individuals would be significant if they were present in the work area during construction and could include injury or mortality of individuals. Vegetation and/or pavement removal, and proposed safety feature installation, such as medians or curb and gutters, could result in erosion into the perennial stream, resulting in increased turbidity and sedimentation, degrading migratory habitat conditions for steelhead. Construction-related spills of fuels or other potentially toxic substances could discharge into the perennial stream. Injury, mortality, or harassment of even a single individual would be a violation of the federal ESA. Indirect impacts could include runoff or sedimentation into nearby wetland and aquatic habitat. **The project may affect but is not likely to adversely affect** the

species. Mitigation Measure BIO-1 would require a worker environmental awareness program (WEAP) to educate construction personnel in recognizing special-status species within the study area at the two sites where this species has low potential to occur. Additionally, Mitigation Measure BIO-2 provides recommendations for reducing potential impacts to the steelhead and steelhead habitat to less than significant.

California red-legged frog

Based on proximity to potential aquatic habitat, the CRLF has a low potential to occur within the study area of the Industrial Parkway railroad crossing during upland dispersal. The species is unlikely to be directly impacted by project activity except in the event that individuals are dispersing through the project area during construction activity. The perennial stream and freshwater emergent wetland habitats at this site provide suitable habitat, but there is no potential for this species to occur in the rest of the study area. Impacts to dispersing individuals would be significant if they were present in the work area during construction and could include injury or mortality of individuals. Injury, mortality, or harassment of even a single individual would be a violation of the federal ESA. No impacts to breeding habitat or upland refugia are expected. Indirect impacts could include runoff or sedimentation of nearby wetland habitat. ***The project may affect but is not likely to adversely affect*** the species. Mitigation Measure BIO-1 would require a worker environmental awareness program (WEAP) to educate construction personnel in recognizing special-status species within the study area at the two sites where this species has low potential to occur. Additionally, Mitigation Measure BIO-3 provides recommendations for reducing potential impacts to the California red-legged frog to less than significant.

Cooper's Hawk

Cooper's hawk is a special-status raptor species with a moderate potential to forage, fly over, or nest within the study areas. Suitable nesting habitat for the species exists within the study areas in ornamental trees. Additionally, trees within 500 feet of the project sites may provide suitable nest sites. Should this species be present on-site during construction, direct effects could include injury or mortality from construction activity, or nest abandonment from construction noise, dust, and other project activities. These impacts would be considered potentially significant, but mitigable. Due to the relatively small size and previously developed nature of the project sites, it is unlikely that project activities would result in a significant impact to foraging habitat for Cooper's hawk. Mitigation Measure BIO-1 would require a worker environmental awareness program (WEAP) to educate construction personnel in recognizing special-status species within the study areas. Additionally, Mitigation Measure BIO-4 includes recommendations for reducing potential impacts to raptors nesting within the vicinity of the project sites to less than significant.

5.1.3 Special-Status Bats

Special-status bats such as pallid bat, Townsend's big-eared bat, and western mastiff bat are state species of special concern and have potential to occur within the study areas. Pallid bats are found in grasslands, shrublands, woodlands, and forests, and may roost in trees or buildings. Townsend's big-eared bat and western mastiff bats are found in a wide variety of habitats and may roost in abandoned buildings or large trees. Bats prefer open areas or open areas under a tree canopy for foraging, and often roost near water. Although the study areas are primarily developed, large trees, abandoned structures and buildings within and surrounding the project sites provide suitable roosting habitat for special-status bat species. Disturbance of maternity roosts from construction

activities, resulting in roost destruction or abandonment, would be a potentially significant impact to bat species and would be violations of the CFGC. Adverse effects on special-status bats would be a potentially significant impact under CEQA. Mitigation Measure BIO-1 would require a worker environmental awareness program (WEAP) to educate construction personnel in recognizing special-status species within the study areas. Additionally, Mitigation Measure BIO-5 provides recommendations for reducing potential impacts to roosting bats within the vicinity of the project sites to less than significant.

5.1.4 Nesting Birds

Nesting special-status bird species and/or 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). Should nesting birds be present within the project site 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-4 provides recommendations for reducing impacts to nesting birds to less than significant.

Mitigation Measures

BIO-1 Worker Environmental Awareness Program (WEAP)

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

BIO-2 Steelhead Habitat Protection and Wetland Best Management Practices

Best management practices (BMPs) shall be implemented during all construction activities that take place in or adjacent to the drainage ditches, freshwater emergent wetland, or perennial stream at the Industrial Parkway crossing or Tennyson Road crossing locations to prevent erosion and sedimentation into the stream and to prevent the spill of contaminants in or around the stream. Construction at the Industrial Parkway crossing should occur between June and December, outside of steelhead migration season in the region.

At minimum, the following BMPs will be implemented on-site during 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.

BIO-3 CRLF Pre-Construction Survey and Impact Avoidance

A qualified biologist shall conduct a pre-construction survey within 14 days prior to initiation of construction activities at the Industrial Parkway crossing. The USFWS will be notified should CRLF be observed within the project site. The following avoidance and mitigation measures should be implemented to avoid impacts to CRLF:

- Construction crew shall be taught during the WEAP training to check beneath the staging equipment each morning prior to commencement of daily construction activities. Should CRLF occur within the staging areas, construction activities shall be halted until the CRLF vacates the project site on its own or until a biologist with a USFWS Recovery Permit for CRLF relocates the CRLF.
- A qualified biologist shall be present during all grading and initial ground disturbing activities. Should CRLF be observed within the project site, the USFWS shall be notified and construction shall be halted until either the CRLF exits the site on its own or until a biologist with a USFWS Recovery Permit for CRLF relocates the CRLF.
- No work should occur during a rain event (over 0.25”). If a rain event occurs, a qualified biologist should inspect the site again prior to resuming work.

BIO-4 Pre-Construction Survey for Raptors and Nesting Birds

Ground disturbance and vegetation removal activities should be restricted to the non-breeding season (September 16 to January 31) when feasible. If construction activities occur during the nesting bird season (February 1 to September 15), 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 pre-construction 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 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 of up to 500 feet 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.

BIO-5 Roosting Bats Avoidance and Minimization Measures

If construction requires removal of trees, a qualified biologist shall conduct a focused survey of all trees to be removed or impacted by construction activities to determine whether active roosts of special-status bats are present on site. If tree removal is planned for the fall, the survey shall be

conducted in September to ensure tree removal will have adequate time to occur during seasonal periods of bat activity (March 1 to April 15, September 1 to October 15, or when evening temperatures rise above 45 degrees Fahrenheit and/or no more than 0.5 inch of rainfall within 24 hours occurs, as described below). If tree removal is planned for the spring, then the survey shall be conducted during the earliest possible time in March, to allow for suitable conditions for both the detection of bats and subsequent tree removal. Trees containing suitable potential bat roost habitat features shall be clearly marked or identified. If day roosts are found to be potentially present, the biologist shall prepare a site-specific roosting bat protection plan to be implemented by the contractor following the Alameda County Transit Commission's approval. The plan shall incorporate the following guidance as appropriate:

- When possible, removal of trees identified as suitable roosting habitat should be conducted during seasonal periods of bat activity, including the following:
    1. Between September 1 and about October 15, or before evening temperatures fall below 45 degrees Fahrenheit and/or more than 0.5 inch of rainfall within 24 hours occurs.
    2. Between March 1 and April 15, or after evening temperatures rise above 45 degrees Fahrenheit and/or no more than 0.5 inch of rainfall within 24 hours occurs.

- If a tree must be removed during the breeding season and is identified as potentially containing a colonial maternity roost, then a qualified biologist shall conduct acoustic emergence surveys or implement other appropriate methods to further evaluate if the roost is an active maternity roost. Under the biologist's guidance, the contractor shall implement measures similar to or better than the following:
    a. If it is determined that the roost is not an active maternity roost, then the roost may be removed in accordance with the other requirements of this measure.
    b. If it is found that an active maternity roost of a colonial roosting species is present, the roost shall not be disturbed during the breeding season (April 15 to August 31).

- Potential non-colonial hibernation roosts shall only be removed during seasonal periods of bat activity. Potential non-colonial roosts that cannot be avoided shall be removed on warm days in late morning to afternoon when any bats present are likely to be warm and able to fly. Appropriate methods shall be used to minimize the potential harm to bats during tree removal. Such methods may include using a two-step tree removal process. This method is conducted over two consecutive days and works by creating noise and vibration by cutting non-habitat branches and limbs from habitat trees using chainsaws only (no excavators or other heavy machinery) on day one. The noise and vibration disturbance, together with the visible alteration of the tree, is very effective in causing bats that emerge nightly to feed to not return to the roost that night. The remainder of the tree is removed on day two.

5.2 Sensitive Plant Communities

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

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

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.

The Industrial Parkway crossing site includes a drainage ditch and Ward Creek within the study area. No direct impacts to Ward Creek and associated wetlands or the drainage ditch are planned, although indirect impacts from project activities could occur if sediment or pollutants were allowed to enter nearby waterways. Implementation of recommendations in Mitigation Measure BIO-2 and the Stormwater Pollution and Prevention Plan (SWPPP) that shall be prepared in compliance with Regional Water Quality Control Board requirements would prevent impacts to Ward Creek and its wetlands from the construction of other planned safety improvements adjacent to the channel.

Project construction is not expected to directly impact the drainage ditch at the Tennyson Road crossing study area. Any indirect impacts will be avoided through implementation of recommendations in Mitigation Measure BIO-2 and the SWPPP.

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.

There are no Natural Landscape Blocks or Essential Connectivity Areas mapped within the study areas. Wildlife movement within the study area and surrounding land has long been disrupted by train and vehicular traffic, and wildlife would not be prevented from moving around the area of project disturbance. The project is not expected to substantially alter existing wildlife movement or interfere with established resident or migratory wildlife corridors. Therefore, impacts to wildlife movement would be less than significant.

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 Alameda County General Plan, the San Leandro 2035 General Plan, and the Hayward General Plan 2040, as well as the Alameda County Municipal Code, the City of San Leandro Municipal Code, and the Hayward Municipal Code.

The Alameda County General Plan, Conservation Element establishes a goal of protecting and enhancing wildlife habitats and natural vegetation areas in the County. This includes the objectives of identifying areas of sensitive concern and maintaining a level of diversity appropriate to this area. The San Leandro 2035 General Plan and Hayward General Plan 2040 both include policies to protect sensitive habitats and special-status species through identification, mapping, and avoidance (San

Leandro Policy OSC-6.4 and Hayward Policies NR-1.2, -1.3). Additionally, the San Leandro 2035 General Plan includes Action OSC-6.4.A requiring biological assessments for development in areas where special-status species may be present. This BRA serves as the environmental analysis to identify sensitive habitats and special-status species that would satisfy these General Plan objectives and policies.

Both Alameda County and the City of San Leandro Municipal Codes require the removal or alteration of street trees be approved by the Director of Public Works. As described below in Appendix A, the City of Hayward Municipal Code requires a permit for the removal or alteration of Protected Trees within the city. The proposed project would involve safety improvements to existing railroad crossings and trespass areas, and tree removal or trimming is not currently planned. However, should street tree removal or trimming be necessary at the project sites in unincorporated Alameda County or the city of San Leandro, the project applicant would be required to obtain the approval of the Director of Public Works in compliance with Alameda County Municipal Code Chapter 12.11 and City of San Leandro Chapter 5-2, respectively. If tree removal or trimming is found necessary in the city of Hayward, the project applicant would be required to obtain a tree permit from the City's landscape architect pursuant to City of Hayward Municipal Code Chapter 10, Article 15.

With adherence to these General Plan and Municipal Code requirements 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 project sites are not within any applicable Habitat Conservation Plan or Natural Conservation Community Plan areas. Therefore, the proposed project would not conflict with 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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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);
- Alameda County General Plan;
- San Leandro 2035 General Plan;
- Hayward General Plan 2040

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 anadromous 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

Alameda County General Plan

The Conservation Element of the Alameda County General Plan includes the following goals and objectives to protect vegetative and wildlife resources:

VEGETATIVE AND WILDLIFE RESOURCES

Goal: To protect and enhance wildlife habitats and natural vegetation areas in Alameda County.

1. To identify areas of critical or sensitive concern for wildlife and vegetation.
2. To maintain and, if necessary, restore deteriorating environments to a level of diversity appropriate in this area of California.
3. To identify the principles of resource management as criteria for resource evaluation.
4. To educate government, business and citizens to conserve and protect wildlife resources.

Alameda County Municipal Code Chapter 12.11 – Regulation of Trees in County Right-of-Way

Under Alameda County Municipal Code Chapter 12.11, the alteration or removal of trees within the County's right-of-way is prohibited without prior written approval from the Director of the Alameda County Public Works Agency. Under this chapter, the planting, maintaining, or removing of any tree in the County's right-of-way is subject to an encroachment permit approved by the director.

San Leandro 2035 General Plan

The Open Space, Parks, and Conservation Element of the San Leandro 2035 General Plan includes the following goals, policies and actions to protect biological resources:

Goal OSC-1: Identify, protect, and enhance San Leandro's significant plant and animal communities.

Policy OSC-6.1 Ecosystem Management. Promote the long-term conservation of San Leandro's remaining natural ecosystems, including wetlands, grasslands, and riparian areas. Future development should minimize the potential for adverse impacts to these ecosystems and should promote their restoration and enhancement.

Policy OSC-6.2 Mitigation of Development Impacts. Require measures to mitigate the impacts of development or public improvements on fish and wildlife habitat, plant resources, and other valuable natural resources in the City.

Policy OSC-6.3 Habitat Restoration. Encourage the restoration of native vegetation in the City's open spaces as a means of enhancing habitat and reducing wildfire hazards.

Policy OSC-6.4 Species of Special Concern. Ensure that local planning and development decisions do not damage the habitat of rare, endangered, and threatened species, and other species of special concern in the City and nearby areas.

Action OSC-6.4.A: Biological Assessments. *Require biological assessments for development in areas where special status species may be present. Require mitigation in accordance with state and federal regulations where potential adverse impacts exist*.

Policy OSC-6.6 Intergovernmental Coordination. Coordinate with the appropriate regional, state and federal agencies and other organizations in their efforts to conserve and enhance ecological resources in San Leandro. Refer local projects to these agencies as required for their review and comment.

City of San Leandro Municipal Code Chapter 5-2 – Street Trees

Under City of San Leandro Municipal Code Chapter 5-2, the planting, removal, pruning, injuring or destruction of any street tree is prohibited. Under this chapter, removal or alteration of any street tree within the city must be approved by the Public Works Director.

Hayward General Plan 2040

The Natural Resources Element of the Hayward General Plan 2040 includes the following goals and policies to protect biological resources:

Goal NR-1: Protect, enhance, and restore sensitive biological resources, native habitat, and vegetation communities that support wildlife species so they can be sustained and remain viable.

Policy NR-1.1: Native Wildlife Habitat Protection. The City shall limit or avoid new development that encroaches into important native wildlife habitats; limits the range of listed or protected species; or creates barriers that cut off access to food, water, or shelter of listed or protected species.

Policy NR-1.2: Sensitive Habitat Protection. The City shall protect sensitive biological resources, including State and Federally designated sensitive, rare, threatened, and endangered plant, fish, and wildlife species and their habitats from urban development and incompatible land uses.

Policy NR-1.3: Sensitive Species Identification, Mapping, and Avoidance. The City shall require qualified biologists to identify, map, and make recommendations for avoiding all sensitive biological resources on the project site, including State and Federally sensitive, rare, threatened, and endangered plant, fish, and wildlife species and their habitats using methods and protocols in accordance with the U.S. Fish and Wildlife Service, California Department of Fish and Wildlife,

and California Native Plant Society for all development applications proposed within sensitive biological resource areas.

Policy NR-1.5: Large-Scale Natural Area Access. The City shall support efforts to improve access to publicly owned large-scale natural areas located within the , including the shoreline, creeks, regional parks, riparian corridors, and hillside open space areas, by allowing them to be open for controlled access to improve public enjoyment and education, while also limiting access to extremely sensitive natural habitat and minimizing human-related environmental impacts.

Policy NR-1.7: Native Tree Protection. The City shall encourage protection of mature, native tree species to the maximum extent practicable, to support the local eco-system, provide shade, create windbreaks, and enhance the aesthetics of new and existing development.

Policy NR-1.10: Creek Daylighting. The City shall identify and create opportunities for "daylighting" existing creeks that are currently contained within culverts or hardened channels to reestablish riparian habitat, provide public access and enjoyment, and improve aesthetics.

NR-1.12: Riparian Corridor Habitat Protection. The City shall protect creek riparian corridor habitats by:

1. Requiring sufficient setbacks for new development adjacent to creek slopes,
2. Requiring sensitive flood control designs to minimize habitat disturbance,
3. Maintaining natural and continuous creek corridor vegetation,
4. Protecting/replanting native trees, and
5. Protecting riparian plant communities from the adverse effects of increased stormwater runoff, sedimentation, erosion, and pollution that may occur from improper development in adjacent areas.

City of Hayward Municipal Code Chapter 10, Article 15 – Tree Preservation

The City of Hayward Municipal Code Chapter 10, Article 15, requires a permit for the removal, destruction, or cutting of branches over one inch in diameter, or disfigurement of any Protected Tree. It also requires that all removed or disfigured trees be replaced with like-size, like-kind trees or equivalent value of trees as determined by the City's landscape architect. Protected Trees are defined as:

- Trees having a minimum trunk diameter of eight inches measured 54" above the ground. When measuring a multi-trunk tree, the diameters of the largest three trunks shall be added together.
- Street trees or other required trees such as those required as a condition of approval, Use Permit, or other Zoning requirement, regardless of size.
- All memorial trees dedicated by an entity recognized by the City, and all specimen trees that define a neighborhood or community.
- Trees of the following species that have reached a minimum of four inches diameter trunk size:
  - Big Leaf Maple (*Acer macrophyllum*)
  - California Buckeye (*Aesculus californica*)
  - Madrone (*Arbutus menziesii*)
  - Western Dogwood (*Cornus nuttallii*)
  - California Sycamore (*Platanus racemosa*)
  - Coast Live Oak (*Quercus agrifolia*)
  - Canyon Live Oak (*Quercus chrysolepis*)

  - Blue Oak (*Quercus douglasii*)
  - Oregon White Oak (*Quercus garryana*)
  - California Black Oak (*Quercus kelloggii*)
  - Valley Oak (*Quercus lobata*)
  - Interior Live Oak (*Quercus wislizenii*)
  - California Bay (*Umbellularia californica*)
- A tree or trees of any size planted as a replacement for a Protected Tree.

Additional conditions of approval under the HMC may include, but are not limited to:

- Monitoring of all pruning (including roots), trimming or relocation of Protected Trees by a certified arborist.
- Root zone protection measures including non-movable fencing to establish and maintain protection zones prior to and through completion of construction.
- Maintenance of Protected Trees throughout construction.

Appendix B

Site Photographs

Photograph 1. Overview of the railroad crossing from the southwest corner at Marina Boulevard (Coast), facing northeast.

Photograph 2. View of the railroad crossing at Marina Boulevard (coast) from the south, facing north.

Photograph 3. Overview of the railroad crossing at Marina Boulevard (Coast) from the northeast corner, facing southwest.

Photograph 4. View of landscaping and existing pavement marking south of the railroad crossing at Washington Avenue, facing east-southeast.

Photograph 5. View of existing pedestrian crossing at Washington Avenue railroad crossing, facing north.

Photograph 6. View of railroad crossing at Washington Avenue, facing southeast.

Photograph 7. View of existing pavement marking at Washington Avenue railroad crossing, facing northwest.

Photograph 8. View of existing pedestrian crossing on the west side of the Hesperian Boulevard railroad crossing, facing north.

Photograph 9. View of existing pedestrian crossing on the west side of the Hesperian Boulevard railroad crossing, facing south.

Photograph 10. View of existing pavement marking north of the railroad crossing at Hesperian Boulevard, facing north.

Photograph 11. View of railroad tracks east of existing pedestrian crossing on the north side of the Hesperian Boulevard crossing, facing southeast.

Photograph 12. View of existing pavement marking south of the railroad crossing at Hesperian Boulevard, facing north.

Photograph 13. View of the intersection of Springlake Drive and Hesperian Boulevard within the study area, facing west-northwest.

Photograph 14. View from railroad crossing at Lewelling Boulevard, facing northwest.

Photograph 15. View of existing pavement marking west of the railroad crossing at Lewelling Boulevard, facing east.

Photograph 16. View of railroad tracks and safety measures to be improved north of the crossing at Lewelling Boulevard, facing west-northwest.

Photograph 17. View of existing pavement marking east of the railroad crossing at Lewelling Boulevard, facing west-southwest.

Photograph 18. View from railroad crossing at Lewelling Boulevard, facing southeast.

Photograph 19. View of Tennyson High School pedestrian crossing from Huntwood Avenue sidewalk, facing east.

Photograph 20. View of Tennyson High School pedestrian crossing, facing east.

Photograph 21. View of Tennyson High School pedestrian crossing, facing south-southeast. Leidig Trespass Area extends to the south along Huntwood Avenue.

Photograph 22. View of Leidig Trespass Area at the intersection of Leidig Road, Huntwood Avenue, and Harris Road, facing north-northwest.

Photograph 23. View of Leidig Trespass Area at the intersection of Leidig Road, Huntwood Avenue, and Harris Road, facing east-northeast.

Photograph 24. Overview of the railroad crossing at Tennyson Road, facing east.

Photograph 25. View of the railroad crossing at Tennyson Road, facing southeast.

Photograph 26. View of railroad tracks to the south of the Tennyson Road crossing, facing east-northeast. A drainage ditch occurs along to the east of the tracks.

Photograph 27. View of ruderal vegetation along the drainage ditch to the southeats of the Tennyson Road railroad crossing, facing southeast.

Photograph 28. View of landscaping along Industrial Parkway southwest of the railroad crossing at Industrial Parkway, facing east-northeast.

Photograph 29. View of gates to the northwest of the Industrial Parkway railroad crossing, facing Washington Avenue railroad crossing, facing north-northeast.

Photograph 30. View of drainage ditch to the east of the railroad tracks on the northwest side of the railroad crossing at Industrial Parkway, facing northwest.

Photograph 31. View of culvert that connects drainage ditch on northwest side of Industrial Parkway to Ward Creek on the southeast side of Industrial Parkway, facing north.

Photograph 362. View of bridge over Ward Creek to the southeast of the Industrial Parkway railroad crossing, facing southeast.

Photograph 33. View of bridge over Ward Creek and pedestrian crossing for trail to the southeast of Industrial Parkway railroad crossing, facing northeast.

Photograph 34. View of Ward Creek from the northwest side of the railroad bridge southeast of Industrial Parkway railroad crossing, facing east.

Photograph 35. View of Ward Creek from the northwest side of the railroad bridge southeast of Industrial Parkway railroad crossing, facing southwest.

Appendix C

Floral and Faunal Compendium

Plant Species Observed Within the Study Areas on April 14/15/17, 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*
Liquidambar styraciflua	sweetgum	*None*	*Introduced*
Magnolia spp.	magnolia	*None*	*Introduced*
Malus spp.	apple	*None*	*Introduced*
Platanus spp.	plane tree	*None*	*Introduced*
Pistacia chinensis	Chinese pistache	*None*	*Introduced*
Prunus spp.	plum	*None*	*Introduced*
Sequoia sempervirens	coast redwood	None	Native (Planted)
Shrubs			
Bassia scoparia	burning bush	None	Introduced
Rhaphiolepis indica	Indian hawthorn	None	Introduced
Herbs			
Brassica nigra	black mustard	None	Introduced, Cal-IPC Moderate
Dietes iridioides	African iris	None	Introduced
Erodium spp.	stork's bill	None	Introduced
Eschscholzia californica	California poppy	None	Native
Galium parisiense	wall bedstraw	None	Introduced
Hedera helix	English ivy	None	Introduced, Cal-IPC High
Helminthotheca echioides	bristly oxtongue	None	Introduced, Cal-IPC Limited
Malva parviflora	cheeseweed	None	Introduced
Raphanus raphanistrum	wild radish	None	Introduced
Rumex crispus	curly dock	None	Introduced, Cal-IPC Limited
Sonchus oleraceus	common sow thistle	None	Introduced
Trifolium hirtum	rose clover	None	Introduced, Cal-IPC Limited
Typha latifolium	cattail	None	Introduced
Grasses			
Avena barbata	slender oat	None	Introduced, Cal-IPC moderate
Avena fatua	wild oat	None	Introduced, Cal-IPC moderate
Bromus diandrus	ripgut brome	None	Introduced, Cal-IPC moderate
Digitaria spp.	crabgrass	None	Introduced
Distichlis spicata	Saltgrass	None	Native
Hordeum murinum	foxtail	None	Introduced, Cal-IPC moderate
Lolium spp.	ryegrass	None	Introduced

Cal-IPC = California Invasive Plant Council

Animal Species Observed Within the Study Areas on April 14/15/17, 2021

Scientific Name	Common Name	Status	Native or Introduced
Birds			
Anas platyrhynchos	mallard duck	None	Native
Baeolophus inornatus	oak titmouse	None	Native
Branta canadensis	Canada goose	None	Native
Corvus brachyrhynchos	American crow	None	Native
Haemorhous mexicanus	house finch	None	Native
Petrochelidon fulva	cave swallow	None	Introduced

Appendix D

Special Status Species Evaluation Tables

Special Status Plant Species in the Regional Vicinity of the Study Areas

Scientific Name Common Name	Status Fed/State ESA CRPR	Habitat Requirements	Potential to Occur/Effect Determination	Rationale
Acanthomintha duttonii San Mateo thorn-mint	FE/SE G1/S1 1B.1	Chaparral, valley and foothill grassland. Uncommon serpentinite vertisol clays; in relatively open areas. 50-185 m.	Not Expected/ No Effect	No suitable elevation, habitat (i.e., chaparral, valley and foothill grassland), or soils are present. The species is not expected to occur within the study areas.
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 areas.
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. The species is not expected to occur within the study areas.
Arctostaphylos auriculata Mt. Diablo manzanita	None/None G3/S3 1B.2	Chaparral, cismontane woodland. In canyons and on slopes. On sandstone. 180-565 m.	Not Expected	No suitable habitat (i.e., chaparral, cismontane woodland) or elevations are present. The species is not expected to occur within study areas.
Arctostaphylos manzanita ssp. *laevigata* Contra Costa manzanita	None/None G5T2/S2 1B.2	Chaparral. Rocky slopes. 150-610 m.	Not Expected	No suitable habitat (i.e., chaparral) or elevations are present. The species is not expected to occur within study areas.
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 areas.
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. This species is not expected to occur within the study areas.

Scientific Name Common Name	Status Fed/State ESA CRPR	Habitat Requirements	Potential to Occur/Effect Determination	Rationale
Astragalus pycnostachyus var. pycnostachyus coastal marsh milk-vetch	None/None G2T2/S2 1B.2	Coastal dunes, marshes and swamps, coastal scrub. Mesic sites in dunes or along streams or coastal salt marshes. 0-155 m.	Not Expected	No suitable habitat (i.e., coastal dunes, marshes and swamps, coastal scrub), or soils are present. This species is not expected to occur within the study areas.
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	Native grassland communities are not present in the study area. Historic occurrences have been recorded within 1 mile of the study areas but are thought to be extirpated (CDFW 2021a).
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 areas.
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 areas.
Campanula exigua chaparral harebell	None/None G2/S2 1B.2	Annual herb. Blooms May-June. Chaparral. Rocky sites, usually on serpentine in chaparral. 275-1250 m.	Not Expected	No suitable chaparral habitat is present. The species is not expected to occur within the study areas.
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 areas.
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	Suitable natural grassland habitat and alkaline soils are absent. Historic occurrences have been recorded within 1 mile of the study areas but are thought to be extirpated (CDFW 2021a).

Scientific Name Common Name	Status Fed/State ESA CRPR	Habitat Requirements	Potential to Occur/Effect Determination	Rationale
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. The species is not expected to occur within the study areas.
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. The species is not expected to occur within the study areas.
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 areas.
Cirsium fontinale var. *fontinale* fountain thistle	FE/SE G2T1/S1 1B.1	Chaparral (openings), cismontane woodland, meadow and seeps, valley and foothill grassland. 45 – 175 m. Perennial herb. Blooms (Apr)May-Jun.	Not Expected	No suitable habitat (i.e., chaparral, cismontane woodland, meadow and seeps, valley and foothill grassland) is present. The species is not expected to occur within the study areas.
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 areas.
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 areas.
Dirca occidentalis western leatherwood	None/None G2/S2 1B.2	Broadleafed upland forest, chaparral, closed-cone coniferous forest, cismontane woodland, north coast coniferous forest, riparian forest, riparian woodland. On brushy slopes, mesic sites; mostly in mixed evergreen & foothill woodland communities. 20-640 m.	Not Expected	No suitable forested or woodland habitat or soils are present. The species is not expected to occur within the study areas.

Scientific Name Common Name	Status Fed/State ESA CRPR	Habitat Requirements	Potential to Occur/Effect Determination	Rationale
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 areas.
Eriogonum truncatum Mt. Diablo buckwheat	None/None G1/S1 1B.1	Chaparral, coastal scrub, valley and foothill grassland. Dry, exposed clay or sandy substrates. 105-350 m.	Not Expected	No suitable habitat (i.e., chaparral, coastal scrub, valley and foothill grassland) or soils are present. The species is not expected to occur within the study areas.
Eriophyllum latilobum San Mateo woolly sunflower	FE/SE G1/S1 1B.1	Cismontane woodland, coastal scrub, lower montane coniferous forest. Often on roadcuts; found on and off of serpentine. 30-610 m.	Not Expected	No suitable habitat (i.e., cismontane woodland, coastal scrub, lower montane coniferous forest) or soils are present. The species is not expected to occur within the study areas.
Eryngium aristulatum var. *hooveri* Hoover's button-celery	None/None G5T1/S1 1B.1	Vernal pools. Alkaline depressions, vernal pools, roadside ditches and other wet places near the coast. 1-50 m.	Not Expected	No suitable vernal pool habitat or soils are present. The species is not expected to occur within the study areas.
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 areas.
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. The species is not expected to occur within the study areas.
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 areas.

Scientific Name Common Name	Status Fed/State ESA CRPR	Habitat Requirements	Potential to Occur/Effect Determination	Rationale
Fritillaria biflora var. *ineziana* Hillsborough chocolate lily	None/None G3G4T1/S1 1B.1	Cismontane woodland, valley and foothill grassland. Probably only on serpentine; most recent site is in serpentine grassland. 90-170 m.	Not Expected	No suitable habitat (i.e., cismontane woodland, valley and foothill grassland) or soils are present. The species is not expected to occur within the study areas.
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 areas.
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 areas.
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. The species is not expected to occur within the study areas.
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., broadleaved upland forest, chaparral, cismontane woodland, coastal scrub, riparian woodland, valley and foothill grassland) or soils are present. The species is not expected to occur within the study areas.
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 species has not been recorded within 5 miles of the study areas and was not observed during field surveys (CNDDB 2021a, Calflora 2021), thus the species is not expected to occur the within study areas.

Scientific Name Common Name	Status Fed/State ESA CRPR	Habitat Requirements	Potential to Occur/Effect Determination	Rationale
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 areas.
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 areas.
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 areas.
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	Suitable coastal prairie and scrub habitat are absent within the study areas. Historic occurrences have been recorded within 1 mile of the site but are thought to be extirpated (CDFW 2021a).
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 areas.
Juglans hindsii Northern California black walnut	None/None G1/S1 CBR	Riparian forest, Riparian woodland. 0 - 440 m. Blooms Apr-May	Not Expected	No suitable riparian forest or woodland habitat or soils are present. The species is not expected to occur within the study areas.

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 areas.
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 areas.
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 arachnoidea Crystal Springs lessingia	None/None G2/S2 1B.2	Coastal sage scrub, valley and foothill grassland, cismontane woodland. Grassy slopes on serpentine; sometimes on roadsides. 90-200 m.	Not Expected	No suitable habitat (i.e., coastal sage scrub, valley and foothill grassland, cismontane woodland) or soils are present. The species is not expected to occur within the study areas.
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 areas.
Malacothamnus davidsonii Davidson's bush-mallow	None/None G2/S2 1B.2	Coastal scrub, riparian woodland, chaparral, cismontane woodland. Sandy washes. 150-1525 m.	Not Expected	No suitable habitat (i.e., coastal scrub, riparian woodland, chaparral, cismontane woodland) or soils are present. The species is not expected to occur within the study areas.
Malacothamnus hallii Hall's bush-mallow	None/None G2/S2 1B.2	Chaparral, coastal scrub. Some populations on serpentine. 10-735 m.	Not Expected	No suitable habitat (i.e., chaparral, coastal scrub) or soils are present. The species is not expected to occur within the study areas.
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. The species is not expected to occur within the study areas.

Scientific Name Common Name	Status Fed/State ESA CRPR	Habitat Requirements	Potential to Occur/Effect Determination	Rationale
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 areas.
Navarretia myersii ssp. *myersii* pincushion navarretia	None/None G2T2/S2 1B.1	Vernal pools. Clay soils within non-native grassland. 45-100 m.	Not Expected	No suitable vernal pool habitat or soils are present. The species is not expected to occur within the study areas.
Navarretia nigelliformis ssp. *radians* shining navarretia	None/None G4T2/S2 1B.2	Cismontane woodland, valley and foothill grassland, vernal pools. Apparently in grassland, and not necessarily in vernal pools. 60-975 m.	Not Expected	No suitable habitat (i.e., cismontane woodland, valley and foothill grassland, vernal pools), or soils are present. The species is not expected to occur within the study areas.
Navarretia paradoxiclara Patterson's navarretia	None/None G2/S2 1B.3	Meadows and seeps. Serpentinite, openings, vernally mesic, often drainages. 150-435 m.	Not Expected	No suitable meadow and seep habitat, elevations, or soils are present. The species is not expected to occur within the study areas.
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 areas.
Phacelia phacelioides Mt. Diablo phacelia	None/None G2/S2 1B.2	Chaparral, cismontane woodland. Adjacent to trails, on rock outcrops and talus slopes; sometimes on serpentine. 605-1345 m.	Not Expected	No suitable habitat (i.e., chaparral, cismontane woodland), elevations, or soils are present. The species is not expected to occur within the study areas.
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. The species is not expected to occur within the study areas.

Scientific Name Common Name	Status Fed/State ESA CRPR	Habitat Requirements	Potential to Occur/Effect Determination	Rationale
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 areas.
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 areas.
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 areas.
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 areas.
Sanicula saxatilis rock sanicle	None/SR G2/S2 1B.2	Broadleafed upland forest, chaparral, valley and foothill grassland. Bedrock outcrops and talus slopes in chaparral or oak woodland habitat. 670-1250 m.	Not Expected	No suitable habitat (i.e., broadleafed upland forest, chaparral, valley and foothill grassland), elevations, or soils are present. The species is not expected to occur within the study areas.
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 areas.
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 areas.

Scientific Name Common Name	Status Fed/State ESA CRPR	Habitat Requirements	Potential to Occur/Effect Determination	Rationale
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. The species is not expected to occur within the study areas.
Streptanthus hispidus Mt. Diablo jewelflower	None/None G2/S2 1B.3	Valley and foothill grassland, chaparral. Talus or rocky outcrops. 245-975 m.	Not Expected	No suitable valley and foothill grassland habitat or soils are present. The species is not expected to occur within the study areas.
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 areas.
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 The species is not expected to occur within the study areas.
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. The species is not expected to occur within the study areas.
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 areas.
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 areas.

Scientific Name Common Name	Status Fed/State ESA CRPR	Habitat Requirements	Potential to Occur/Effect Determination	Rationale
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. The species is not expected to occur within the study areas.

Regional Vicinity refers to within a 9-quad search radius of site.

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

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

CRPR (CNPS California Rare Plant Rank):

1A=Presumed Extinct in California

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

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

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

CRPR Threat Code Extension:

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

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

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

Special Status Animal Species in the Regional Vicinity of the Study Areas

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 areas is not expected due to disturbance. One occurrence (1965) 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 areas is not expected due to disturbance. Five historical occurrences are recorded within 5 miles, the most recent of which was from 1994 (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 areas. 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	Suitable host plants are not present and presence within study areas is not expected due to disturbance. There are no documented occurrences within 5 miles of the study area (CDFW 2021a).
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 areas it is unlikely that this species will roost on-site. Five 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 host plants or habitat is present within the study areas. One occurrence was recorded within 5 miles, although it is considered to be extirpated (CDFW 2021a).
Lepidurus packardi vernal pool tadpole shrimp	FE/None G4/S3S4	Inhabits vernal pools and swales in the Sacramento Valley containing clear to highly turbid water. Pools commonly found in grass-bottomed swales of unplowed grasslands. Some pools are mud-bottomed and highly turbid.	Not Expected/ No Effect	No suitable grassland habitat or pools are present within the study areas. There are no documented occurrences within 5 miles of the study area (CDFW 2021a).
Speyeria serene myrtleae *Myrtle's silverspot butterfly*	FE/None G5T1/S1	Restricted to the foggy, coastal dunes/hills of the Point Reyes peninsula; extirpated from coastal San Mateo County. Larval foodplant thought to be *Viola adunca*.	Not Expected/ No Effect	No suitable habitat is present within the study areas, which is outside of the species range.
Fish				
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.
Oncorhynchus mykiss irideus pop. 8 steelhead - central California coast DPS	FT/None G5T2T3Q/S2S3	DPS includes all naturally spawned populations of steelhead (and their progeny) in streams from the Russian River to Aptos Creek, Santa Cruz County, California (inclusive). Also includes the drainages of San Francisco and San Pablo Bays.	Low Potential/ May Affect	Marginally suitable aquatic habitat is present within the perennial stream at Industrial Avenue. One occurrence (1995) was recorded within 5 miles (CDFW 2021a).
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 estuary habitats are not present.

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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.
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	The channelized streams and drainages do not provide appropriate substrate for this species. One occurrence (1960) was recorded within 5 miles, however it is thought to be extirpated (CDFW 2021a).
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.	Low Potential/ May Affect	Marginal suitable riparian vegetation and upland habitat is present within the study area at Industrial Parkway. The species has the potential to move through the study areas during dispersal. Five occurrences of the species have been recorded within 5 miles of the study areas (CDFW 2021a).
Reptiles				
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	Marginally suitable aquatic habitat is present within perennial stream and drainage ditch at the Industrial Parkway study area. However, the species is not expected to be present in a fully developed urban area, and no occurrences have been recorded within 5 miles (CDFW 2021a).

Scientific Name Common Name	Status Fed/State ESA Global/State CDFW	Habitat Requirements	Potential to Occur/Effect Determination	Rationale
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	Twenty-four 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	Marginally suitable aquatic habitat is present within the perennial stream at the Industrial Parkway study area, however this is outside of species range. The species is not expected to be present in a fully developed urban area, and no occurrences have been recorded within 5 miles (CDFW 2021a).
Birds				
Accipiter cooperii Cooper's hawk	None/None G5/S4 WL	Woodland, chiefly of open, interrupted or marginal type. Nest sites mainly in riparian growths of deciduous trees, as in canyon bottoms on river flood-plains; also, live oaks.	Moderate Potential	This species is likely to forage within the project area and has a moderate potential to nest in ornamental trees in and 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).
Agelauis tricolor tricolored blackbird	None/ST G1G2/S1S2 SSC	Highly colonial species, most numerous in Central Valley & vicinity. Largely endemic to California. Requires open water, protected nesting substrate, and foraging area with insect prey within a few km of the colony.	Low Potential	Open water is present at the perennial stream within the Industrial Parkway study area, however it lacks dense emergent vegetation and is in close proximity to developed areas. Once occurrence have been recorded within 5 miles, but none near the study areas (CDFW 2021a).

Scientific Name Common Name	Status Fed/State ESA Global/State CDFW	Habitat Requirements	Potential to Occur/Effect Determination	Rationale
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.	Low Potential	Rolling foothills, mountain areas, sage-juniper flats, and desert are absent, but the species has a low potential to forage in the study areas. Multiple occurrences have been recorded within 5 miles of the study areas (Cornell Lab of Ornithology 2021a).
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.
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.	Low Potential	Ruderal fields in the study area such as those at Marina Boulevard and Industrial Parkway may provide suitable habitat for these species, although no sign of burrowing owls was observed during the site visit. Numerous occurrences have been recorded within 5 miles of the study area (CDFW 2021a, Cornell Lab of Ornithology 2021a).
Buteo swainsoni Swainson's hawk	None/ST G5/S3	Breeds in grasslands with scattered trees, juniper-sage flats, riparian areas, savannahs, & agricultural or ranch lands with groves or lines of trees. Requires adjacent suitable foraging areas such as grasslands, or alfalfa or grain fields supporting rodent populations.	Not Expected	Grassland and some riparian habitats are present however, more suitable foraging areas are present farther from developed areas near the study areas. No occurrences are recorded in CNDDB within five miles, and recent eBird sightings are found far to the east of the study areas.
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.

Scientific Name Common Name	Status Fed/State ESA Global/State CDFW	Habitat Requirements	Potential to Occur/Effect Determination	Rationale
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	Coastal marsh and suitable shrubby vegetation are absent, but the species has a low potential to forage in the study areas. Multiple occurrences have been recorded within 5 miles of the study areas (CDFW 2021a, Cornell Lab of Ornithology 2021a).
Coturnicops noveboracensis yellow rail	None/None G4/S1S2 SSC	Summer resident in eastern Sierra Nevada in Mono County. Occurs in freshwater marshlands.	Not Expected	Freshwater marshlands are absent, and riparian wetlands present in the study areas do not provide suitable cover for this species. Historic occurrences have been recorded within 5 miles of the study areas, (CDFW 2021a, Cornell Lab of Ornithology 2021a).
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.	Low Potential	Suitable marsh habitat or open grassland habitats are absent, but the species has a low potential to forage in the study areas. Multiple occurrences have been recorded within 5 miles of the study areas (CDFW 2021a, Cornell Lab of Ornithology 2021a).
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.	Low Potential/ May Affect	Suitable nesting habitat is not present; however, this species has a low potential to forage in the study areas. Multiple occurrences have been recorded within 5 miles of the study areas (CDFW 2021a. Cornell Lab of Ornithology 2021a).
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 areas. 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
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 areas. 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 areas. 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 salt water and brackish marsh habitats are not present within the study areas.
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 areas.
Setophaga petechia yellow warbler	None/None G5/S3S4 SSC	Riparian plant associations in close proximity to water. Also nests in montane shrubbery in open conifer forests in Cascades and Sierra Nevada. Frequently found nesting and foraging in willow shrubs and thickets, and in other riparian plants including cottonwoods, sycamores, ash, and alders.	Not Expected	Suitable riparian habitats are not present within the study areas.
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 areas.

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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.	Moderate Potential	Suitable roosting habitat for the species may be present within the study areas, although the species is sensitive to disturbance. Two occurrences are recorded within 5 miles of the study area (CDFW 2021a).
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.	Moderate Potential	Suitable roosting habitat for the species may be present within the study areas, although the species is sensitive to disturbance.
Eumops perotis californicus western mastiff bat	None/None G4G5T4/S3S4 SSC	Occurs in open, semi-arid to arid habitats, including coniferous and deciduous woodlands, coastal scrub, grasslands, and chaparral. Roosts in crevices in cliff faces and caves, and buildings. Roosts typically occur high above ground.	Moderate Potential	Suitable roosting habitat for the species may be present within the study areas, although the species is sensitive to disturbance. One occurrence is recorded within 5 miles of the study area (CDFW 2021a).
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.
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	Suitable roosting habitat is absent, and the site is heavily disturbed by trains and road traffic.
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 suitable salt marsh habitat is present within the study area. All occurrences within 5 miles are recorded along the shoreline of the San Francisco Bay (CDFW 2021a). The study areas are outside of this species' range.

Scientific Name Common Name	Status Fed/State ESA Global/State CDFW	Habitat Requirements	Potential to Occur/Effect Determination	Rationale
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 areas do 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. All occurrences within 5 miles are recorded along the shoreline of the San Francisco Bay (CDFW 2021a).
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.
Vulpes macrotis mutica San Joaquin kit fox	FE/ST G4T2/S2	Annual grasslands or grassy open stages with scattered shrubby vegetation. Need loose-textured sandy soils for burrowing, and suitable prey base.	Not Expected/ No Effect	Vegetation within the study areas in ruderal habitats is generally too tall for this species, and developed areas are heavily disturbed by industrial use. No occurrences have been recorded in CNDDB within 5 miles of the study areas (CDFW 2021a).

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

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