Citrus Estates (Redlands 38) Project

Biological Technical Report

Prepared for:

Pulte Group
27401 Los Altos, Suite 400
Mission Viejo, CA 92691

Prepared by:

HELIX Environmental Planning, Inc.
7578 El Cajon Boulevard
La Mesa, CA 91942

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ACRONYMS AND ABBREVIATIONS

AMSL	above mean sea level
BMP	Best Management Practices
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CFG Code	California Fish and Game Code
City	City of Redlands
CNDDB	California Natural Diversity Database
CNPS	California Native Plant Society
County	County of San Bernardino
CRPR	California Rare Plant Rank
CWA	Clean Water Act
FC	Federally Listed Candidate
FE	Federally Listed Endangered
FESA	Endangered Species Act
FT	Federally Listed Threatened
GIS	Geographic Information Systems
GPS	Global Positioning System
HCP	Habitat Conservation Plan
HELIX	HELIX Environmental Planning, Inc.
MBTA	Migratory Bird Treaty Act
MCV	Manual of California Vegetation
MSHCP	Multiple Species Habitat Conservation Plan
NPPA	Native Plant Protection Act
NRCS	Natural Resources Conservation Service
NVCS	National Vegetation Classification System
NWI	National Wetlands Inventory
OHWM	Ordinary High Water Mark

ACRONYMS AND ABBREVIATIONS (cont.)

Project	Citrus Estates (Redlands 38)
PCE	Primary Constituent Elements
PSE	Participating Special Entity
ROW	right-of-way
RWQCB	Regional Water Quality Control Board
SAA	Streambed Alteration Agreement
SWPPP	Storm Water Pollution Prevention Plan
USACE	U.S. Army Corps of Engineers
USDA	U.S. Department of Agriculture
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
WL	Watch List

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EXECUTIVE SUMMARY

This biological technical report was prepared to evaluate the proposed Citrus Estates (Redlands 38) Project. The approximately 38-acre study area is located within the city of Redlands (City) in San Bernardino County (County), California. The purpose of this report is to document the existing biological conditions within the study area and analyze the project's potential impacts to sensitive biological resources with respect to local, state, and federal policy. This report provides the biological resources technical documentation necessary for review under the California Environmental Quality Act.

The proposed project consists of Tentative Tract Number 20473 and a Conditional Use Permit to create a Planned Unit Development consisting of 98 single family dwelling units on approximately 38 acres. The project will incorporate 20% of the gross site area as common landscaped open space, or approximately 7.25 acres. The project is located at the southwest corner of Wabash Avenue and San Bernardino Avenue in the City of Redlands. The existing General Plan designation for the site is Low Density Residential and the Zoning is R-E, Residential Estate.

HELIX conducted a general biological survey and San Bernardino kangaroo rat (*Dipodomys merriami parvus*) habitat assessment in August 2021. Vegetation communities present within the study area were mapped based on the Holland/Oberbauer classification system and cross-walked to the Manual of California Vegetation (MCV). One plant alliance, association, or semi-natural stand is present within the study area: disturbed habitat.

No special status plant species known to the region were observed within the study area; none have potential to occur due to lack of suitable habitat. Therefore, no impacts to special status plant species would occur as a result of project implementation. Similarly, no special status animal species were observed or otherwise detected within the study area; none have a moderate or high potential to occur due to lack of suitable habitat. A single California state species of special concern bird, burrowing owl (*Athene cunicularia*), is known to the region and has a low potential to occur. No evidence of burrowing owl was observed or otherwise detected within the study area. Due to the low potential for burrowing owl to move onto the site in the future if condition become more suitable, the project shall be required to complete pre-construction take avoidance surveys in accordance with protocol guidelines set forth by the California Department of Fish and Wildlife (CDFW). With the implementation of take avoidance measures, potential impacts on burrowing owl would be less than significant.

The study area supports suitable nesting habitat for other bird species protected under the federal Migratory Bird Treaty Act (MBTA) and California Fish and Game Code (CFG Code). If removal of nesting habitat for birds protected under the MBTA and CFG Code must occur during the general breeding season (January 15 to September 15), the project shall be required to complete pre-construction surveys to ensure that no inadvertent impacts on nesting birds occur.

No potential jurisdictional aquatic resources (e.g., drainage features, riparian habitat, wetlands) were observed within the study area. The study area is comprised entirely of uplands and no impacts on potential jurisdictional resources would occur.

With the implementation of the pre-construction burrowing owl take avoidance survey and nesting bird survey mitigation measures, potential impacts of the project on biological resources would be less than significant.

1.0 INTRODUCTION

This report describes the results of a biological resources study conducted by HELIX Environmental Planning, Inc. (HELIX) for the proposed Citrus Estates (Redlands 38) Project (project). The purpose of this report is to document the existing biological conditions within an approximately 38-acre study area and provide an analysis of potential impacts on sensitive biological resources with respect to local, state, and federal policy. This report provides the biological resources technical documentation necessary for review under California Environmental Quality Act (CEQA).

1.1 PROJECT LOCATION

The proposed project site (study area) is generally located within the northeastern portions of the City of Redlands in San Bernardino County, California (Figure 1, *Regional Location*). Specifically, the study area is located on the north of Capri Avenue, east of Granite Street, south of San Bernardino Avenue, and west of Wabash Avenue (Figure 2, *Aerial Photograph*). The study area is depicted within Section 24, Township 1 South, Range 3 West on the Redlands United States Geological Survey (USGS) 7.5-minute topographic quadrangle (Figure 3, *USGS Topography*).

U.S. Fish and Wildlife Service- (USFWS) designated critical habitat for San Bernardino kangaroo rat (*Dipodomys merriami parvus*) occurs approximately 0.25 mile north of the study area. The San Bernardino kangaroo rat critical habitat is primarily located within the Santa Ana River corridor along suitable alluvial floodplains and Riversidean alluvial fan sage scrub habitat with sandy soils. The project location is separated from the critical habitat location by various existing developments (e.g., Redlands Municipal Airport, Redlands Sports Park, San Bernardino Avenue).

1.2 PROJECT DESCRIPTION

The proposed project consists of Tentative Tract Number 20473 and a Conditional Use Permit to create a Planned Unit Development consisting of 98 single family dwelling units on approximately 38 acres (Figure 4, *Site Plan*). The project will incorporate 20% of the gross site area as common landscaped open space, or approximately 7.25 acres. The project is located at the southwest corner of Wabash Avenue and San Bernardino Avenue in the City of Redlands. The existing General Plan designation for the site is Low Density Residential and the Zoning is R-E, Residential Estate.

2.0 METHODS

Project evaluation included a review of existing information and field surveys. The methods used to evaluate the biological resources present within the study area are discussed in this section.

2.1 LITERATURE REVIEW

Prior to conducting biological field surveys, HELIX conducted a thorough review of relevant maps, databases, and literature pertaining to biological resources known to occur within the study area. Recent and historical aerial imagery, USGS topographic maps, soils maps (Natural Resource Conservation Service [NRCS] 2021), and other maps of the study area and vicinity were acquired and reviewed to obtain updated information on the natural environmental setting.

In addition, a query of special status species and habitats databases was conducted, including the USFWS species records (USFWS 2021a), California Department of Fish and Wildlife (CDFW) California Natural Diversity Database (CNDDB; CDFW 2021a), Calflora database (Calflora 2021), and California Native Plant Society (CNPS) Inventory of Rare and Endangered Plants (CNPS 2021). The USFWS' National Wetlands Inventory (NWI) was also reviewed (USFWS 2021b). Any recorded locations of species, habitat types, wetlands, and other resources were mapped and overlain onto aerial imagery using Geographic Information Systems (GIS).

2.2 BIOLOGICAL SURVEYS

2.2.1 General Biological Survey

HELIX biologist Kelly Rios conducted a general biological survey of the study area on August 4, 2021. Table 1, *Biological Surveys for the Citrus Estates Project*, provides a summary of biological surveys conducted for the project.

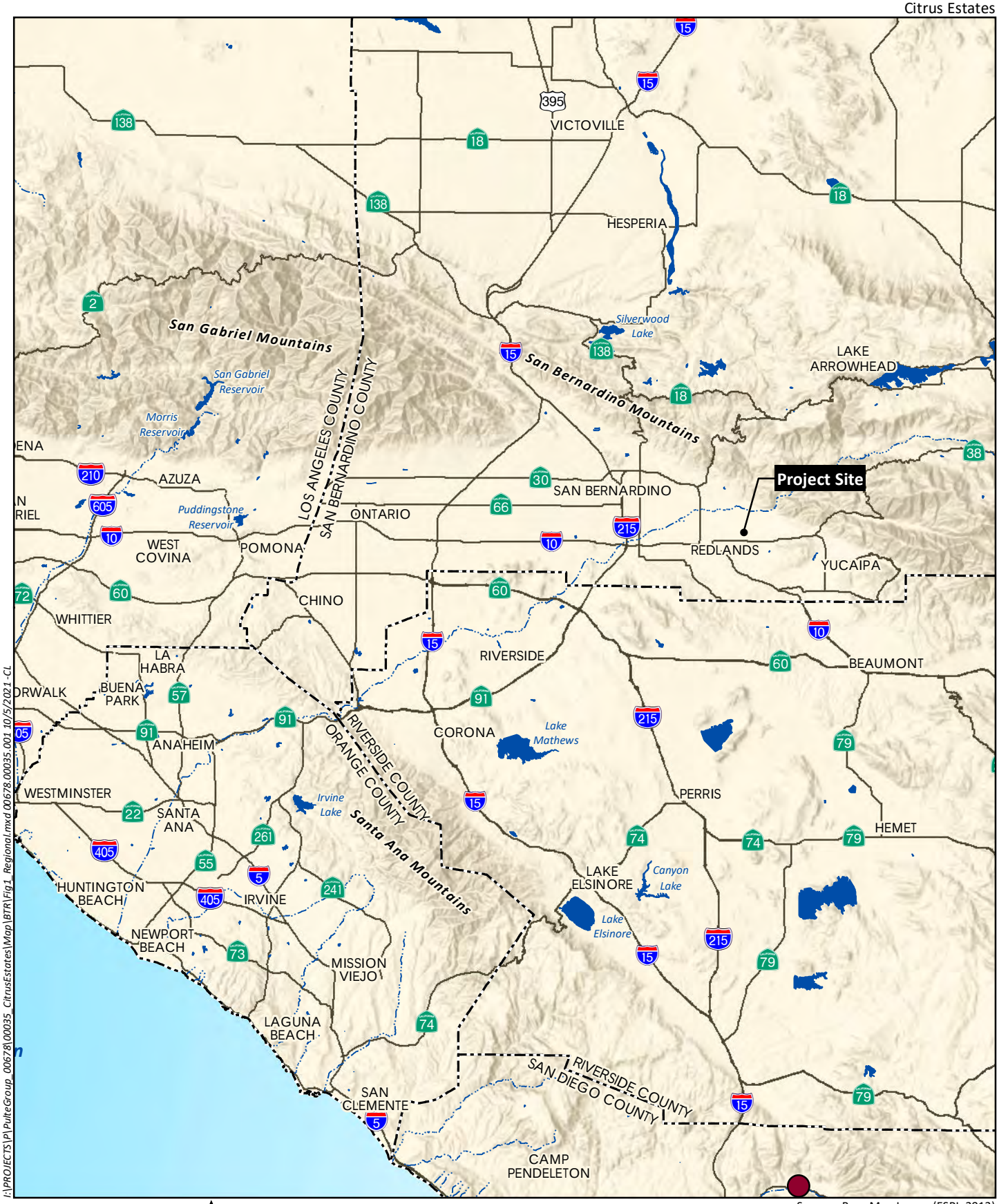
Table 1
BIOLOGICAL SURVEYS FOR THE CITRUS ESTATES PROJECT

Survey Date	Survey Type	Biologist	Time	Weather (Temperature, Wind, Cloud Cover)
August 4, 2021	General biological survey, vegetation mapping, special status species habitat assessment, jurisdictional aquatic resources assessment	Kelly Rios	Start: 0700 Stop: 1100	74°F, 1 mph, 0% 80°F, 2 mph, 0%

Vegetation communities within the study area were mapped on an aerial photograph (1"=300' scale) following guidance provided by Holland (1986), as modified by Oberbauer et al. (2008), in addition to CDFW's National Vegetation Classification System (NVCS) and Manual of California Vegetation (MCV), 2nd Edition (Sawyer et al. 2009). The MCV serves as the California extension of the NVCS. The MCV classifies vegetation based on floristic and structural details that are represented as alliances and associations.

Direct translations between Holland and MCV do not exist for all vegetation types. Additionally, a single vegetation community under Holland may fit the definition of several different alliances or associations described within the MCV. Vegetation communities mapped within the study area were translated to the equivalent classification unit under MCV in order to determine sensitivity rankings. For communities that do not have direct translations within MCV, professional judgment was used to find the best corresponding association or alliance. A minimum mapping unit size of 0.10 acre was used when mapping upland habitat; 0.01 acre was used when mapping wetland and riparian habitat.

A list of plant and animal species observed or detected within the study area was prepared. Plant species were identified in the field or later in the laboratory with the aid of voucher specimens. Animals were identified in the field by direct visual observation with the aid of binoculars or indirectly by detection of calls, tracks, burrows, or scat.



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0 8 Miles

Source: Base Map Layers (ESRI, 2013)

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Regional Location

Figure 1

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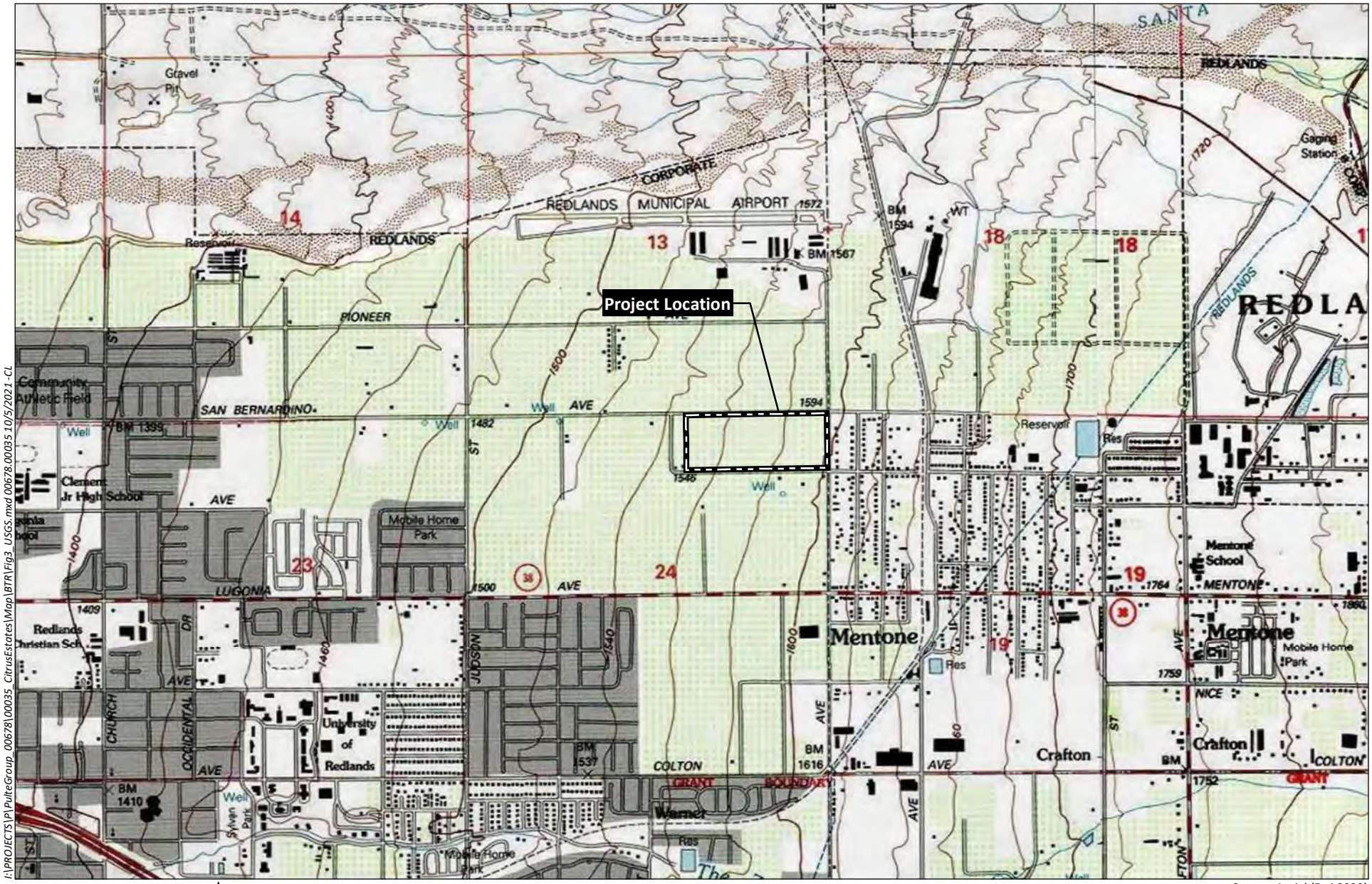
0 2,000 Feet

Source: Aerial (Esri 2020)

HELIX Environmental Planning

Aerial Photograph

Figure 2



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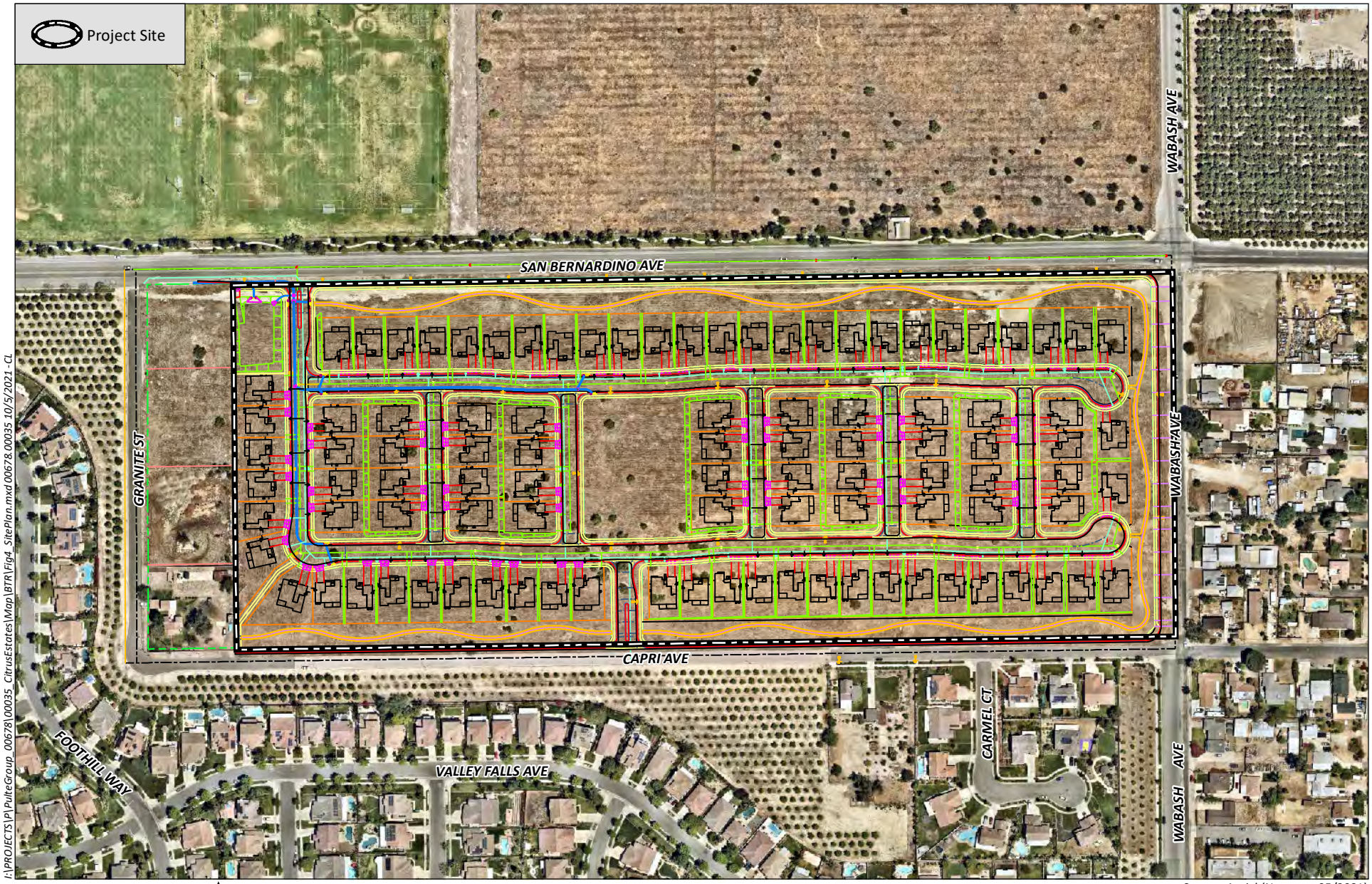
Source: Aerial (Esri 2020)

HELIX Environmental Planning

USGS Topography

Figure 3



Source: Aerial (Nearmap 05/2021)

HELIX Environmental Planning

Site Plan

Figure 4

2.2.2 San Bernardino Kangaroo Rat Habitat Assessment

A HELIX biologist conducted a habitat assessment for San Bernardino kangaroo rat in August 2021. A pre-survey investigation was conducted, including a review of relevant maps, databases, and literature pertaining to the target species within the project vicinity was completed. Recent and historical aerial imagery, soils data, U.S. Geological Survey (USGS) topography, and other maps (Google 2021) of the study area and vicinity were reviewed. The previous May 2017 SBKR habitat assessment was also reviewed (MBI 2017).

The San Bernardino kangaroo rat habitat assessment survey was conducted over the entire study area. The biologist systematically walked the study area using meandering transects less than 10 meters apart to achieve 100 percent visual coverage and inspect the study area for evidence and sign of San Bernardino kangaroo rat and its habitat, including:

- Kangaroo rat dusting baths, scat, tracks, and tail drags;
- Potential kangaroo rat and other burrows excavated in loose soils, crevices, and within shrub root systems;
- Sandy soils deposited by fluvial (flood) rather than Aeolian (wind) processes; and,
- Sparse Riversidean alluvial fan sage scrub (RAFSS) habitat, particularly in the pioneering and intermediate phases.

Field notes and representative photographs of the existing biological resources found at the study area were taken by the biologist during the habitat assessment survey.

2.2.3 Jurisdictional Aquatic Resources Assessment

HELIX biologist Kelly Rios conducted a field-based jurisdictional aquatic resources assessment of the study area concurrent with the general biological survey on August 4, 2021 to identify and map aquatic resources potentially subject to U.S. Army Corps of Engineers (USACE) jurisdiction pursuant to Section 404 of the Clean Water Act (CWA), Regional Water Quality Control Board (RWQCB) jurisdiction pursuant to Section 401 of the Clean Water Act and State Porter-Cologne Water Quality Control Act, and streambed and riparian habitat potentially subject to CDFW jurisdiction pursuant to Sections 1600 et seq. of the California Fish and Game (CFG) Code. Prior to the assessment, recent aerial photographs (1"=100'), topographic maps (1"=100'), soil mapping, National Wetlands Inventory mapping, and USGS topographical maps were reviewed to determine the location of potential jurisdictional areas. The assessment was conducted on foot with the aid of 1”=300’ scale aerials and topographic maps. Potential aquatic resources evaluated generally include drainage features, depressions, riparian habitat, and areas suspected of supporting wetland conditions.

Waters of the U.S.

Potential USACE-jurisdictional waters of the U.S. were generally determined based on the presence of a discernible ordinary high water mark (OHWM) and/or wetland conditions expressed by three parameters (vegetation, hydrology, and soils) established for wetland delineations, as described within the Wetlands Delineation Manual (Environmental Laboratory 1987) and Arid West Regional Supplement (USACE 2008). The OHWM was identified according to “A Field Guide to the Identification of the Ordinary High Water Mark in the Arid West Region of the Western United States” (Lichvar and McColley

2010). Mapping of drainage features was performed in the field based on the OHWM and surface indications of hydrology. Sampling points were inspected for primary and secondary wetland hydrology indicators. Areas were determined to be potential wetland waters of the U.S. if there was a dominance of hydrophytic vegetation, hydric soils, and wetland hydrology indicators. Areas were determined to be non-wetland waters of the U.S. if there was evidence of regular surface flow within an OHWM, but the vegetation and/or soils criterion were not met. Definitions of USACE jurisdictional areas are presented in Appendix H of this report.

Regional Water Quality Control Board Jurisdictional Waters

Potential RWQCB-jurisdictional areas were delineated in the same manner as potential waters of the U.S. All waters of the U.S. are also considered waters of the State are subject to jurisdiction pursuant to CWA Section 401. Isolated waters that occur outside of waters of the U.S. were determined to be waters of the State under exclusive regulatory jurisdiction of the RWQCB pursuant to the State Porter-Cologne Water Quality Control Act.

California Department of Fish and Wildlife Jurisdictional Areas

Potential CDFW-jurisdictional streambed and riparian habitat were determined based on the presence of riparian vegetation or regular surface flow within a measurable bed and bank. Streambeds within CDFW jurisdiction were delineated based on the definition of streambed as “a body of water that flows at least periodically or intermittently through a bed or channel having banks and supporting fish or other aquatic life. This includes watercourses having a surface or subsurface flow that support riparian vegetation” (Title 14, Section 1.72). Potential CDFW-jurisdictional unvegetated streambed encompasses the top-of-bank to top-of-bank width for the features within the study area. Riparian habitat is not defined in Title 14, but the section refers to vegetation and habitat associated with a stream. The CDFW jurisdictional habitat includes all riparian shrub or tree canopy that may extend beyond the banks of a stream. Definitions of CDFW jurisdictional areas are presented in Appendix I of this report.

2.3 SURVEY LIMITATIONS

Noted animal species were identified by direct observation, vocalizations, or the observance of scat, tracks, or other signs. However, the lists of species identified are not necessarily comprehensive accounts of all species that utilize the study area, as species that are nocturnal, secretive, or seasonally restricted may not have been observed. Those species that are of special status and have potential to occur in the study area; however, are still addressed in this report.

2.4 NOMENCLATURE

Nomenclature for this report is taken from Holland (1986), Oberbauer (2008), and MCV (Sawyer et al. 2009) for vegetation communities; Jepson eFlora (2021) and Baldwin et al. (2012) for plants; American Ornithological Society (2021) for birds; and Bradley et al. (2014) for mammals. Plant species status is from the CNPS Rare Plant Inventory (2021) and CDFW (2021a). Animal species status is from the CDFW (2021b).

3.0 EXISTING CONDITIONS

3.1 GENERAL LAND USES

The study area is comprised of disturbed vacant land situated in the Redlands Valley area. Regularly trafficked roadways (Capri Avenue and Wabash Avenue) and existing residential developments occur to the immediate south, east, and west of the study area. Additional residential land uses are located further to the south, east, and west. The regularly trafficked San Bernardino Avenue, Redlands Sports Park, and disturbed vacant land (previously agriculture) occur to the immediate north. Disturbed vacant land and the Redlands Municipal Airport occur further to the north, followed by the Santa Ana River wash, which is located approximately 0.7 mile north of the study area (Figure 2).

3.2 TOPOGRAPHY AND SOILS

The study area is generally flat, gently sloping from east to west with an elevation of approximately 1,550 feet above mean sea level (amsl) in the northwestern corner to 1,610 feet amsl in the southeastern corner. Where vegetation is present, it is dominated by ruderal (weedy) plant species. From a biological resources standpoint, the study area is considered to be heavily disturbed as a result of previous agricultural uses, routine discing, illegal dumping, domestic pet (dog) use, and abutting developments.

The study area contains three soil types: Soboba gravelly loamy sand (0 to 9 percent slopes), Tujunga gravelly loamy sand (0 to 9 percent slopes), and Tujunga loamy sand (0 to 5 percent slopes). (Figure 5, *Soils*).

3.3 VEGETATION COMMUNITIES

Vegetation communities present within the study area were mapped based on the Holland/Oberbauer classification system and cross-walked to the MCV. There is one plant alliance, association, or semi-natural stand present within the study area (Table 2, *Vegetation Communities and Land Covers*; Figure 6, *Vegetation Communities*). A brief description of the vegetation community within the study area is provided below.

Table 2
EXISTING VEGETATION COMMUNITIES AND LAND COVER TYPES

MCV Code	MCV Alliance/ Association	MCV Common Name	Holland Code	Holland Classification	Acres on Site
Unvegetated[1]					
N/A	Not Available	Not Available	11300	Disturbed Habitat	38.0
				Total	**38.0**
				COMMUNITIES TOTAL	**38.0**

[1] The Vegetation Classification Manual does not classify generally unvegetated habitats such as those found in the Oberbauer updated Holland classification system: developed, disturbed habitat, open water, and field/pasture.

[2] Vegetation categories and numerical codes are from Holland (1986) and Oberbauer (2008).

[3] Upland habitats are rounded to the nearest 0.1 acre and wetland/riparian habitats to the nearest 0.01 acre; thus, totals reflect rounding.

3.3.1 Disturbed Habitat

Disturbed habitat includes land cleared of vegetation (e.g., dirt roads), land containing a preponderance of non-native plant species such as ornamentals or ruderal exotic species that take advantage of disturbance (previously cleared or abandoned landscaping), and/or land showing signs of past or present animal usage that removes any capability of providing viable habitat.

Within the study area, disturbed habitat consists of disced bare ground with scattered annual non-native species, primarily non-native grasses such as ripgut (*Bromus diandrus*) and wild oat (*Avena fatua*), and ruderal (weedy) species such as short-pod mustard (*Hirschfeldia incana*), telegraph weed (*Heterotheca grandiflora*), and rancher's fiddleneck (*Amsinckia menziesii*). Disturbed habitat covers approximately all 38.0 acres of the study area and consists of dirt paths and undeveloped land adjacent to roadsides (Figure 6).

3.4 PLANTS

A total of 12 plant species were observed within the study area during the general biological survey, of which four (33 percent) are non-native species (Appendix A, *Plant Species Observed*). The predominance of non-native species is indicative of the high degree of disturbance as a result of historical and current uses of the study area.

3.5 ANIMALS

A total of 13 animal species were observed/detected within the study area during the general biological survey, including 10 bird species and three mammal species (Appendix B; *Animal Species Observed or Detected*).

3.6 SENSITIVE BIOLOGICAL RESOURCES

3.6.1 Sensitive Vegetation Communities/Habitats

Sensitive vegetation communities/habitat types are defined as land that supports unique vegetation communities or the habitats of rare or endangered species or subspecies of animals or plants as defined by Section 15380 of the State CEQA Guidelines.

The CDFW evaluates the rarity of natural communities using the NatureServe's Heritage Methodology (Faber-Langendoen et. al 2012) in which communities are given a G (global) and S (State) rank based on their degree of imperilment (as measured by rarity, trends, and threats). Communities are assigned an overall rank of 1 through 5, with 1 being considered very rare and threatened and 5 being considered demonstrably secure. Communities with a Rarity Ranking of S1 (critically imperiled), S2 (imperiled), or S3 (vulnerable) are considered sensitive by the CDFW.

A single vegetation community occurs within the study area: disturbed habitat. Disturbed habitat does not meet the definition of a sensitive natural community under CEQA.

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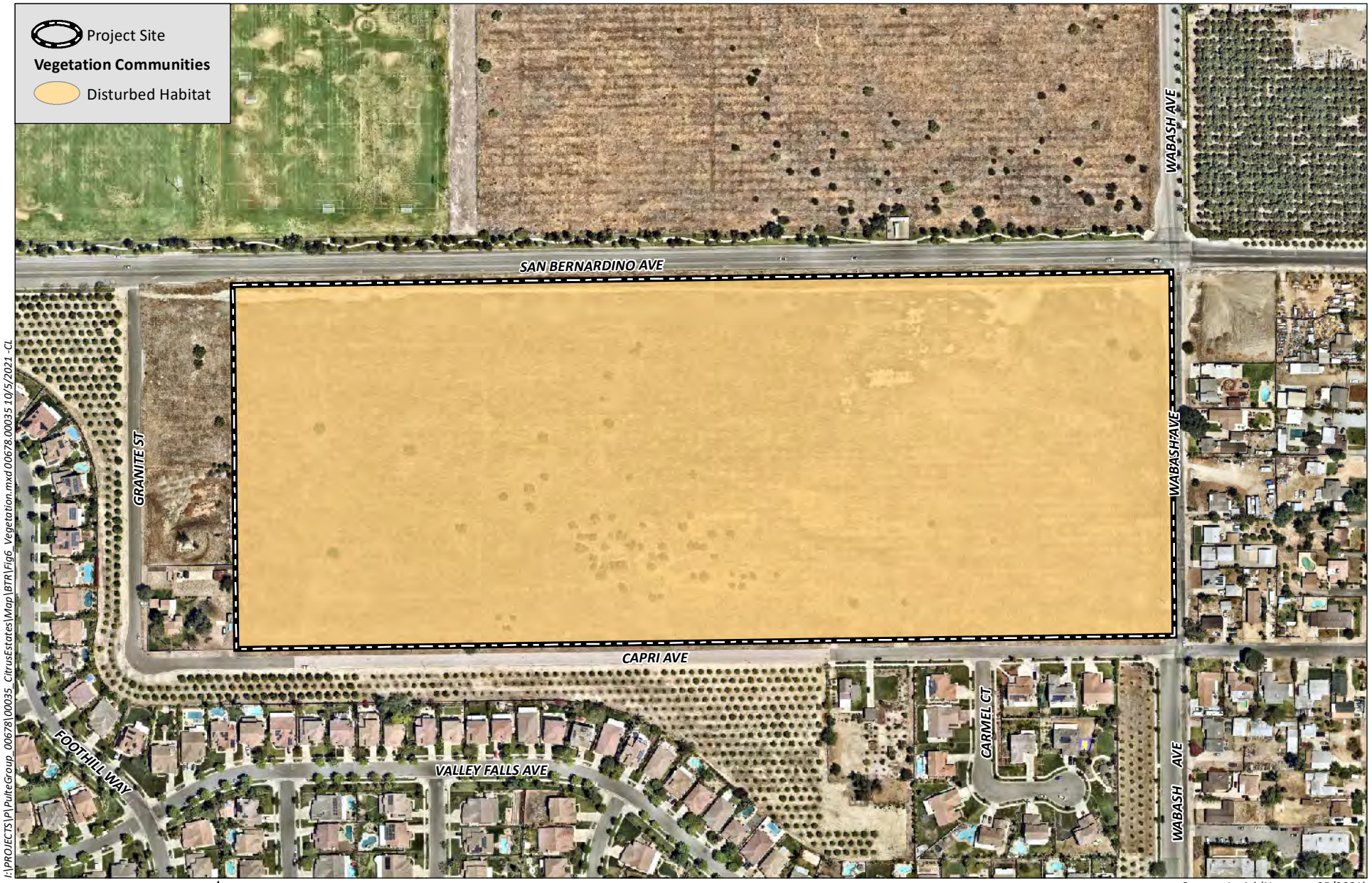
Source: Aerial (Nearmap 05/2021)

HELIX Environmental Planning

Soils

Figure 5



Source: Aerial (Nearmap 05/2021)

HELIX Environmental Planning

Vegetation Communities

Figure 6

3.6.2 Special Status Plant Species

Special status plant species have been afforded special status and/or recognition by the USFWS and/or CDFW. They may also be included in the CNPS' Inventory of Rare and Endangered Plants. Their status is often based on one or more of three distributional attributes: geographic range, habitat specificity, and/or population size. Sensitive species are those considered unusual or limited in that they are: (1) only found in the region; (2) a local representative of a species or association of species not otherwise found in the region; or (3) severely depleted within their ranges or within the region. No sensitive plant species were observed within the study area.

Sensitive Plant Species with Potential to Occur

Additional special status plant species that were not observed but may have potential to occur within the study area are listed in Appendix C, *Special Status Plant Species Observed or with Potential to Occur*. An explanation of status codes is included as Appendix E, *Explanation of Status Codes for Plant and Animal Species*. No additional plant species have a high potential to occur based on geographic range, elevation range, and/or lack of suitable habitat in the study area.

The Santa Ana River woollystar (*Eriastrum densifolium* ssp. *sanctorum*) is a federally and California state endangered plant species that is known to the region. The potential for the species to occur was carefully considered in the analysis and the August 2021 biological survey included a directed search for the species during its respective blooming/flowering period. The species was not observed on-site during the directed search and was found not likely to occur due to the absence of suitable alluvial scrub and chaparral habitat.

3.6.3 Special Status Animal Species

Special status animal species include those that have been afforded special status and/or recognition by the USFWS and/or CDFW. In general, the principal reason an individual taxon (species or subspecies) is given such recognition is the documented or perceived decline or limitations of its population size or geographical extent and/or distribution, resulting in most cases from habitat loss. No special status animal species were observed within the study area.

Sensitive Animal Species with Potential to Occur

Special status animal species that were not observed or otherwise detected, but determined to have some potential to occur on-site are included in Appendix D, *Special Status Animal Species Observed or with Potential to Occur*. The species are grouped into invertebrates and vertebrates (amphibians, reptiles, birds, and mammals) and alphabetized by scientific name. An explanation of status codes is included as Appendix E, *Explanation of Status Codes for Plant and Animal Species*.

None of the species analyzed have a high potential to occur within the study area based on geographic range, elevation range, and/or lack of suitable habitat. Two special status species are known from the local area but are not expected to occur within the study area itself due to lack suitable habitat: burrowing owl and San Bernardino kangaroo rat.

No burrowing owl or evidence of the species was detected during the August 2021 general biological survey and habitat assessment. No potential burrows or other sign (e.g., whitewash, feathers, pellets, etc.) were observed. The species is not expected to occur on the site due to the lack of potential

burrows and regular discing. Nevertheless, there remains a low potential for the species to move onto the site from other locations in the region if conditions become suitable in the future.

As found during the previous San Bernardino kangaroo rat focused habitat assessment in 2017 (MBI 2017), the updated 2021 assessment revealed no evidence of the species and found the species' potential to occur to remain unlikely. The San Bernardino kangaroo rat survey report is included as Appendix F, *San Bernardino Kangaroo Rat Habitat Assessment for the Redlands 38 Property, City of Redlands, San Bernardino County, California.* As demonstrated, no kangaroo rat dusting baths, scat, tracks, tail drags, or other sign of the species were observed. No potential kangaroo rat burrows were observed. No Riversidean alluvial fan sage scrub (RAFSS) or similar habitat occurs on-site; the vegetation associations on-site are not indicative of RAFSS, coastal sage scrub, chamise chaparral, or other habitat types associated with San Bernardino kangaroo rat. The site is not characterized by any river, creek, stream, wash channels, alluvial fans, flood plains, flood benches, terraces, or historic braided channels subject to dynamic geomorphological and hydrological processes. The site occurs approximately 0.7 mile from the Santa Ana River wash and is separated from the wash by developments that include the Redlands Municipal Airport, Redlands Sports Park, and San Bernardino Avenue. Although the site does support loose sandy soils in areas, it is routinely disked and far removed from any historic fluvial influence. Last, sign of known kangaroo rat predators was observed throughout the site; most notably, sign of domestic dog and digging.

No other species have high potential to occur based on geographic range, elevation range, and/or lack of suitable habitat in the study area.

Nesting Birds

Trees and shrubs both within and adjacent to the study area could provide suitable nesting habitat for numerous bird species known to the region.

Raptor Foraging

Although not observed during surveys, raptors have potential to forage in the project vicinity. The study area does not provide high-quality raptor habitat due to the expected low abundance of prey items, lack of suitable perches, and discing activities. Extensive raptor foraging habitat occurs off-site in the project vicinity, particularly to the north within undeveloped fallow land surrounding the Redlands Municipal Airport and the expansive alluvial areas associated with the Santa Ana River wash.

3.6.4 Jurisdictional Waters and Wetlands

In the context of this assessment, jurisdictional waters and wetlands include waters of the U.S., including wetlands regulated by the USACE pursuant to the CWA Section 404; waters of the State regulated by the RWQCB pursuant to Section 401 of the CWA and State Porter-Cologne Water Quality Control Act; and/or streambed and riparian habitat regulated by the CDFW pursuant to Sections 1600 *et seq*. of the CFG Code.

Potential waters of the U.S., waters of the State, and CDFW jurisdictional habitat are not present within the study area. The study area is comprised entirely of flat uplands that lack drainage features, ditches, depressions, riparian habitat, potential wetlands, and other aquatic resources.

3.6.5 Wildlife Corridors/Core Wildlife Areas

Wildlife corridors connect otherwise isolated pieces of habitat and allow movement or dispersal of plants and animals. Wildlife corridors can be local or regional in scale and may function in different ways depending on species and time of year. Wildlife corridors represent areas where wildlife movement is concentrated due to natural or manufactured constraints. Local corridors provide access to resources such as food, water, and shelter. Animals can use these corridors, such as hillsides and tributary drainages to main drainages, to travel among different habitats (i.e., riparian and upland habitats). Some animals require riparian habitat for breeding and upland habitat for burrowing. Regional corridors provide these functions and also link two or more large areas of open space. Regional corridors also provide avenues for wildlife dispersal, migration, and contact between otherwise distinct populations.

The project is not located within any linkages recognized by the South Coast Missing Linkages report (South Coast Wildlands 2008). The study area does not by itself function as nor does it contribute to any local or regional wildlife corridors or linkages. It is also not contained within or connected to any local or regional core resource areas. The study area and project features occur within disturbed areas that are separated from other open areas by transportation corridors and development. The Santa Ana River corridor is located approximately 0.7 mile north of the study area, and functions to facilitate regional wildlife movement. The Santa Ana River corridor is not connected to the study area due to development that occurs north of the study area, separating the study area from the Santa Ana River corridor.

4.0 REGULATORY FRAMEWORK

Biological resources in the study area are subject to regulatory review by federal, State, and local agencies. Under CEQA, impacts associated with a proposed project are assessed with regard to significance criteria determined by the CEQA Lead Agency (in this case, the City of Redlands) pursuant to CEQA Guidelines. Biological resources-related laws and regulations that apply to the project include the Migratory Bird Treaty Act (MBTA), CEQA, and CFG Code.

4.1 FEDERAL

4.1.1 Migratory Bird Treaty Act

All migratory bird species that are native to the United States or its territories are protected under the federal MBTA, as amended under the Migratory Bird Treaty Reform Act of 2004 (FR Doc. 05-5127). The MBTA is generally protective of migratory birds but does not actually stipulate the type of protection required. In common practice, the MBTA is used to place restrictions on disturbance of active bird nests during the nesting season (generally February 1 to August 31). In addition, the USFWS commonly places restrictions on disturbances allowed near active raptor nests.

4.2 STATE REGULATIONS

4.2.1 California Environmental Quality Act

Primary environmental legislation in California is found in CEQA and its implementing guidelines (State CEQA Guidelines), which require that projects with potential adverse effects (i.e., impacts) on the

environment undergo environmental review. Adverse environmental impacts are typically mitigated as a result of the environmental review process in accordance with existing laws and regulations.

4.2.2 California Fish and Game Code

Pursuant to CFG Code Section 3503, it is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird, except as otherwise provided by this code or any regulation made pursuant thereto. Raptors and owls and their active nests are protected by CFG Code Section 3503.5, which states that it is unlawful to take, possess, or destroy any birds of prey or to take, possess, or destroy the nest or eggs of any such bird unless authorized by the CDFW. Section 3513 states that it is unlawful to take or possess any migratory non-game bird as designated in the MBTA. These regulations could require that construction activities (particularly vegetation removal or construction near nests) be reduced or eliminated during critical phases of the nesting cycle unless surveys by a qualified biologist demonstrate that nests, eggs, or nesting birds will not be disturbed, subject to approval by CDFW and/or USFWS.

4.3 LOCAL REGULATIONS

4.3.1 City of Redlands General Plan

The proposed project occurs within the boundaries of the City of Redland's General Plan 2035 (City of Redlands 2017) and is, therefore, subject to the Vital Environment conditions of the plan. Applicable principals and actions to the project are detailed below:

Principals

6-P.7: Protect environmentally sensitive lands, wildlife habitats, and rare, threatened, or endangered plant and animal communities.

6-P.8: Minimize disruption of wildlife and valued habitat throughout the Planning Area and emphasize that open space is for more than just human use, but also serves as habitat for biological resources.

6-P.19: Promote the protection of waterways in Redlands from pollution and degradation as a result of urban activities.

6-P.20: Pursue creative, innovative, and environmentally sound methods to capture and use stormwater and urban runoff for beneficial purposes.

Actions

6-A.35: Promote the use of Low Impact Development strategies, BMPs, pervious paving materials, and on-site infiltration for treating and reducing stormwater runoff before it reaches the municipal stormwater system.

6-A.36: Require measures during construction and post construction to limit land disturbance activities such as clearing and grading and cut-and-fill; avoid steep slopes, unstable areas, and erosive soils; and minimize disturbance of natural vegetation and other physical or biological features important to preventing erosion or sedimentation.

6-A.39: Require that new development provides landscaping and re-vegetation of graded or disturbed areas with drought-tolerant native or non-invasive plants.

6-A.43: Ensure that post-development peak stormwater runoff discharge rates do not exceed the estimated pre-development rate. Dry weather runoff from new development must not exceed the pre-development baseline flow rate to receiving waterbodies.

5.0 SIGNIFICANCE OF PROJECT IMPACTS AND PROPOSED MITIGATION

This section describes potential direct and indirect impacts associated with the proposed project. Direct impacts immediately alter the affected biological resources such that those resources are eliminated temporarily or permanently. Indirect impacts consist of secondary effects of a project, including noise, decreased water quality (e.g., through sedimentation, urban contaminants, or fuel release), fugitive dust, colonization of non-native plant species, animal behavioral changes, and night lighting. The magnitude of an indirect impact can be the same as a direct impact; however, the effect usually takes a longer time to become apparent.

5.1 CRITERIA FOR DETERMINING IMPACT SIGNIFICANCE

The significance of impacts to biological resources present or those with potential to occur was determined based upon the sensitivity of the resource and the extent of the anticipated impacts. For certain highly sensitive resources (e.g., a federally listed species), any impact would be significant. Conversely, other resources that are of low sensitivity (e.g., species with a large, locally stable population in the County but declining elsewhere) could sustain some impact with a less than significant effect.

According to Appendix G of the CEQA Guidelines, project impacts to biological resources would be considered significant if they 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 CDFW or USFWS.

(b) Have a substantial adverse effect on any riparian habitat or sensitive natural community identified by local or regional plans, policies, regulations or by CDFW or USFWS.

(c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the CWA (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 local policies or ordinances protecting biological resources, such a tree preservation policy or ordinance.

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

5.2 ISSUE 1: SPECIAL-STATUS SPECIES

Would the project 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 CDFW or USFWS?

5.2.1 Impact Analysis

5.2.1.1 Special Status Plant Species

No Impact. The project would have no impact on special status plant species. No special status plant species or suitable conditions for such species were observed within the study area. The study area is characterized predominately by ruderal (weedy) vegetation and disturbances related to previous agricultural uses, routine discing, and others.

5.2.1.2 Special Status Animal Species

Less than Significant with Mitigation. If unmitigated, the project could result in significant direct and/or indirect impacts on bird species with the potential to nest on-site, as detailed further below. While USFWS critical habitat for the San Bernardino kangaroo rat occurs along the Santa Ana River approximately 0.25 mile north of the study area, the study area lacks the species' critical habitat PCE's and any suitable habitat for the species. No suitable habitat or areas supporting the species' critical habitat PCE's occur immediately adjacent to the study area. Existing barriers occur between the study area and suitable habitat associated with the Santa Ana River corridor that preclude the species from readily moving onto the study area (Appendix F). In conclusion, San Bernardino kangaroo rat is not expected to occur and the project would have no impacts on the species.

The project would require the removal of non-sensitive vegetation and other potential nesting habitat for common birds and raptors protected under the MBTA and CFG Code, including the burrowing owl, which is not expected to occur based on current conditions, but could move onto the site if conditions become suitable for the species in the future. If unmitigated, impacts on active nests belonging to bird species protected under the MBTA and CFG Code, including burrowing owl, would be significant. Mitigation measures **BIO-1** and **BIO-2** would ensure that the appropriate pre-construction survey and avoidance measures are implemented prior to and during construction to avoid any impacts on nesting birds and raptors, including the burrowing owl. With the implementation of mitigation measures **BIO-1** and **BIO-2**, no impacts would occur.

5.2.2 Mitigation Measures

The following mitigation measures would ensure that potential impacts on special status animal species are avoided by the project.

BIO-1 **Nesting Bird and Raptor Avoidance**: Trimming, grubbing, and clearing of vegetation shall be avoided during the general avian breeding season (January 15 to July 15 for raptors; February 15 to August 31 for other avian species) to the extent feasible. If trimming, grubbing, or clearing of

vegetation is proposed to occur during the general avian breeding season, a pre-construction survey shall be conducted by a qualified biologist no more than seven days prior to vegetation clearing to determine if active bird nests are present in the affected areas. If there are no nesting birds (includes nest building or other breeding/nesting behavior) within this area, trimming, grubbing, and clearing of vegetation shall be allowed to proceed. If active bird nests are confirmed to be present during the pre-construction survey, a buffer zone will be established by the biologist. Construction activities shall avoid any active nests until a qualified biologist has verified that the young have fledged, or the nest has otherwise become inactive.

BIO-2 **Burrowing Owl Pre-Construction Take Avoidance Survey**: Prior to construction, the project proponent shall retain a qualified biologist to conduct required pre-construction take avoidance surveys for the burrowing owl in accordance with the protocol described in the CDFW Staff Report on Burrowing Owl Mitigation (CDFW 2012). The initial take avoidance survey shall occur no less than 14 days prior to initiating ground disturbing activities, with a final survey conducted within 24 hours prior to initiating ground disturbing activities. If, after the initial take avoidance survey, no suitable burrowing owl habitat, including burrows, is present, then the second survey 24 hours prior to ground disturbance shall not be required. If no active burrowing owl burrows (nesting sites) are identified within the potential impact area of the project during the take avoidance surveys, then no additional action shall be required. If active burrowing owl burrows are identified within the potential impact area, then no impacts shall occur to active burrowing owl nests or individuals and the following additional avoidance actions shall be required:

The project shall avoid disturbing active burrowing owl burrows (nesting sites) and burrowing owl individuals. Buffers shall be established around occupied burrows in accordance with guidance provided in the CDFW Staff Report on Burrowing Owl Mitigation (CDFW 2012) based on the proposed level of disturbance. For low disturbance projects, initial setback distances for avoidance of active burrows shall be 200 meters from April 1 to October 15 and 50 meters from October 16 to March 31. Exceptions can be made to the avoidance distance for areas with natural (hills, trees) or artificial (buildings, walls) barriers in place. The final avoidance buffer shall be at the discretion of the biologist. If, after consideration of a reduced buffer, an adequate avoidance buffer cannot be provided between an occupied burrow and required ground-disturbing activities, then passive relocation activities during the non-breeding season (September 1 through January 31) may be authorized in consultation with CDFW, which would include preparation, approval, and implementation of a Burrowing Owl Exclusion Plan in accordance with protocol described in the CDFW Staff Report on Burrowing Owl Mitigation.

5.2.3 Conclusions

Project implementation could result in significant impacts to nesting birds and raptors, including burrowing owl. Implementation of mitigation measures **BIO-1** and **BIO-2** would ensure that potential impacts are avoided by the project.

5.3 ISSUE 2: RIPARIAN HABITAT AND SENSITIVE NATURAL COMMUNITIES

Would the project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the CDFW or USFWS?

5.3.1 Impact Analysis

No Impact. The proposed project would result in impacts to disced land comprised of disturbed ruderal (weedy) habitat, which is not considered a sensitive natural community (Figure 7, *Vegetation Communities/Impacts*). Impacts to this vegetation community is not considered significant and, therefore, does not require mitigation.

Project impacts are depicted on Figure 7 and summarized below within Table 3, *Vegetation Community/Land Use Impacts*.

Table 3
IMPACTS TO VEGETATION COMMUNITIES AND LAND COVER TYPES

Vegetation Community	Rarity[1]	Permanent Impact (Acres)	TOTAL
Disturbed	--	38.0	**38.0**
	TOTAL:		**38.0**

[1]Rarity Ranking from CDFW's Natural Communities List (2018c).
[2]Acreages rounded to the nearest 0.1 acre for uplands and 0.01 acre for wetlands; total reflects rounding.

5.3.2 Mitigation Measures

No mitigation required.

5.3.3 Conclusion

The project would not result in impacts to sensitive natural communities.

5.4 ISSUE 3: JURISDICTIONAL WETLANDS AND WATERWAYS

Would the project have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the federal CWA (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

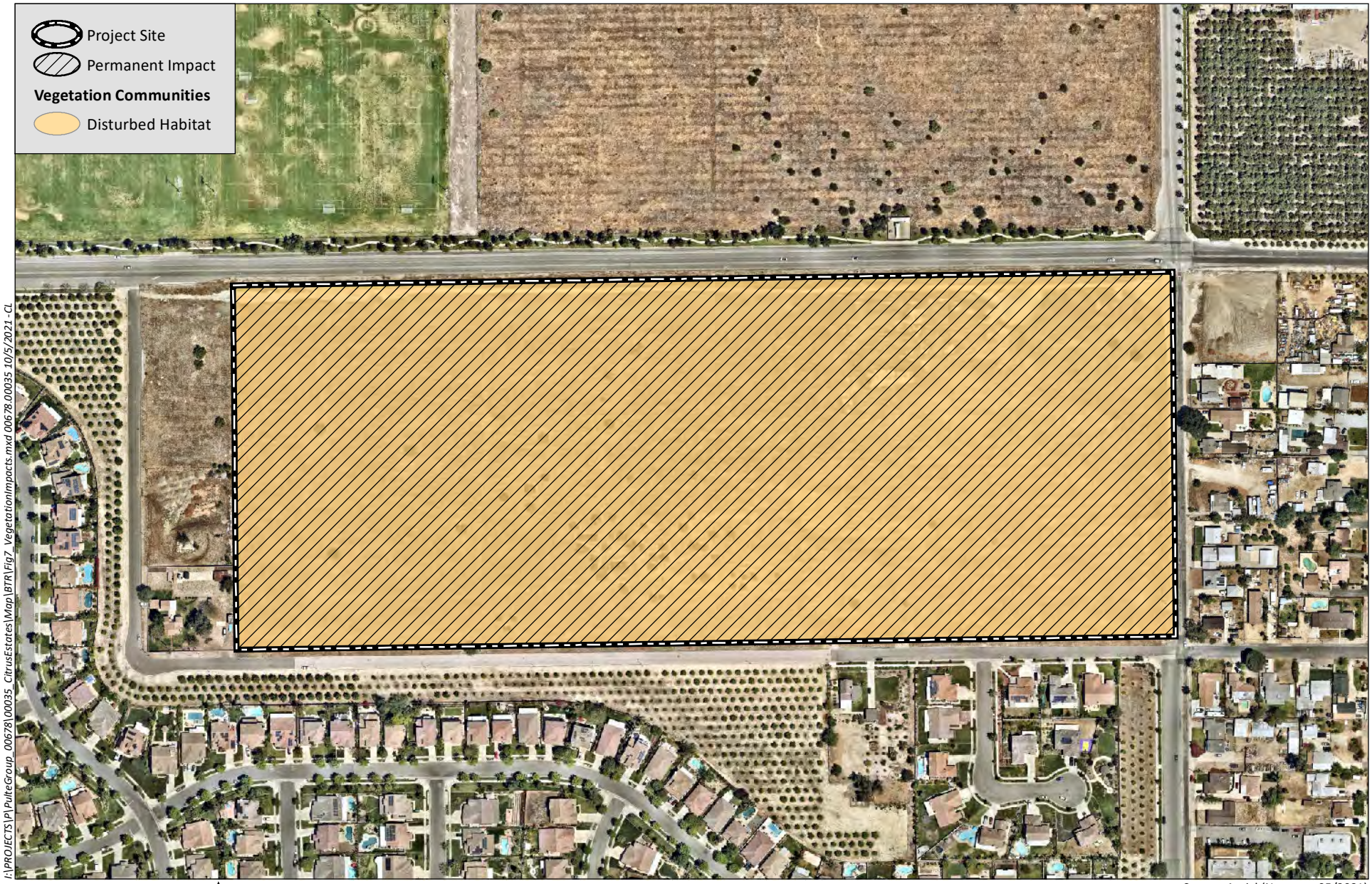
5.4.1 Impact Analysis

No Impact. The proposed project would not result in impacts to jurisdictional wetlands or waterways. The study area is comprised entirely of flat uplands that lack drainage features, ditches, depressions, riparian habitat, potential wetlands, and other aquatic resources.

5.4.2 Mitigation Measures

No mitigation required.

Citrus Estates



I:\PROJECTS\P\PulteGroup_00678\00035_CitrusEstates\Map\BTR\Fig7_VegetationImpacts.mxd 00678.00035 10/5/2021 -CL

Source: Aerial (Nearmap 05/2021)

HELIX Environmental Planning

Vegetation Communities/Impacts

Figure 7

5.4.3 Conclusion

The project would not result in impacts to jurisdictional wetlands or waterways.

5.5 ISSUE 4: WILDLIFE MOVEMENT AND NURSERY SITES

Would the project interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory corridors, or impede the use of native wildlife nursery sites?

5.5.1 Impact Analysis

Less than Significant. The study area does not by itself represent, nor does it contribute to, any known wildlife corridors, linkages, or wildlife nursery sites. The proposed project occurs within existing disturbed land. As the project developments have been sited within existing disturbed areas, the potential impact on wildlife movement and nursery sites would be less than significant and no additional mitigation is required.

5.5.2 Mitigation Measures

No mitigation is required.

5.5.3 Conclusion

Project implementation would result in less than significant impacts on wildlife movement and nursery sites. No mitigation is required.

5.6 ISSUE 5: LOCAL POLICIES AND ORDINANCES

Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

5.6.1 Impact Analysis

Less than Significant with Mitigation. If standard design features and construction practices are not implemented, the project could conflict with local policies and ordinances pertaining to biological resources. The City of Redlands General Plan 2035 requires that new development take actions to protect biological resources. As described, the study area is characterized by low-quality disturbed land that generally lacks biological resources of value. The project could, however, impact nesting birds, including burrowing owl, if standard pre-construction survey and avoidance measures are not implemented prior to construction. Mitigation measures **BIO-1** and **BIO-2** would ensure that the appropriate pre-construction survey and avoidance measures are implemented prior to and during construction to avoid any impacts on nesting birds and raptors, including the burrowing owl.

In addition, as a regulatory requirement, the project would be required to prepare and implement a Storm Water Pollution Prevention Plan (SWPPP) that would include standard construction BMPs and other measures to ensure appropriate site protections are in place during construction to prevent potential adverse effects on water quality and related resources. Furthermore, as a regulatory

requirement, the project would also be required to implement Low Impact Development strategies, operation BMPs, pervious paving materials, on-site infiltration, project landscaping, and/or other design features compatible with the City's General Plan policies.

With the implementation of mitigation measures **BIO-1** and **BIO-2**, and the regulatory requirements for a project SWPPP, construction and operation BMPs, and design features, the project would not conflict with the City's General Plan.

5.6.2 Mitigation Measures

No additional mitigation measures are required above and beyond **BIO-1** and **BIO-2**.

5.6.3 Conclusion

If certain avoidance measures, standard construction practices, and project design features aren't in place, the project could result in conflicts with the City's General Plan policies for biological resources. Implementation of mitigation measures **BIO-1** and **BIO-2**, the project's SWPPP, construction and operation BMPs, and the incorporated project design features would ensure that the project would not conflict with the City's General Plan policies for biological resources.

5.7 ISSUE 6: ADOPTED CONSERVATION PLANS

Would the project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

5.7.1 Issue 6 Impact Analysis

No Impact. The project is not located within the boundaries of any adopted conservation plan. Therefore, no impact on any adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved habitat conservation plan would occur.

5.7.2 Mitigation Measures

No mitigation is required.

5.7.3 Conclusion

The project would not conflict with any local or adopted habitat conservation plan.

6.0 CERTIFICATION/QUALIFICATION

The following individuals contributed to the fieldwork and/or preparation of this report.

Linda Garcia	M.A., English, National University, San Diego, 2012 B.A., Literatures in English, University of California, San Diego, 2003
Camille Lill	Masters of Spatial Information Science, University of Adelaide, Australia, 2003 B.A., Geography with emphasis in Techniques, University of Oregon, 2000
Amanda Mathews‡	B.S., Wildlife and Fisheries, Frostburg State University, 2008 A.A., Life Sciences and Laboratory Science, Biotechnology, Howard Community College, 2006
Karl Osmundson‡	B.S., Wildlife, Fish, and Conservation Biology, University of California, Davis, 2003
Dane van Tamelen*	B.A., Environmental Studies, University of California, Santa Cruz, 2015

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*Principal Author
‡Contributing Author

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Appendix A

Plant Species Observed

Appendix A
Plant Species Observed

Family	Scientific Name*,†	Common Name
Adoxaceae	*Sambucus nigra*	elderberry
Anacardaceae	*Malosma laurina*	laurel sumac
Asteraceae	*Ambrosia psilostachya*	western ragweed
	Helianthus annuus	common sunflower
	Heterotheca grandiflora	telegraph weed
Boraginaceae	*Amsinckia menziesii*	fiddleneck
Brassicaceae	*Hirschfeldia incana**	short-podded mustard
Cucurbitaceae	*Cucurbita palmata*	coyote gourd
Poaceae	*Avena fatua**	wild oat
	*Bromus diandrus**	ripgut brome
Simaroubaceae	*Ailanthus altissima**	tree of heaven
Solanaceae	*Datura wrightii*	jimson weed

* Non-native

Appendix B

Animal Species Observed

Appendix B
Animal Species Observed or Detected

Taxon		Scientific Name†	Common Name
Order	**Family**		
VERTEBRATES			
Birds			
Apodiformes	Trochilidae	*Calypte anna*	Anna's hummingbird
Columbiformes	Columbidae	*Zenaida macroura*	mourning dove
Falconiformes	Falconidae	*Falco sparverius*	American kestrel
Passeriformes	Corvidae	*Aphelocoma californica*	California scrub jay
	Fringillidae	*Amorphous mexicanus*	house finch
	Mimidae	*Mimus polyglottos*	northern mockingbird
	Passerellidae	*Melospiza melodia*	song sparrow
	Sturnidae	*Sturnus vulgaris*	European starling
	Tyrannidae	*Sayornis nigricans*	black phoebe
		Tyrannus vociferans	Cassin's kingbird
Mammals			
Carnivora	Canidae	*Canis latrans*	coyote
Rodentia	Geomyidae	*Thomomys bottae*	Botta's pocket gopher
	Sciuridae	*Otospermophilus beecheyi*	California ground squirrel

Appendix C

Sensitive Plant Species Observed or with Potential to Occur

Appendix C
Special Status Plant Species Observed or with Potential to Occur

Species	Status[1]	Habit, Ecology and Life History	Potential to Occur[2]
Mt. Pinos onion (*Allium howellii* var. *clokeyi*)	--/-- CRPR 1B.3	Perennial bulbiferous herb. Occurs along open slopes within sagebrush on clay soils. Flowering period: April to June. Elevation: 3,675 to 6,955 feet (1,120 to 2,120 meters).	**None.** The study area does not support clay soils, and it occurs below the elevation range for this species. This species was last recorded in 1938 at Lake Arrowhead, approximately 12 miles north of the study area.
Yucaipa onion (*Allium marvinii*)	--/-- CRPR 1B.2	Perennial bulbiferous herb. Occurs in openings on clay soils within chaparral habitat. Flowering Period: April to May. Elevation: 2,495 to 3,495 feet (760 to 1,065 meters).	**None.** The study area does not support clay soils, and it occurs below the elevation range for this species. This species was last recorded in 2017 approximately 12 miles southeast of the study area.
Marsh sandwort (*Arenaria paludicola*)	FE/SE CRPR 1B.1	Perennial herb. Occurs in wet areas such as marshes and bogs. Found in two locations in San Luis Obispo County. Flowering period: May through August. Elevation: 0 to 65 feet (0 to 20 meters).	**None.** The study area lacks suitable wet areas to support this species. This species only has one historical report in the study area vicinity, recorded in 1899 in the general Santa Ana River area (exact location unknown).
Horn's milk-vetch (*Astragalus hornii* var. *hornii*)	--/-- CRPR 1B.1	Annual herb. Occurs in alkali sinks and wetland-riparian areas. Flowering period: May through October. Elevation: 197 to 985 feet (60 to 300 meters).	**None.** The study area lacks suitable alkali sinks or wetland/riparian areas to support this species. This species only has one historical report in the study area vicinity, recorded in 1900 in the vicinity of San Bernardino (exact location unknown).
San Jacinto Valley crownscale (*Atriplex coronata* var. *notatior*)	FE/-- CRPR 1B.1	Annual herb. Occurs in freshwater wetlands, alkali sinks, and wetland-riparian areas. Flowering period: April to August. Elevation: 1,215 to 1.610 feet (370 to 490 meters).	**None.** The study area lacks suitable freshwater wetlands, alkali sinks, or wetland/riparian areas to support this species. This species was last recorded in 2012 in the vicinity of the San Jacinto Wildlife Area, approximately 14 miles south of the study area.

Appendix C (cont.)
Special Status Plant Species Observed or with Potential to Occur

Species	Status[1]	Habit, Ecology and Life History	Potential to Occur[2]
Davidson's saltscale (*Atriplex serenana* var. *davidsonii*)	--/-- CRPR 1B.2	Annual herb. Occur in alkaline soils within coastal sage scrub and coastal bluff scrub. Found in the coastal regions from San Luis Obispo County south to Orange County, western portions of San Bernardino and Riverside County, and the Channel Islands. Not known from San Diego County. Flowering Period: April to October. Elevation: 30 to 655 feet (10 to 200 meters).	**None.** The study area lacks suitable alkaline soils or coastal sage scrub or coastal bluff scrub vegetation communities. This species was last recorded in 2005 in the San Jacinto Wildlife Area, approximately 14 miles south of the study area.
Nevin's barberry (*Berberis nevinii*)	FE/SE CRPR 1B.1	Perennial evergreen shrub. Occurs in chaparral, cismontane woodland, coastal scrub, and riparian scrub on sandy or gravelly soils. Found in Los Angeles, San Bernardino, Riverside, and San Diego Counties. Flowering period: March to June. Elevation: 225 to 2,705 feet (70 to 825 meters).	**None.** The study area lacks suitable chaparral, cismontane woodland, coastal scrub, or riparian scrub to support his species. This species was last recorded in 2009 in San Timoteo Canyon, approximately five miles southwest of the study area.
Thread-leaved brodiaea (*Brodiaea filifolia*)	FT/SE CRPR 1B.1	Perennial herb. Often associated with vernal pools. Also occurs within playas, grasslands, coastal scrub, openings in chaparral, and cismontane woodland; often on clay soils. Found in Los Angeles, Orange, San Bernardino, Riverside, and San Diego Counties. Flowering period: March to June. Elevation: 80 to 3,675 feet (25 to 1,120 meters).	**Low.** Only marginally suitable habitat occurs on-site to support this species, and the study area does not consist of clay soils. This species was last recorded in 2005 near Arrowhead Hot Springs, approximately 10 miles northwest of the study area.
Palmer's mariposa lily (*Calochortus palmeri* var. *palmeri*)	--/-- CRPR 1B.2	Bulbiferous perennial herb. Occurs in yellow pine forest, chaparral, and wetland-riparian communities. Flowering period: April to July. Elevation: 1,805 to 7,675 feet (550 to 2,340 meters).	**None.** The study area lacks suitable yellow pine forest, chaparral, or wetland/riparian habitat to support this species. This species was last recorded in 2005 in Green Valley Lake, approximately 10 miles north-northeast of the study area.

Appendix C (cont.)
Special Status Plant Species Observed or with Potential to Occur

Species	Status[1]	Habit, Ecology and Life History	Potential to Occur[2]
Plummer's mariposa lily (*Calochortus plummerae*)	--/-- CRPR 4.2	Perennial herb. Grows on granitic and rocky soils within chaparral, coastal sage scrub, cismontane woodland, lower montane coniferous forest, and grassland. Found within Ventura, Los Angeles, Orange, Riverside, and San Bernardino Counties. Flowering period: May to July. Elevation: 325 to 5,580 feet (100 to 1,700 meters).	**None.** The study area lacks suitable granitic or rocky soils within the preferred vegetation communities to this species. This species was last recorded in 2011 in Badger Canyon, approximately 13 miles northwest of the study area.
Bristly sedge (*Carex comosa*)	--/-- CRPR 2B.1	Perennial rhizomatous herb. Grows in wet places, including meadows and wetlands. Flowering period: May to September. Elevation: 1,410 to 2,035 feet (430 to 620 meters).	**None.** The study area lacks suitable meadow or wetland habitat to support this species. This species only has one historical report in the study area vicinity, recorded in 1884 in the vicinity of San Bernardino Valley (exact location unknown).
Ash-gray paintbrush (*Castilleja cinerea*)	FT/-- CRPR 1B.2	Perennial hemiparasitic herb. Grows in creosote bush scrub, red fir forest, pinyon-juniper woodland. Found within San Bernardino County. Flowering period: June to August. Elevation: 6,695 to 9,875 feet (2.040 to 3,010 meters).	**None.** The study area lacks suitable vegetation communities to support this species, and it occurs outside of the elevation range for this species. This species was last recorded in 2012 near the Snow Valley Ski Area, approximately 15 miles northeast of the study area.
San Bernardino Mountains owl's-clover (*Castilleja lasiorhyncha*)	--/-- CRPR	Annual hemiparasitic herb. Grows in yellow pine forest and chaparral. Found in San Bernardino, Riverside, and San Diego Counties. Flowering period: May to August. Elevation: 5,050 to 7,545 feet (1,540 to 2,300 meters).	**None.** The study area lacks suitable vegetation communities to support this species, and it occurs outside of the elevation range for this species. This species was last recorded in 2008 near Keller Peak Road, approximately 10 miles northeast of the study area.
Smooth tarplant (*Centromadia pungens* ssp. *laevis*)	--/-- CRPR 1B.1	Annual herb. Occurs on alkaline soils in chenopod scrub, meadows and seeps, playas, riparian woodland, and valley and foothill grassland. Found in San Bernardino, Los Angeles, Riverside, and San Diego Counties. Flowering Period: April to September. Elevation: below 2,100 feet (640 meters).	**None.** The study area lacks suitable alkaline soils and preferred vegetation communities to support this species. This species was last recorded in 2016 along the Santa Ana River east of Waterman Avenue, approximately eight miles west of the study area.

Appendix C (cont.)
Special Status Plant Species Observed or with Potential to Occur

Species	Status[1]	Habit, Ecology and Life History	Potential to Occur[2]
Salt marsh bird's-beak (*Chloropyron maritimum* ssp. *maritimum*)	FE/SE CRPR 1B.2	Annual herb. Found in coastal salt marshes and swamps, particularly on slightly raised hummocks, and on coastal dunes. Found along the coastal regions from San Luis Obispo south to San Diego County and east to San Bernardino County. Flowering Period: May to October. Elevation: below 100 feet (30 meters).	**None.** The study area lacks suitable coastal salt marshes or swamp habitat to support this species. This species only has one historical report in the study area vicinity, recorded in 1888 in the vicinity of San Bernardino Valley (exact location unknown).
Parry's spineflower (*Chorizanthe parryi* var. *parryi*)	--/-- CRPR 1B.1	Annual herb. Occurs in sandy soil on flats and foothills in mixed grassland, coastal sage scrub, and chaparral communities. Found in the San Gabriel and San Bernardino Mountains and western Transverse Ranges within Los Angles, San Bernardino, and Riverside County. Flowering Period: April to June. Elevation: 900 to 4,005 feet (275 to 1,220 meters).	**Low.** Only marginally suitable habitat occurs within the study area to support this species. This species was last recorded in 2018 near Opal Avenue, approximately 0.3 mile east of the study area.
White-bracted spineflower *(Chorizanthe xanti* var. *leucotheca)*	--/-- CRPR 1B.2	Annual herb. Occurs within coastal scrub, Mojave desert scrub, and pinyon-juniper woodland, especially on alluvial fans and sandy or gravelly soils. Found within Los Angeles, Riverside, San Bernardino, and San Diego Counties. Flowering period: April to June. Elevation: 980 to 3,935 feet (300 to 1,200 meters).	**None.** The study area lacks suitable coastal scrub, desert scrub, or pinyon-juniper woodland to support this species. This species was last recorded in 2011 near Mentone, approximately five miles east of the study area.
Slenderhorn spineflower (*Dodecahema leptoceras*)	FE/CE CRPR 1B.1	Annual herb. Found in sandy and gravelly soils or alluvial fans in coastal sage scrub, chaparral, and woodlands. Found in the San Gabriel, San Bernardino, and San Jacinto Mountains and the western Transverse and Peninsular Ranges of Los Angeles, San Bernardino, and Riverside Counties. Flowering Period: April to June. Elevation: 655 to 2,500 feet (200 to 760 meters).	**Low.** Although the study area comprises sandy soils, it lacks suitable vegetation communities to support this species. This species was last recorded in 2010 near East Highlands, approximately five miles northwest of the study area.

Appendix C (cont.)
Special Status Plant Species Observed or with Potential to Occur

Species	Status[1]	Habit, Ecology and Life History	Potential to Occur[2]
Santa Ana River woolly-star (*Eriastrum densifolium ssp. sanctorum*)	FE/SE CRPR 1B.1	Perennial herb. Occurs in coastal sage scrub or chaparral. Found in Santa Ana River, Lytle Creek, and Cajon Creek flood plains. Usually in areas with less than 50 percent cover. Flowering period: May to September. Elevation: 755 to 7,515 feet (230 to 2,290 meters).	**None.** The study area lacks suitable coastal sage scrub or chaparral habitat to support this species. This species was last recorded in a wash in the Santa Ana River, approximately one mile north of the study area.
Hot springs fimbristylis (*Fimbristylis thermalis*)	--/-- CRPR 2B.2	Perennial rhizomatous grasslike herb. Occurs in freshwater wetlands and wetland/riparian areas. Found in Inyo, Kern, San Bernardino, and Los Angeles Counties. Flowering period: July to September. Elevation: 65 to 6,100 feet (20 to 1,860 meters).	**None.** The study area lacks suitable wetland or riparian areas to support this species. This species was last recorded in 2005 near Arrowhead Hot Springs, approximately 10 miles northwest of the study area.
Alvin Meadow bedstraw (*Galium californicum* ssp. *primum*)	--/-- CRPR 1B.2	Perennial herb. Occurs in yellow pine forest and chaparral. Found in San Bernardino and Riverside Counties. Flowering period: May through July. Elevation: 4,430 to 5,575 feet (1,350 to 1,700 meters).	**None.** The study area lacks suitable yellow pine forest or chaparral habitats to support this species and occurs outside of the known elevation range for this species. This species only has one historical report in the study area vicinity, recorded in 1891 near Reche Canyon, approximately eight miles southwest of the study area.
Los Angeles sunflower (*Helianthus nuttallii* ssp. *parishii*)	--/-- CRPR 1A	Perennial rhizomatous herb. Occurs in freshwater and coastal salt marshes and swamps. Found in San Bernardino, Los Angeles, and Orange Counties. Flowering period: August to October. Elevation: 35 to 5,005 feet (10 to 1,525 meters).	**None.** The study area lacks suitable freshwater or coastal marsh or swamp to support this species. This species only has one historical report in the study area vicinity, recorded in 1937 in the Santa Ana River area (exact location unknown).

Appendix C (cont.)
Special Status Plant Species Observed or with Potential to Occur

Species	Status[1]	Habit, Ecology and Life History	Potential to Occur[2]
Parish's alumroot (*Heuchera parishii*)	--/-- CRPR 1B.3	Perennial rhizomatous herb. Occurs in alpine boulder and rock fields, lower montane coniferous forest, subalpine coniferous forest, and upper montane coniferous forest. Found in San Bernardino, Riverside, and San Diego Counties. Flowering period: June to August. Elevation: 4,920 to 12,470 feet (1,500 to 3,800 meters).	**None.** The study area lacks suitable coniferous forest habitat to support this species. This species only has one historical report in the study area vicinity, recorded in 1932 near Lake Arrowhead, approximately 12 miles north-northwest of the study area.
Mesa horkelia (*Horkelia cuneata* var. *puberula*)	--/-- CRPR 1B.1	Perennial herb. Occurs in sandy or gravelly soils of maritime chaparral, coastal sage scrub, and woodlands. Found along the southern coast of California, Coast and Peninsular Ranges, and San Jacinto mountains. Flowering Period: February to July. Elevation: 225 to 2,655 feet (70 and 810 meters).	**None.** The study area lacks suitable maritime chaparral, coastal sage scrub, or woodland habitat to support this species. This species only has one historical report in the study area vicinity, recorded in 1888 near the mesas west of Colton (exact location unknown).
California satintail (*Imperata brevifolia*)	--/-- CRPR 2B.1	Large perennial grass. Occurs in wet streams, meadows, streambanks, and floodplains. Found throughout California. Flowering period Sep-May. Elevation range: below 1640 feet (500 m).	**None.** The study area lacks suitable wet habitat to support this species. This species was last recorded in 2010 along City Creek, approximately eight miles west of the study area.
silver-haired ivesia (*Ivesia argyrocoma* var. *argyrocoma*)	--/-- CRPR 1B.2	Perennial herb. Occurs in meadows and seeps, pebble plains, and upper montane coniferous forest. Found in San Bernardino County. Flowering period: June to August. Elevation: 4,800 to 9,710 feet (1,463 to 2,960 meters).	**None.** The study area lacks suitable vegetation communities to support this species. This species was last recorded in 2004 near Lake Arrowhead, approximately 12 miles north-northwest of the study area.

Appendix C (cont.)
Special Status Plant Species Observed or with Potential to Occur

Species	Status[1]	Habit, Ecology and Life History	Potential to Occur[2]
Coulter's goldfields (*Lasthenia glabrata* ssp. *coulteri*)	--/-- CRPR 1B.1	Annual herb. Grows in vernal pools, playas, and saline habitats within alkali sinks, coastal salt marshes, and wetland communities. Found along the Coast, Sierra Nevada, and Peninsular Ranges; Sacramento and San Joaquin Valleys; central and southern coasts; Mojave Desert, and north Channel Islands. Flowering period: April to May. Elevation: below 4,005 feet (1,220 meters).	**None.** The study area lacks suitable wetland or venal pool communities to support this species. This species was last recorded in 2014 near Davis Road in San Jacinto Valley, approximately 14 miles south of the study area.
Robinson's pepper-grass (*Lepidium virginicum* var. *robinsonii*)	--/-- CRPR 4.3	Annual herb. Grows in openings of sage scrub and chaparral at the coastal and foothill elevations throughout California. Typically observed in relatively dry, exposed locales rather than beneath a shrub canopy. Also, found in disturbed areas. Flowering period: March to June. Elevation: below 9,186 feet (2,800 meters).	**None.** The study area lacks suitable coastal sage scrub or chaparral habitat to support this species. This species was last recorded in 2004 near Versity Hill south of the University of California Riverside Campus, approximately 12 miles southwest of the study area.
lemon lily (*Lilium parryi*)	--/-- CRPR 1B.2	Perennial herb. Occurs within meadows and seeps and mesic areas of riparian forests and montane coniferous forests. Found in the San Gabriel, San Bernardino, and San Jacinto mountains, and western Transverse and Peninsular Ranges. Flowering period: July to August. Elevation: 4,000 to 9,005 feet (1,220 to 2,745 meters).	**None.** The study area lacks suitable meadows or seeps, riparian forest, or coniferous forest to support this species. This species was last recorded in 2014 near Green Valley Lake, approximately 12 miles northeast of the study area.
Parish's desert-thorn (*Lycium parishii*)	--/-- CRPR 2B.3	Perennial shrub. Occurs within coastal scrub and Sonoran desert scrub. Found within San Bernardino, Riverside, San Diego, and Imperial Counties. Flowering period: March to April. Elevation: 440 to 3,280 feet (135 to 1,000 meters).	**None.** The study area lacks suitable coastal scrub or desert scrub habitat to support this species. This species only has one historical report in the study area vicinity, recorded in 1885 near the mesas north of San Bernardino (exact location unknown).

Appendix C (cont.)
Special Status Plant Species Observed or with Potential to Occur

Species	Status[1]	Habit, Ecology and Life History	Potential to Occur[2]
Parish's bush-mallow (*Malacothamnus parishii*)	--/-- CRPR 1A	Perennial deciduous shrub. Occurs within chaparral and coastal scrub. Found in San Bernardino and Riverside Counties. Flowering period: June to July. Elevation: 1,000 to 1,495 feet (305 to 455 meters).	**None.** The study area lacks suitable coastal scrub or chaparral habitat to support this species. This species only has one historical report in the study area vicinity, recorded in 1895 near the mesas north of San Bernardino (exact location unknown).
Hall's monardella (*Monardella macrantha* ssp. *hallii*)	--/-- CRPR 1B.3	Perennial herb. Occurs within grasslands, chaparral, woodlands, and forests. Found in the San Bernardino and San Jacinto Mountains, and Peninsular Ranges of southern California. Flowering period: June to October. Elevation: 2,395 to 7,200 feet (730 to 2,195 meters).	**Low.** Only marginally suitable habitat occurs within the study area. This species was last recorded in 2012 near Yucaipa Ridge, approximately six miles east of the study area.
Pringle's monardella (*Monardella pringlei*)	--/-- CRPR 1A	Annual herb. Occurs in sandy coastal scrub. Found in San Bernardino and Riverside Counties. Flowering period: May to June. Elevation: 985 to 1,310 feet (300 to 400 meters).	**None.** The study area lacks suitable coastal scrub habitat to support this species. This species only has one historical report in the study area vicinity, recorded in 1941 near Colton (exact location unknown).
Mud nama (*Nama stenocarpa*)	--/-- CRPR 2B.2	Annual herb. Occurs in intermittently wet areas such as streambanks and muddy lake edges. Found in the San Joaquin Valley, southern coast, Peninsular Ranges, Sonoran Desert, and Channel Islands. Flowering period: January to July. Elevation: 15 to 1,640 feet (5 to 500 meters).	**None.** The study area lacks suitable intermittently wet areas to support this species. This species was last recorded in 2010 near Mystic Lake, approximately 14 miles south of the study area.
Gambel's water cress (*Nasturtium gambelii*)	FE/ST CRPR 1B.1	Perennial herb. Occurs within freshwater or brackish marshes and swamps. Found along the central and southern coasts from the San Francisco Bay area south to San Diego County. Flowering period: April to October. Elevation: 15 to 1,085 feet (5 to 330 feet).	**None.** The study area lacks suitable freshwater or brackish marshes or swamps to support this species. This species only has one historical report in the study area vicinity, recorded in 1935 near Urbita Hot Springs, approximately nine miles west of the study area.

Appendix C (cont.)
Special Status Plant Species Observed or with Potential to Occur

Species	Status[1]	Habit, Ecology and Life History	Potential to Occur[2]
San Bernardino ragwort (*Packera bernardina*)	--/-- CRPR 1B.2	Perennial herb. Occurs in mesic, sometimes alkaline meadows and seeps, and upper montane coniferous forest. Found in San Bernardino County. Flowering period: May to July. Elevation: 5,905 to 7,545 feet (1,800 to 2,300 meters).	**None.** The study area lacks suitable alkaline meadows or seeps, or coniferous forest to support this species. This species only has one historical report in the study area vicinity, recorded in 1972 near Snow Slide Road, approximately 12 miles northeast of the study area.
Parish's yampah (*Perideridia parishii* ssp. *parishii*)	--/-- CRPR 2B.2	Perennial herb. Occurs in lower montane coniferous forest, meadows and seeps, and upper montane coniferous forest. Found in San Bernardino County. Flowering period: June to August. Elevation: 4,805 to 9,845 feet (1,465 to 3,000 meters).	**None.** The study area lacks suitable coniferous forest or meadows or seeps to support this species. This species was last recorded in 2008 near Snow Valley, approximately 12 miles northeast of the study area.
Parish's gooseberry (*Ribes divaricatum* var. *parishii*)	--/-- CRPR 1A	Perennial deciduous shrub. Occurs in riparian woodland. Found in Los Angeles, San Bernardino, and Riverside Counties. Flowering period: February to April. Elevation: 215 to 985 feet (65 to 300 meters).	**None.** The study area lacks suitable riparian habitat to support this species. This species only has one historical report in the study area vicinity, recorded in 1917 near Warm Creek, approximately nine miles west of the study area.
Black bog-rush (*Schoenus nigricans*)	--/-- CRPR 2B.2	Perennial herb. Occurs in marshes and swamps, often alkaline. Found in Inyo and San Bernardino Counties. Flowering period: August to September. Elevation: 490 to 6,560 feet (150 to 2,000 meters).	**None.** The study area lacks suitable marshes or swamps to support this species. This species was last recorded in 2005 near Arrowhead Hot Springs, approximately 10 miles northwest of the study area.
Chaparral ragwort (*Senecio aphanactis*)	--/-- CRPR 2B.2	Annual herb. Occurs on alkali flats and dry, open, rocky areas within grasslands, coastal scrub, and cismontane woodland. Found along the coastal regions from San Francisco Bay south to San Diego County and eastern Riverside and San Bernardino Counties. Flowering period: February to May. Elevation: 45 to 2,625 feet (15 to 800 meters).	**None.** The study area lacks suitable alkali flats, or dry, open, rocky areas to support this species. This species was last recorded in 2004 near Box Springs Mountain, approximately 10 miles southwest of the study area.

Appendix C (cont.)
Special Status Plant Species Observed or with Potential to Occur

Species	Status[1]	Habit, Ecology and Life History	Potential to Occur[2]
Parish's checkerbloom (*Sidalcea hickmanii* ssp. *parishii*)	--/SR CRPR 1B.2	Perennial herb. Occurs in chaparral, cismontane woodland, and lower montane coniferous forest. Found in San Luis Obispo, Kern, and San Bernardino Counties. Flowering period: May to August. . Elevation: 3,280 to 8,200 feet (1,000 to 2,499 meters).	**None.** The study area lacks suitable chaparral, cismontane woodland, or lower montane coniferous forest to support this species. This species only has one historical report in the study area vicinity, recorded in 1909 near the Yucaipa Mountains, approximately five miles southeast of the study area.
Bear Valley checkerbloom (*Sidalcea malviflora* ssp. *dolosa*)	--/-- CRPR 1B.2	Perennial herb. Occurs in lower montane coniferous forest, meadows and seeps, riparian woodland, and upper montane coniferous forest. Found in San Bernardino County. Flowering period: May to August. Elevation: 4,905 to 8,810 feet (1,495 to 2,685 meters).	**None.** The study area lacks suitable lower montane coniferous forest, meadows and seeps, riparian woodland, or upper montane coniferous forest to support this species. This species only has one historical report in the study area vicinity, recorded in 1926 near City Creek, approximately seven miles west of the study area.
Salt spring checkerbloom (*Sidalcea neomexicana*)	--/-- CRPR 2B.1	Perennial herb. Occurs within chaparral, lower montane coniferous woodland, Mojave desert scrub, playas, and coastal scrub. Found within Mojave Desert and desert mountains, and along the coast and Transverse and Peninsular Ranges of southern California. Flowering period: March to June. Elevation: 50 and 5,020 feet (15 to 1,530 meters).	**None.** The study area lacks suitable chaparral, lower montane coniferous woodland, Mojave desert scrub, playas, or coastal scrub to support this species. This species was last recorded in 2011 in Mill Creek, approximately six miles east of the study area.
bird-foot checkerbloom (*Sidalcea pedata*)	FE/SE CRPR 1B.1	Perennial herb. Occurs in mesic meadows and seeps. Found in San Bernardino County. Flowering period: May to August. Elevation: 5,250 to 8,205 feet (1,600 to 2,500 meters).	**None.** The study area lacks suitable mesic meadows or seeps to support this species. This species only has one historical report in the study area vicinity, recorded in 1978 near Deep Creek Valley, approximately nine miles north of the study area.

Appendix C (cont.)
Special Status Plant Species Observed or with Potential to Occur

Species	Status[1]	Habit, Ecology and Life History	Potential to Occur[2]
prairie wedge grass (*Sphenopholis obtusata*)	--/-- CRPR 2B.2	Perennial herb. Occurs in wet meadows, streambanks, and ponds. Found in the Sierra Nevada, White and Inyo Mountains, and great basin region of central-east California and along the south coast, San Bernardino Mountains, and Peninsular Ranges of southern California. Flowering period: April to July. Elevation: 980 to 6,560 feet (300 to 2,000 meters).	**None.** The study area lacks suitable wet meadows, streambanks, or ponds to support this species. This species only has one historical report in the study area vicinity, recorded in 1917 near the Santa Ana River (exact location unknown).
Laguna mountain jewelflower (*Streptanthus bernardinus*)	--/-- CRPR 4.3	Perennial herb. Occurs within chaparral and lower montane coniferous forests in San Bernardino, Riverside, and San Diego Counties. Flowering period: May to August. Elevation: 2,200 to 8,200 feet (670 to 2,500 meters).	**None.** The study area lacks suitable chaparral or lower montane coniferous forest to support this species. This species was last recorded in 1994 in Switzer Park, approximately 11 miles north-northwest of the study area.
southern jewelflower (*Streptanthus campestris*)	--/-- CRPR 1B.3	Perennial herb. Occurs in open, rocky areas of chaparral, lower montane coniferous forests, and pinyon-juniper woodlands. Found in the western Transverse and Peninsular Ranges, and San Gabriel, San Bernardino, and San Jacinto Mountains of southern California. Flowering period: April to July. Elevation: 2,950 to 7,545 feet (900 to 2,300 meters).	**None.** The study area lacks suitable open, rocky areas of chaparral, lower montane coniferous forest, or pinyon-juniper woodland to support this species. This species was last recorded in 2012 along Keller Peak Road, approximately 10 miles northeast of the study area.

Appendix C (cont.)
Special Status Plant Species Observed or with Potential to Occur

Species	Status[1]	Habit, Ecology and Life History	Potential to Occur[2]
San Bernardino aster (*Symphyotrichum defoliatum*)	--/-- CRPR 1B.2	Perennial herb. Occurs near ditches, streams, and springs within grasslands, meadows, coastal scrubs, cismontane woodland, and lower montane coniferous forests. Also grows in disturbed areas. Found in southern California from San Luis Obispo County south to San Diego County and east to Kern and western San Bernardino and Riverside Counties. Flowering period July to November. Elevation: 2 to 6,695 feet (2 to 2,040 meters).	**None.** The study area lacks suitable open, rocky areas of chaparral, lower montane coniferous forest, or pinyon-juniper woodland to support this species. This species was last recorded in 1951 near San Timoteo Canyon, approximately five miles southwest of the study area.
Sonoran maiden fern (*Thelypteris puberula* var. *sonorensis*)	--/-- CRPR 2B.2	Perennial rhizomatous herb. Occurs in meadows and seeps near streams. Found in Santa Barbara, Los Angeles, San Bernardino, and Riverside Counties. Flowering period: January to September. Elevation: 165 to 2,000 feet (50 to 610 meters).	**None.** The study area lacks suitable meadows or seeps near streams to support this species. This species was last recorded in 2009 in Little Sand Canyon, approximately eight miles northwest of the study area.
Wright's trichocoronis (*Trichocoronis wrightii* var. *wrightii*)	--/-- CRPR 2B.1	Annual herb. Occurs in meadows and seeps, marshes and swamps, riparian forest, and vernal pools. Found throughout California, including San Bernardino County. Flowering period: May to September. Elevation: 15 to 1,425 feet (5 to 435 meters).	**None.** The study area lacks suitable meadows or seeps, marshes or swamps, riparian forest, or vernal pools to support this species. This species only has one historical report in the study area vicinity, recorded in 1937 near Mystic Lake, approximately 14 miles south-southeast of the study area.

[1] Listing codes as follows: F = Federal; S = State of California; E = Endangered; T = Threatened; CE = Candidate Endangered; R = Rare

CRPR = California Native Plant Society Rare Plant Rank: 1A – presumed extirpated in California and either rare or extinct elsewhere; 1B – rare, threatened, or endangered in California and elsewhere; 2A – presumed extirpated in California, but more common elsewhere; 2B – rare, threatened, or endangered in California, but more common elsewhere; 3 – more information needed; 4 – watch list for species of limited distribution. Extension codes: .1 – seriously endangered; .2 – moderately endangered; .3 – not very endangered.

[2] Potential to Occur is assessed as follows: **None**: There are no present or historical records of the species occurring on or in the immediate vicinity of the study area and the diagnostic habitats and soils associated with the species do not occur on or in the immediate vicinity of the project; **Low**: Suitable habitat is present in the study area and a historical record of the species occurs in the immediate vicinity but existing conditions such as elevation, soils, density of cover, prevalence of non-native species, evidence of

Appendix C (cont.)
Special Status Plant Species Observed or with Potential to Occur

disturbance, limited habitat area, and/or isolation substantially reduce the possibility that the species may occur; **Moderate**: The diagnostic habitats associated with the species occur on or in the immediate vicinity of the study area, but there is not a recorded occurrence of the species within the immediate vicinity. Some species that contain extremely limited distributions may be considered moderate, even if there is a recorded occurrence in the immediate vicinity; **High**: Suitable habitat occurs in the study area and the species has been recorded recently on or in the immediate vicinity but the species was not observed during project surveys; **Present**: The species was observed within the study area during biological surveys for the project; **Presumed Absent**: Species would be visible all year and would have been observed if present.

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Appendix D

Sensitive Animal Species Known to Occur or with Potential to occur in the Study Area

Appendix D
Special Status Animal Species Observed or with Potential to Occur

Species	Status[1]	Habitat Associations	Potential to Occur[2]
INVERTEBRATES			
Crotch bumble bee (*Bombus crotchii*)	--/SCE	Found throughout southwestern California from the Central Valley south to the U.S./Mexico border. Inhabits open grasslands and scrub habitats. Primarily nests underground and forages on a wide variety of flowers, but a short tongue renders it best suited to open flowers with short corollas. Most commonly observed on flowering species in the Fabaceae, Asteraceae, and Lamiaceae families. Occurrence has also been linked to habitats containing *Asclepias, Chaenactis, Lupinus, Medicago, Phacelia,* and *Salvia* genera.	**None.** The study area lacks suitable grassland or scrub habitat with preferred nectar plant species. This species was last recorded in 2020 along Country Gate Road, approximately five miles southwest of the study area.
Quino checkerspot butterfly (*Euphydryas editha quino*)	FE/--	Occurs in California from western Riverside County southwards to southern San Diego County. Inhabits open and sparsely vegetated areas that contain larval host plant species (principally dot-seed plantain [*Plantago erecta*], woolly plantain [*Plantago patagonia*] but also Coulter's snapdragon [*Antirrhinum coulterianum*], Chinese houses [*Collinsia* spp.], and rigid bird's beak [*Cordylanthus rigidus*]) and nectar sources. Often found on rounded hilltops, ridgelines, and occasionally rocky outcrops. Occurs within a wide range of open-canopied habitats including vernal pools, sage scrub, chaparral, grassland, and open oak and juniper woodland communities.	**None.** The study area lacks suitable vegetation communities, host plant species, and nectar plant species. This species was last recorded in 1958 in Cedarpines Park, approximately 16 miles northwest of the study area.

Appendix D (cont.)
Special Status Animal Species Observed or with Potential to Occur

Species	Status[1]	Habitat Associations	Potential to Occur[2]
Delhi Sands Flower-loving Fly (*Rhaphiomidas terminatus abdominalis*)	FE/--	Endemic to the Colton Dunes in Riverside and San Bernardino Counties. Inhabits fine sandy soils of the Delhi soils series associated with sand dunes with sparse native vegetation. Three indicator plants species are typically present in occupied habitat: California buckwheat (*Eriogonum fasiculatum*), telegraph weed (*Heterotheca grandiflora*), and desert croton (*Croton californicus*).	**None.** The study area lacks suitable soils and vegetation communities preferred by this species. This species was last recorded in 2020 in Colton, approximately 10 miles west of the study area.
Riverside fairy shrimp (*Streptocephalus woottoni*)	FE/--	In California, occurs from Los Angeles County south to coastal San Diego County, and east to western Riverside County. Found in deep seasonal vernal pools, ephemeral ponds, stock ponds, and other human modified depressions at least 30 centimeters deep. Associated with grasslands, which may be interspersed through chaparral or coastal sage scrub vegetation.	**None.** The study area lacks vernal pools required by this species. This species was last recorded in 1998 on March Air Reserve Base, approximately 15 miles southwest of the study area.
VERTEBRATES			
Fish			
Santa Ana sucker (*Catostomus santaanae*)	FT/-- SSC	Found in shallow permanent streams in the Los Angeles, San Gabriel, Santa Ana, and Santa Clara River systems. They require cool water, but flow may be variable. They prefer gravel, rubble, and boulder substrates.	**None.** The study area lacks streams or other bodies of water to support this species. This species was last recorded in 2007 in the Santa Ana River near Riverside Avenue, approximately 14 miles northwest of the study area.

Appendix D (cont.)
Special Status Animal Species Observed or with Potential to Occur

Species	Status[1]	Habitat Associations	Potential to Occur[2]
Arroyo chub (*Gila orcutti*)	--/SSC	Found in streams and rivers of southern California including the Los Angeles, San Gabriel, San Luis Rey, Santa Ana, and Santa Margarita Rivers, and Malibu and San Juan Creeks. Historic range has been expanded through the introduction to streams along the coast as far north as Chorro Creek in San Luis Obispo County. Additional introductions have occurred within the Santa Ynez, Ventura, Santa Maria, Cuyama, Santa Clara, and Mojave River systems. Habitats include slow-moving or backwater environments with mud or sand substrates, though can also occur in pools habitats with gravel, cobble, or boulder substrates.	**None.** The study area lacks streams or other bodies of water to support this species. This species was last recorded in 2000 in the Santa Ana River near Riverside Avenue, approximately 14 miles northwest of the study area.
Rainbow trout - steelhead form (*Oncorhynchus mykiss irideus*)	FE/--	This distinct population segment includes naturally occurring populations inhabiting coastal stream networks from the Santa Maria River system in Santa Barbara County south to the U.S./Mexico Border. Highly migratory species travelling from the ocean to freshwater lakes and streams where individuals spawn and then migrate back to the ocean. Offspring typically spend time rearing within freshwater for one to three years before migrating to the ocean where they spend several more years maturing before returning to freshwater to spawn. Requires cool water free of contaminants, places to rest and hide from predators, and rearing and migration corridors which allow for passage to various habitats required to complete their life cycle. Adults exhibit high site fidelity migrating to their natal streams to spawn, though some individuals stray from their non-natal streams. Individuals may also complete their life history cycle (incubating, hatching, rearing, maturing, reproducing, and dying) completely in freshwater.	**None.** The study area lacks streams or other bodies of water to support this species. This species was last recorded in 1950 in the Santa Ana River, exact location unknown.

Appendix D (cont.)
Special Status Animal Species Observed or with Potential to Occur

Species	Status[1]	Habitat Associations	Potential to Occur[2]
Santa Ana speckled dace (*Rhinichthys osculus*)	--/SSC	Occurs within the Santa Ana, San Gabriel, and Los Angeles River systems. Requires streams with perennial flow fed by cool springs that maintain summer water temperatures below 20°C. They most often occupy shallow riffles dominated by gravel and cobble.	**None.** The study area lacks streams or other bodies of water to support this species. This species was last recorded in 2000 in City Creek, approximately eight miles west of the study area.
Amphibians			
California red-legged frog (*Rana draytonii*)	FT/SSC	Has been extirpated from 70 percent of its former range within California which historically included coastal drainages from Marin County south to San Diego County, and isolated drainages in the Sierra Nevada, northern Coast Ranges, and northern Transverse Ranges at elevations below 5,000 feet. Currently known from only a few drainages in the Sierra Nevada foothills. In southern California, has been extirpated from the Los Angeles area south to the U.S./Mexican border; only known population in Los Angeles County is in San Francisquito Canyon on the Angeles National Forest. Inhabits a variety of aquatic habitats including sheltered backwaters of ponds, marshes, springs, streams, and reservoirs. Optimal habitat consists of deep pools with dense stands of overhanging willows (*Salix* spp.) bordered by cattails (*Typha* spp.).	**None.** The study area lacks suitable aquatic habitats to support this species. This species was last recorded in 1982 in the west fork of City Creek, approximately eight miles west of the study area.

Appendix D (cont.)
Special Status Animal Species Observed or with Potential to Occur

Species	Status[1]	Habitat Associations	Potential to Occur[2]
Southern mountain yellow-legged frog (*Rana muscosa*)	FE/SE, WL	Historically found within creeks and drainages in the San Gabriel, San Bernardino, San Jacinto, and Palomar Mountains of Los Angeles, San Bernardino, Riverside, and San Diego counties at elevations between 1,200 and 7,500 feet. Extirpated from much of its former range and is currently known to occupy only nine locations within the San Gabriel, San Bernardino, and San Jacinto Mountains. Inhabits rocky and shaded streams with an open to semi-open riparian canopy. Individuals most often found in drainages with permanent (perennial) water in at least some portion of the reach. Occupied streams vary from having steep gradients with numerous pools, rapids, and small waterfalls, to low gradients with slow flows, marshy edges, and sod banks. Favors large clear pools up to three feet deep.	**None.** The study area lacks suitable aquatic habitats to support this species. This species was last recorded in 2016 in the east fork of City Creek, approximately eight miles west of the study area.
Western spadefoot toad (*Spea hammondii*)	--/SSC	Occurs from northern California southward to San Diego County, west of the Sierra Nevada at elevations below 4,500 feet. Terrestrial species requiring temporary pools for breeding. Suitable upland habitats include coastal sage scrub, chaparral, and grasslands. Most common in grasslands with vernal pools or mixed grassland-coastal sage scrub areas. Breeds in temporary pools formed by heavy rains but may also be found in riparian habitats with suitable water resources. Breeding pools must lack exotic predators such fish, bullfrogs, and crayfish for the species to successfully reproduce. Estivates in burrows within upland habitats adjacent to potential breeding sites.	**None.** The study area lacks temporary pools and vegetation communities required by this species for breeding. This species was last recorded in 2019 near Fish Hatchery Road, approximately four miles east of the study area.
Reptiles			

Appendix D (cont.)
Special Status Animal Species Observed or with Potential to Occur

Species	Status[1]	Habitat Associations	Potential to Occur[2]
Northwestern Pond Turtle (*Actinemys marmorata*)	--/SSC	Almost entirely aquatic; occurs in ponds, marshes, rivers, streams, and irrigation ditches, usually with aquatic vegetation. Requires basking sites and suitable (sandy banks or grassy open fields) upland habitat up to 0.5 kilometers (0.3 miles) from water for egg-laying.	**None.** The study area lacks bodies of water required by this species. This species was last recorded in 2016 in San Timoteo Creek, approximately eight miles west of the study area.
San Diegan legless lizard (*Anniella stebbinsi*)	--/SSC	Found throughout southern California from the Transverse Ranges south to the U.S./Mexico border. Occurs in sparsely vegetated areas with moist warm, loose soil with plant cover; moisture is essential. Common in several habitats but especially in beach dunes, coastal scrub, chaparral, pine-oak woodlands, desert scrub, sandy washes, and stream terraces. Found primarily in areas with sandy or loose organic soils or where there is plenty of leaf litter. Sometimes found in suburban gardens.	**None.** The study area lacks suitable moist areas and vegetation communities to support this species. This species was last recorded in 2018 near Cherry Valley Boulevard, approximately 12 miles southeast of the study area.
California glossy snake (*Arizona elegans occidentalis*)	--/SSC	Occurs along the coastal regions of California from San Francisco south to San Diego County; though it is absent along the central coast. Inhabits arid scrub, rocky washes, grasslands, and chaparral. Prefers open areas and areas with soils loose enough for easy burrowing.	**None.** The study area lacks suitable vegetation communities to support this species. This species was last recorded in 2016 near Historic Route 66, approximately 15 miles northwest of the study area.
Belding's orange-throated whiptail (*Aspidoscelis hyperythra beldingi*)	--/WL	Found within the southwestern portion of California in southern San Bernardino, western Riverside, Orange, and San Diego Counties on the western slopes of the Peninsular Ranges at elevations below 3,500 feet. Suitable habitat includes coastal sage scrub, chaparral, juniper woodland, oak woodland, and grasslands along with alluvial fan scrub and riparian areas. Occurrence of the species correlated with the presence perennial plants which provides a food base for its major food source, termites.	**None.** The study area lacks suitable vegetation communities to support this species. This species was last recorded in 2016 near Loma Linda, approximately six miles southwest of the study area.

Appendix D (cont.)
Special Status Animal Species Observed or with Potential to Occur

Species	Status[1]	Habitat Associations	Potential to Occur[2]
San Diego tiger whiptail (*Aspidoscelis tigris stejnegeri*)	--/SSC	Occurs along the coastal region of southern California from San Luis Obispo south to San Diego County. Inhabits a wide variety of habitats, primarily in hot and dry open areas with sparse vegetation, from sea level up to 4,900 feet. Suitable habitat includes coastal sage scrub, chaparral, riparian areas, woodlands, and rocky areas with sandy or gravelly substrates.	**Low.** The study area comprises marginally suitable open areas with sparse vegetation, although habitat quality is low. This species was last recorded in 2016 in Loma Linda, approximately six miles southwest of the study area.
Southern rubber boa (*Charina umbratica*)	--/ST	Occurs in a few disjunct areas in montane areas in the San Bernardino and San Jacinto Mountains. Inhabits oak-conifer and mixed-conifer forests at elevations between 5,000 to 8,200 feet where rocks, logs, or other debris provide shelter.	**None.** The study area lacks suitable oak-conifer or mixed-conifer forests to support this species. This species was last recorded in 2020 on Harrison Mountain, approximately six miles north of the study area.
San Diego banded gecko (*Coleonyx variegatus abbotti*)	--/SSC	Occurs in the coastal regions of southern California from interior Ventura County south to San Diego County, although the species is absent from the extreme outer coast. Inhabits coastal sage scrub and chaparral habitats, most often occurring in granite or rocky outcrops.	**None.** The study area lacks suitable vegetation communities or rocky outcrops to support this species. This species was last recorded in 2015 in La Loma Hills, approximately 12 miles west of the study area.
Red diamond rattlesnake (*Crotalus ruber*)	--/SSC	Occurs in the southwestern California from San Bernardino County south to San Diego County at elevations below 5,000 feet. Has a wide tolerance for varying environments including the desert, dense foothill chaparral, warm inland mesas and valleys, and cool coastal zones. Most commonly found near heavy brush with large rocky microhabitats. Chamise and red shank chaparral associations may offer better structural habitat for refuges and food resources.	**None.** The study area and immediate vicinity lack suitable vegetation communities and brushy, rocky microhabitats preferred by this species. This species was last recorded in 2017 near Orange Street in Redlands, approximately two miles west of the study area.

Appendix D (cont.)
Special Status Animal Species Observed or with Potential to Occur

Species	Status[1]	Habitat Associations	Potential to Occur[2]
Blainville's horned lizard (*Phrynosoma blainvillii*)	--/SSC	In California, predominately occurs from Kern County south to San Diego County, west of the desert at elevations below 8,000 feet. Inhabits a wide variety of vegetation types including sagebrush scrub, chaparral, grasslands, forests, and woodlands but is restricted to areas with suitable sandy, loose soils with open areas for basking. Diet primarily composed of native harvester ants (*Pogonmyrmex* spp.) and are generally excluded from areas invaded by Argentine ants (*Linepithema humile*).	**Low.** The study area comprises marginally suitable habitat with loose soils, although habitat quality is low and native harvester ants were not observed on-site. This species was last recorded in 2008 in Cajon Wash, approximately 11 miles west of the study area.
Coast patch-nosed snake (*Salvadora hexalepis virgultea*)	--/SSC	Occurs in the coastal regions of California from the northern Carrizo Plains in San Luis Obispo County south to San Diego County at elevations below 7,000 feet. Inhabits semi-arid shrubby areas such as chaparral and desert scrub. Also found along washes, sandy flats, canyons, and rocky areas. Takes refuge and overwinters in burrows and woodrat nests.	**None.** The study area lacks suitable vegetation communities to support this species. This species was last recorded in 2016 along San Timoteo Canyon Road, approximately five miles southwest of the study area.
Two-striped garter snake (*Thamnophis hammondii*)	--/SSC	Found in California from Monterey County south along the coast to San Diego County at elevations below 7,000 feet. Commonly inhabits perennial and intermittent streams with rocky beds bordered by riparian habitats dominated by willows and other dense vegetation. Has also been found in stock ponds, and other artificially created aquatic habitats, if bordered by dense vegetation and potential prey, such as amphibians and fish, are present.	**None.** The study area lacks suitable aquatic habitats with rocky areas or dense vegetation preferred by this species. This species was last recorded in 2016 in San Bernardino, approximately nine miles northwest of the study area.
Birds			

Appendix D (cont.)
Special Status Animal Species Observed or with Potential to Occur

Species	Status[1]	Habitat Associations	Potential to Occur[2]
Cooper's Hawk (*Accipiter cooperii*)	--/WL	In California, breeds from Siskiyou County south to San Diego County and eastwards to Owens Valley at elevations below 9,000 feet. Inhabits forests, riparian areas, and more recently suburban and urban areas. Nests within dense woodlands and forests and isolated trees in open areas.	**Low.** Although the study area lacks suitable nesting habitat, this species may forage within the study area and nest within the immediate vicinity. This species was last recorded in 2021 along Foothill Way, approximately 0.1 mile southwest of the study area.
Tricolored Blackbird (*Agelaius tricolor*)	BCC/SCE, SSC	Highly colonial, nomadic species occurring as a year-round resident of California from Sonoma County to San Diego. Common locally in the Central Valley and sporadically throughout the state. Breeds in dense colonies. Breeding habitat typically characterized by emergent freshwater marsh dominated by tall, dense cattails and bulrush (*Schoenoplectus* spp.; *Scirpus* ssp.), though also utilizes willows, blackberries (*Rubus* spp.), thistles (*Cirsium* and *Centaurea* spp.), nettles (*Urtica* sp.), and agricultural crops. Forages in grasslands and cropland habitats adjacent to breeding areas.	**None.** The study area lacks suitable emergent freshwater marsh habitat to support this species. This species was last recorded in 2018 along San Timoteo Creek, approximately five miles southwest of the study area.
Southern California Rufous-crowned Sparrow (*Aimophila ruficeps canescens*)	--/WL	Year-round resident of southwestern California occurring from Santa Barbara County south to San Diego County at elevations below 5,000 feet. Generally found on moderate to steep slopes vegetated with grassland, coastal sage scrub, and chaparral. Prefer areas with California sagebrush (*Artemisia californica*). Generally absent from areas with dense stands of coastal sage scrub or chaparral. May occur on steep grassy slopes without shrubs if rock outcrops are present.	**None.** The study area lacks suitable grassland, sage scrub, or chaparral habitats preferred by this species. This species was last recorded in 2021 at San Timoteo Creek, approximately five miles southwest of the study area.

Appendix D (cont.)
Special Status Animal Species Observed or with Potential to Occur

Species	Status[1]	Habitat Associations	Potential to Occur[2]
Golden Eagle (*Aquila chrysaetos*)	BCC/WL, FP	Uncommon year-round resident and migrant throughout California, except the center of the Central Valley. More common in southern California than in northern regions. Inhabits a variety of habitats over rugged terrain. Nests on cliffs or trees. Forages over plains, grasslands, and low and open shrublands including chaparral and coastal sage scrub. Typically absent from heavily forested areas or on the immediate coast, and almost never detected in urbanized environments.	**None.** The study area lacks suitable rugged terrain to support nesting of this species, and the study area occurs in an urbanized area, where this species is typically not observed. This species was last recorded in 2021 near San Timoteo Creek, approximately five miles southwest of the study area.
Bell's sparrow (*Artemisiospiza belli belli*)	BCC/WL	Non-migratory year-round resident on the coastal ranges of California and western slopes of the central Sierra Nevada mountains. Occurs year-round in southern California. Breeds in dry coastal sage scrub and chaparral, desert scrub, and similar other open, scrubby habitats. In foothill chaparral, tends toward younger, less dense stands that are recovering from recent fires; less common in older, taller stands that have remained unburned.	**None.** The study area lacks suitable coastal sage scrub or other scrubby habitats preferred by this species. This species was last recorded in 2019 at Redlands Municipal Airport, approximately 0.6 mile northeast of the study area.
Burrowing Owl (*Athene cunicularia*)	BCC/SSC	Found from central California east to the Mojave Desert and south to coastal San Diego County. Primarily a grassland species that prefers areas with level to gentle topography and well-drained soils. Also occupies agricultural areas, vacant lots, and pastures. Requires underground burrows for nesting and roosting that are typically dug by other species such as the California ground squirrel (*Spermophilus beecheyi*). Will also utilize natural rock cavities, debris piles, culverts, and pipes for nesting and roosting.	**Low.** Although habitat on site is marginal for this species, suitable California ground squirrel burrows occur within the study area. This species was recorded in February 2021 at San Timoteo Creek, approximately five miles southwest of the study area.

Appendix D (cont.)
Special Status Animal Species Observed or with Potential to Occur

Species	Status[1]	Habitat Associations	Potential to Occur[2]
Ferruginous Hawk (*Buteo regalis*)	BCC/WL	Occurs as a winter visitor in California. Found within open grasslands at lower elevations within the Modoc Plateau, Central Valley, and Coast Ranges. Fairly common in grasslands and agricultural areas in southwestern California. Suitable wintering habitat includes grasslands, shrub habitats, and deserts over flat or rolling terrain.	**Low.** Although only marginally suitable habitat occurs within the study area, this species may forage within the study area and immediate vicinity. This species was last recorded in January 2021 along Sessums Drive, approximately 0.5 mile north of the study area.
Swainson's Hawk (*Buteo swainsoni*)	BCC/ST	Uncommon breeding resident and migrant within California. Migrates from breeding grounds in North American to wintering areas in South America and forages in flocks, sometimes numbering up into the thousands. In California, breeds locally in the Central Valley and Great Basin regions within Shasta Valley, Owens Valley, and the Mojave Desert. Inhabits open grasslands and shrub habitats as well as canyons, foothills, and smaller interior valleys in otherwise mountainous regions. Increasingly becoming more dependent on agriculture, especially alfalfa crops. Nests in stands with few trees, often on the edge of riparian habitats, though also uses lone trees in agriculture fields and pastures, and along roadsides with suitable foraging habitat nearby.	**None.** Although this species has been recorded within the study area vicinity, the study area lacks suitable nesting areas for this species. This species was last recorded in April 2016 at Redland Municipal Airport, approximately 0.6 mile northeast of the study area. The sighting was of one individual that was only observed on one day.
Western Yellow-billed Cuckoo (*Coccyzus americanus occidentalis*)	FT, BCC/SE	Uncommon summer resident of California. Current breeding range is restricted to isolated sites in Sacramento, Amargosa, Kern, Santa Ana, and Colorado River Valleys. Riparian obligates that nest in riparian woodlands with native broadleaf trees and shrubs, such as cottonwoods (*Populus* ssp.) and willows at least 50 acres or more in size within arid to semiarid landscapes. Most likely found in patches of riparian habitat greater than 200 acres.	**None.** The study area lacks suitable riparian habitat. This species was last recorded in 2001 at Poorman Reservoir, approximately 10 miles southwest of the study area.

Appendix D (cont.)
Special Status Animal Species Observed or with Potential to Occur

Species	Status[1]	Habitat Associations	Potential to Occur[2]
White-tailed Kite (*Elanus leucurus*)	--/FP	Year-round resident of California residing along the coasts and valleys west of the Sierra Nevada foothills and southeast deserts; has also been documented breeding in arid regions east of the Sierra Nevada and within Imperial County. Inhabits low elevation grasslands, wetlands, oak woodlands, open woodlands, and is often associated with agricultural areas. Breeds in riparian areas adjacent to open spaces nesting in isolated trees or relatively large stands.	**Low.** Although marginally suitable foraging habitat occurs within the study area, the study area lacks suitable riparian habitats for nesting. This species was last recorded in 2019 at San Timoteo Creek, approximately five miles southwest of the study area.
Southwestern Willow Flycatcher (*Empidonax traillii extimus*)	FE/SE	In California, breeds from the central portion of the state in Owens Valley (Inyo County) south to San Diego County. Riparian obligates that breed in relatively dense riparian habitats along rivers, streams, or other wetlands where surface water is present, or soils are very saturated. Breeding habitat can consist of monotypic stands of willows, a mixture of native broadleaf trees and shrubs, monotypic stands of exotics such as tamarisk (*Tamarix* spp.) or Russian olive (*Elaeagnus angustifolia*), or mixture of native broadleaf trees and shrubs with exotics. Restricted in San Diego County to two modest colonies at San Luis Rey River and Santa Margarita River, with a few scattered pairs.	**None.** The study area lacks suitable dense riparian habitat to support this species. This species was last recorded in 2016 in San Timoteo Canyon, approximately five miles southwest of the study area.
California Horned Lark (*Eremophila alpestris actia*)	--/WL	In California occurs along the coastal ranges of from San Joaquin Valley south to U.S./Mexico border. Inhabits a wide variety of open habitats with low, sparse vegetation where trees and large shrubs are generally absent. Suitable habitats include grasslands along the coast, deserts within the inland regions, shrub habitat at higher elevations, and agricultural areas.	**Moderate.** Although habitat within the study area is only marginally suitable for this species, this species is regularly and frequently reported at Redlands Sports Park, which is directly north of the study area across East San Bernardino Avenue. This species was last recorded at that location in September 2021.

Appendix D (cont.)
Special Status Animal Species Observed or with Potential to Occur

Species	Status[1]	Habitat Associations	Potential to Occur[2]
Merlin (*Falco columbarius*)	--/WL	Uncommon winter migrant in California occurring from September to May at elevations below 5,000 feet. Often found in open woodland, grasslands, cultivated fields, marshes, estuaries and seacoasts; rarely found in heavily wooded areas or over open deserts.	**Low.** Only marginally suitable habitat for this species occurs within the study area. This species was last recorded in 2021 at Redlands Municipal Airport, approximately 0.6 mile northeast of the study area.
Bald Eagle (*Haliaeetus leucocephalus*)	FE, BCC/SE, FP	Occurs as a permanent resident or uncommon winter migrant within California. Breeds primarily in northern California (Butte, Lake, Lassen, Modoc, Plumas, Shasta, Siskiyou, and Trinity Counties) but also nests in scattered locations in the Sierra Nevada mountains and foothills, in several locations from the central coast to inland southern California, and on Santa Catalina Island. Associated with large bodies of waters including estuaries, rivers, lakes, and reservoirs. Nests in mature, old growth forests adjacent to large bodies of water development.	**None.** The study area and immediate vicinity lack suitable open water or mature forests to support this species. There have been a few records of this species soaring over the study area vicinity, including in 2021 when it was reported along Agate Avenue, approximately 0.7 mile east of the study area.
Yellow-breasted Chat (*Icteria virens*)	--/SSC	In California, occurs as a migrant and summer resident breeding from the coastal regions in northern California, east of the Cascades, and throughout the central and southern portions of the state. Breeds in early successional riparian habitats with well-developed shrub layer and an open canopy nesting on the borders of streams, creeks, rivers, and marshes.	**None.** The study area lacks suitable riparian habitat to support this species. This species was last recorded in spring 2021 along the Santa Ana River near Greenspot Road, approximately two miles northeast of the study area.

Appendix D (cont.)
Special Status Animal Species Observed or with Potential to Occur

Species	Status[1]	Habitat Associations	Potential to Occur[2]
Loggerhead Shrike (*Lanius ludovicianus*)	BCC/SSC	Found year-round within California throughout the foothills and lowlands with winter migrants found coastally north of Mendocino County. Inhabits a variety of habitats and forages over open ground within areas of short vegetation, pastures with fence rows, old orchards, mowed roadsides, cemeteries, golf courses, riparian areas, open woodland, agricultural fields, desert washes, desert scrub, grassland, broken chaparral and beach with scattered shrubs. Forages by perching to search for prey (such as large insects, small mammals, amphibians, reptiles, and fish) and using impaling as a means of handling prey.	**Moderate.** Although only marginally suitable habitat occurs within the study area for this species to forage, this species was reported at Redlands Sports Park immediately north of the study area across East San Bernardino Avenue in 2021. This species has also been reported in 2021 at Redlands Municipal Airport, approximately 0.6 mile northeast of the study area.
California Black Rail (*Laterallus jamaicensis coturniculus*)	BCC/ST, FP	In California, breeds in the Sacramento-San Joaquin River delta, San Francisco Bay area, Bolinas Lagoon and Tomales Bay in Marin County, Morro Bay in San Luis Obispo County, White Slough in San Joaquin County, the Salton Sea in Imperial County, and the Lower Colorado River Valley. Inhabits salt and freshwater marshes and wet meadows. Associated with pickleweed (*Salicornia* ssp.), bulrush, alkali heath (*Frankenia salina*), and cordgrass (*Spartina* ssp.). Requires dense cover of upland vegetation in tidal areas for protection when rails must leave marsh habitats during high tide events.	**None.** This species is presumed to be extirpated from the area and the study area lacks suitable habitat to support this species. This species was last recorded in 1919 in San Bernardino, approximately nine miles northwest of the study area.

Appendix D (cont.)
Special Status Animal Species Observed or with Potential to Occur

Species	Status[1]	Habitat Associations	Potential to Occur[2]
White-faced Ibis (*Plegadis chihi*)	--/WL	Uncommon summer resident in sections of southern California, rare visitor in the Central Valley, and local wintering visitor along coast. Prefers to feed in fresh emergent wetlands, shallow lacustrine waters, muddy ground of wet meadows, and irrigated or flooded pastures and croplands. Nests in dense, fresh emergent wetland. In San Diego County, two nesting colonies have been documented at Guajome Lake and at a pond along the San Luis Rey River located near Keys Canyon.	**None.** The study area lacks suitable foraging or nesting habitat. A group of this species was recorded as flying over in 2021 along Herrington Drive, approximately one mile south of the study area.
Coastal California Gnatcatcher (*Polioptila californica californica*)	FT/SSC	Year-round resident of California occurring from Ventura County south to San Diego County, and east to the western portions of San Bernardino and Riverside Counties. Typically occurs in arid, open sage scrub habitats on gently slopes hillsides to relatively flat areas at elevations below 3,000 feet. Composition of sage scrub in which gnatcatchers are found varies though California sagebrush present as dominant or co-dominant species. Mostly absent from areas dominated by black sage (*Salvia mellifera*), white sage (*Salvia apiana*), or lemonade berry (*Rhus integrifolia*), though may occur more regularly in inland regions dominated by black sage.	**None.** The study area lacks suitable sager scrub vegetation communities preferred by this species. This species was last recorded in 2021 at the Redlands Municipal Airport, approximately 0.6 mile northeast of the study area.
Yellow Warbler (*Setophaga petechia*)	BCC/SSC	Common to locally abundant species breeding throughout California at elevations below 8,500 feet; excluding most of the Mojave Desert and all of the Colorado Desert. Breeds in riparian areas dominated by willows and cottonwoods, near rivers, streams, lakes, and wet meadows. Also breeds in montane shrub and conifer forests in higher elevation areas.	**None.** The study area lacks suitable riparian habitat preferred by this species. This species was last recorded in spring 2021 along the Santa Ana River near Greenspot Road, approximately two miles northeast of the study area.

Appendix D (cont.)
Special Status Animal Species Observed or with Potential to Occur

Species	Status[1]	Habitat Associations	Potential to Occur[2]
Lawrence's Goldfinch (*Spinus lawrencei*)	BCC/--	Resident of California breeding from Tehama, Shasta, and Trinity Counties to the foothills surrounding Central Valley, south through the southern Coast Range to Santa Barbara County continuing into San Diego County, and east to the western edge of the southern Mojave and Colorado Deserts. Found year-round in areas south of Kern County with wintering individuals observed further east into the desert regions and Colorado River Valley. Inhabits arid and open woodlands adjacent to scrub or chaparral habitats, grasslands or meadows, and water resources such as a stream, pond, or lake from sea level up to 10,000 feet. Highly nomadic species.	**Moderate.** Although the study area supports only marginally suitable habitat for this species, this species was regularly reported throughout 2021 at Redlands Sports Park, immediately north of the study area across East San Bernardino Avenue.
Least Bell's Vireo (*Vireo bellii pusillus*)	FE/SE	In California, breeds along the coast and western edge of the Mojave Desert from Santa Barbara County south to San Diego County, and east to Inyo, San Bernardino, and Riverside Counties. Breeding habitat consists of early to mid-successional riparian habitat, often where flowing water is present, but also found in dry watercourses within the desert. A structurally diverse canopy and dense shrub cover is required for nesting and foraging. Dominant species within breeding habitat includes cottonwood and willows with mule fat (*Baccharis salicifolia*), oaks (*Quercus* ssp.), and sycamore (*Platanus racemosa*), and mesquite and arrowweed (*Pluchea sericea*) within desert habitats. Can be tolerant of the presence of non-native species such as tamarisk.	**None.** The study are lacks suitable riparian habitat to support this species. This species was last recorded in spring 2021 along the Santa Ana River near Greenspot Road, approximately two miles northeast of the study area.

Appendix D (cont.)
Special Status Animal Species Observed or with Potential to Occur

Species	Status[1]	Habitat Associations	Potential to Occur[2]
Mammals			
Pallid bat (*Antrozous pallidus*)	--/SSC	Locally common species found at low elevations in California. Associated with arid and open habitats including grasslands, shrublands, woodlands, and forests, often with open water nearby. Prefers rocky outcrops, cliffs, and crevices with access to open habitats for foraging. Day roosts in caves, crevices, mines, and occasionally hollow trees and buildings. Appears to be intolerant of most human disturbances, being mostly absent from urban and suburban areas.	**None.** The study area lacks suitable roosting habitat and occurs within a developed area, which would preclude this species. This species was last recorded in 1928 in the general area of Redlands (exact location unknown).
Northwestern San Diego pocket mouse (*Chaetodipus fallax fallax*)	--/SSC	Occurs throughout southwestern California from western Riverside County to northern Baja California at elevations below 6,000 feet. Inhabits coastal sage scrub, grasslands, and chaparral communities, and generally exhibits a strong microhabitat affinity for moderately gravelly and rocky substrates. Forages for seeds from California sagebrush, California buckwheat, lemonade berry, and grasses under shrub and tree canopies, or around rock crevices.	**None.** The study area lacks suitable vegetation communities, gravelly or rocky substrate, or plant species from which this species feeds. This species was last recorded in 2016 near San Timoteo Canyon, approximately five miles southwest of the study area.
San Bernardino kangaroo rat (*Dipodomys merriami parvus*)	FE/SSC	Occurs in southwestern San Bernardino and western Riverside Counties primarily within the San Bernardino, Menifee, and San Jacinto valleys. Inhabits alluvial fan sage scrub and coastal sage scrub habitats with gravelly and sandy soils. Occupies alluvial floodplains and adjacent upland habitats. Rarely found in dense vegetation or rocky washes.	**None.** A focused habitat assessment for this species was conducted in August 2021, and no evidence was found of the presence of this species or the ability for the vegetation communities on-site to support this species. This species was last recorded in 2017 approximately five miles west of the study area.

Appendix D (cont.)
Special Status Animal Species Observed or with Potential to Occur

Species	Status[1]	Habitat Associations	Potential to Occur[2]
Stephens' kangaroo rat (*Dipodomys stephensi*)	FE/ST	Occurs in southern California within the San Jacinto Valley, western Riverside County, and southwestern San Bernardino County, and northwestern San Diego county at elevations between 180 to 4,100 feet. Inhabits native to open grasslands and sparse coastal sage scrub (less than 30 percent cover) on relatively flat or gently sloping ground. Dominant species include native and non-native herbaceous species such as filaree (*Erodium* spp.), non-native grasses (*Bromus* ssp.), California sagebrush, and California buckwheat.	**Low.** Only marginally suitable habitat occurs within the study area to support this species. This species was last recorded in 2018 near Meridian Parkway in Riverside, approximately 15 miles southwest of the study area.
Western mastiff bat (*Eumops perotis californicus*)	--/SSC	In California, occurs from Monterey County to San Diego County from the coast eastward to the Colorado Desert. Found in open, semi-arid to arid habitats including coastal and desert scrub, grasslands, woodlands, and palm oases. Prefers to roost in high situations above the ground on vertical cliffs, rock quarries, outcrops of fractured boulders, and occasionally tall buildings.	**None.** The study area lacks suitable vegetation communities and vertical structures preferred by this species for foraging and roosting. This species was last recorded in 1992 along Little Mill Creek, approximately seven miles north of the study area.
San Bernardino flying squirrel (*Glaucomys oregonensis californicus*)	--/SSC	Occurs within the San Bernardino Mountains in southern California. Appears to have been extirpated from San Jacinto Mountains. Found in high0elevation, mixed-conifer forests dominated by Jeffrey pine (*Pinus jeffreyi*), white fir (*Abies concolor*), and black oak (*Quercus velutina*) between 4,600 and 7,550 feet.	**None.** The study area lacks suitable mixed-conifer forest at high elevation. This species was last recorded in 2005 near Dart Creek, approximately 14 miles northwest of the study area.

Appendix D (cont.)
Special Status Animal Species Observed or with Potential to Occur

Species	Status[1]	Habitat Associations	Potential to Occur[2]
Western yellow bat (*Lasiurus xanthinus*)	--/SSC	Occurs from southern California from in Los Angeles, San Bernardino, and San Diego Counties. In San Diego, commonly found in Anza-Borrego Desert but is also established west of the desert within rural to suburban areas including Escondido, Vista, Ramona, Lakeside, El Cajon, and La Mesa. Roosts primarily on dead palm frond skirts of native and non-native fan palms but has also been observed in cottonwoods and yuccas. Occurs within a variety of habitats where palms are present including desert riparian, desert washes, palm oasis, cottonwood-willow riparian forest, and developed areas.	**Low.** The study area comprises only marginally suitable habitat and occurs adjacent to a developed area that may support roosting for this species. This species was last recorded in 1996 in the general Redlands area (exact location unknown).
Lesser long-nosed bat (*Leptonycteris yerbabuenae*)	FD/SSC	Primarily found within the desert regions of southwestern U.S. with only two locations reported in California: one in San Bernardino County and one in San Diego County. Roosts primarily in caves and cave-like structures. Feeds on flowers of various agave and cacti species. Species likely subsidized by landscaping with nectar-producing plants near man-made structures that function as cave-root analogs.	**Low.** Although the study area is not comprised of native agave or cacti species and does not support any caves or cave-like structures, the surrounding area is developed and supports landscaped areas and man-made structure that may serve as roosts for this species. This species was last recorded in 1993 in the general area of Yucaipa (exact location unknown).
San Diego black-tailed jackrabbit (*Lepus californicus bennettii*)	--/SSC	Occurs along the coastal regions of southern California. Found in arid regions preferring grasslands, agricultural fields, and sparse scrub. Typically absent from areas with high-grass or dense brush, such as closed-canopy chaparral, primarily occupying short-grass and open scrub habitats.	**Low.** The study area comprises only marginally suitable habitat to support this species. This species was last recorded in 2007 near Nason Street, approximately 11 miles southwest of the study area.

Appendix D (cont.)
Special Status Animal Species Observed or with Potential to Occur

Species	Status[1]	Habitat Associations	Potential to Occur[2]
San Diego Bryant's (formerly desert) woodrat (*Neotoma bryanti [formerly lepida] intermedia*)	--/SSC	Occurs along the coastal regions of California from San Luis Obispo County south to San Diego County, and in the western portions of San Bernardino and Riverside Counties. Inhabits a variety of shrub and desert habitats such as coastal sagebrush scrub, chaparral, pinyon-juniper woodland, and Joshua tree woodland among others. Often associated with rock outcroppings, boulders, cacti patches, and areas with dense understories. Construct dens used for shelter, food storage, and nesting around rock outcroppings and cacti using various materials such as twigs, sticks, and other debris.	**None.** The study area lacks suitable habitat and vegetation complexity preferred by this species. This species was last recorded in 2007 near Redlands Municipal Airport, approximately 0.6 mile northeast of the study area.
Pocketed free-tailed bat (*Nyctinomops femorosaccus*)	--/SSC	Rare in California occurring from Los Angeles County east to San Bernardino County and south to San Diego County. Closely associated with their preferred roosting habitats consisting of vertical cliffs, quarries, and rocky outcrops. Sometimes roosts under tiled roofs and observed utilizing bat boxes. Habitat generalists foraging in grasslands, shrublands, riparian areas, oak woodlands, forests, meadows, and ponds favoring larger water bodies for drinking.	**None.** The study area lacks suitable vertical structures preferred by this species for roosting, as well as large bodies of water for drinking. This species was last recorded in 1985 at March Air Reserve Base, approximately 15 miles southwest of the study area.
Southern grasshopper mouse (*Onychomys torridus ramona*)	--/SSC	Ranges from the San Joaquin Valley of Los Angeles County south to northwest Baja California. Typically found in open valleys on the coastal side of the mountains but may extend a short distance onto the eastern desert slopes. Prefers open habitats with soft terrain and friable soils within grasslands, coastal sage scrub, alluvial fans, and desert scrub.	**None.** The study area lacks suitable habitat to support this species. This species was last recorded in 1938 near Eden Hot Springs, approximately 14 miles south of the study area.

Appendix D (cont.)
Special Status Animal Species Observed or with Potential to Occur

Species	Status[1]	Habitat Associations	Potential to Occur[2]
Los Angeles pocket mouse (*Perognathus longimembris brevinasus*)	--/SSC	Historically occurred from the San Fernando Valley of Los Angeles County east to Cabazon in the San Gorgonio Pass and southeast to north-central San Diego County. Possibly intergrades with the Palm Springs pocket mouse in San Felipe Valley. Found in sandy washes, grasslands, disturbed sage scrub, and oak woodland habitats.	**None.** The study area lacks suitable grassland, sage scrub, or oak woodland habitat to support this species. This species was last recorded in 2020 in Colton, approximately 10 miles west of the study area.
American badger (*Taxidea taxus*)	--/SSC	Uncommon, permanent resident found through California, except for the extreme north coast areas. Associated with large blocks of undeveloped land composed of open valleys, alluvial fans, meadows, grasslands, and sandy desert. Dens function as sites for resting and parturition. Friable, easily crumbled soils are important for denning.	**None.** The study area lacks suitable meadow, grassland, or sandy desert habitat preferred by this species. This species was last recorded in 2019 in Live Oak Canyon, approximately four miles south of the study area.

Appendix D (cont.)
Special Status Animal Species Observed or with Potential to Occur

Species	Status[1]	Habitat Associations	Potential to Occur[2]

[1] Listing codes are as follows: F = Federal; S = State of California; E = Endangered; T = Threatened; CE = Candidate Endangered; R = Rare; BCC = Federal Bird of Conservation Concern; SSC = State Species of Special Concern; FP = State Fully Protected; WL = Watch List

[2] Potential to Occur is assessed as follows: **None**: Species is so limited to a particular habitat that it cannot disperse on its own, and habitat suitable for its establishment and survival does not occur in the study area; **Not Expected**: There are no present or historical records of the species occurring on or in the immediate vicinity of the study area. The species moves freely and might disperse through or across the study area, but suitable habitat for residence or breeding does not occur; **Low**: Suitable habitat is present in the study area and there is a historical record of the species in the project vicinity, but no sign of the species was observed during surveys. Existing conditions such as elevation, species composition, density of cover, prevalence of non-native species, evidence of disturbance, limited habitat area, and/or isolation may substantially reduce the possibility that the species may occur; **Moderate:** Diagnostic habitats associated with the species occur on or adjacent to the study area, but there is no recent documented occurrence of the species within the immediate vicinity. Some species that contain extremely limited distributions may be considered moderate, even if there is a recorded occurrence in the immediate vicinity; **High**: Suitable habitat associated with the species occurs in the study area and the species has been recorded recently on or near the project, but was not observed during biological surveys; **Present**: The species was observed during biological surveys for the project and is assumed to occupy the study area.

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Appendix E

Explanation of Status Codes for Plant and Animal Species

Appendix E
Explanation of Status Codes for Plant and Animal Species

FEDERAL AND STATE CODES

U.S. Fish and Wildlife Service (USFWS)

BCC	Bird of Conservation Concern
BGEPA	Bald and Golden Eagle Protection Act
FC	Federal candidate species
FE	Federally listed endangered
FPD	Federally proposed for delisting
FPE	Federally proposed endangered
FPT	Federally proposed threatened
FT	Federally listed threatened

USFWS Birds of Conservation Concern (BCC)

The primary legal authority for Birds of Conservation Concern (2008) is the Fish and Wildlife Conservation Act of 1980 (FWCA), as amended. Other authorities include the Endangered Species Act, Fish and Wildlife Act (1956) and 16 USC §701. A FWCA 1988 amendment (Public Law 100-653, Title VIII) requires the Secretary of the Interior through the USFWS to "identify species, subspecies, and populations of all migratory non-game birds that, without additional conservation actions, are likely to become candidates for listing under the Endangered Species Act of 1973." The 2008 BCC report is the most recent effort by the USFWS to carry out this proactive conservation mandate.

The BCC report aims to identify accurately the migratory and non-migratory bird species (beyond those already designated as federally threatened or endangered) that represent the USFWS' highest conservation priorities and draw attention to species in need of conservation action. The USFWS hopes that by focusing attention on these highest priority species, the report will promote greater study and protection of the habitats and ecological communities upon which these species depend, thereby ensuring the future of healthy avian populations and communities. Birds of Conservation Concern 2008 lists are available online at https://www.fws.gov/birds/management/managed-species/birds-of-conservation-concern.php.

USFWS Federal Candidate (FC) Species

Federal candidate species are those for which the USFWS has on file "sufficient information on biological vulnerability and threats to support a proposal to list as endangered or threatened, but for which preparation and publication of a proposal is precluded by higher-priority listing actions. [The USFWS] maintain[s] this list for a variety of reasons: to notify the public that these species are facing threats to their survival; to provide advance knowledge of potential listings that could affect decisions of environmental planners and developers; to provide information that may stimulate conservation efforts that will remove or reduce threats to these species; to solicit input from interested parties to help us identify those candidate species that may not require protection under the [Endangered Species Act] or additional species that may require the Act's protections; and to solicit necessary information for setting priorities for preparing listing proposals" (Federal Register 70:90 [May 11, 2005]).

Appendix E (cont.)
Explanation of Status Codes for Plant and Animal Species

USFWS Federal Proposed Endangered (FPE) Species

Any species the Service has determined is in danger of extinction throughout all or a significant portion of its range and the Service has proposed a draft rule to list as endangered. Proposed endangered species are not protected by the take prohibitions of section 9 of the ESA until the rule to list is finalized. Under section 7(a)(4) of the ESA, federal agencies must confer with the Service if their action will jeopardize the continued existence of a proposed species.

USFWS Federal Proposed Threatened (FPT) Species

Any species the Service has determined is likely to become endangered within the foreseeable future throughout all or a significant portion of its range and the Service has proposed a draft rule to list as threatened. Proposed threatened species are not protected by the take prohibitions of section 9, consistent with any protective regulations finalized under section 4(d) of the ESA, until the rule to list is finalized. Under section 7(a)(4) of the ESA, federal agencies must confer with the Service if their action will jeopardize the continued existence of a proposed species.

USFWS Bald and Golden Eagle Protection Act (BGEPA)

In 1782, Continental Congress adopted the bald eagle as a national symbol. During the next one and a half centuries, the bald eagle was heavily hunted by sportsmen, taxidermists, fisherman, and farmers. To prevent the species from becoming extinct, Congress passed the Bald Eagle Protection Act in 1940. The Act was extremely comprehensive, prohibiting the take, possession, sale, purchase, barter, or offer to sell, purchase, or barter, export or import of the bald eagle "at any time or in any manner."

In 1962, Congress amended the Eagle Act to cover golden eagles, a move that was partially an attempt to strengthen protection of bald eagles, since the latter were often killed by people mistaking them for golden eagles. The golden eagle, however, is accorded somewhat lighter protection under the Act than the bald eagle. Another 1962 amendment authorizes the Secretary of the Interior to grant permits to Native Americans for traditional religious use of eagles and eagle parts and feathers.

California Department of Fish and Wildlife (CDFW)

SCE	State candidate for listing as endangered
SCT	State candidate for listing as threatened
SE	State listed endangered
SR	State listed rare
ST	State listed threatened
SSC	State species of special concern
WL	Watch List
FP	Fully Protected species refers to all vertebrate and invertebrate taxa of concern to the Natural Diversity Data Base regardless of legal or protection status. These species may not be taken or possessed without a permit from the Fish and Game Commission and/or CDFW.
Special Animal	Refers to all vertebrate and invertebrate taxa of concern to the Natural Diversity Database regardless of legal or protection status.

Appendix E (cont.)
Explanation of Status Codes for Plant and Animal Species

Federal and State Forest Service Codes

Federal

FS U.S. Department of Agriculture Forest Service Sensitive

The USDA Forest Service defines sensitive species as those plant and animal species identified by a regional forester for which population viability is a concern, as evidenced by significant current or predicted downward trends in population numbers or density, or significant current or predicted downward trends in habitat capability that would reduce a species existing distribution. Regional foresters shall identify sensitive species occurring within the region. More information is available at http://www.fs.fed.us/r5/projects/sensitive-species.

State

CDF California Department of Forestry and Fire Protection Sensitive

The Board of Forestry classifies as "sensitive species" those species that warrant special protection during timber operations. The list of "sensitive species" is given in §895.1 (Definitions) of the California Forest Practice Rules, which are available online at www.fire.ca.gov.

California Environmental Quality Act (CEQA)

For plants with no current federal or state legal standing, "CEQA" refers to the fact that under the Act, impacts to species may be found significant under certain circumstances (e.g., the species are regionally sensitive and/or are protected by a local policy, ordinance, or habitat conservation plan; or the impact involves interference with certain movements or migrations, with wildlife corridors or with nursery sites).

Bureau of Land Management (BLM) Sensitive

BLM Manual 6840 defines sensitive species as "species that require special management consideration to avoid potential future listing under the ESA and that have been identified in accordance with procedures set forth in this manual" (https://www.blm.gov/sites/blm.gov/files/uploads/mediacenter_blmpolicymanual6840.pdf). Species designated as Bureau sensitive must be native species found on BLM-administered lands for which the BLM has the capability to significantly affect the conservation status of the species through management, and either: 1. There is information that a species has recently undergone, is undergoing, or is predicted to undergo a downward trend such that the viability of the species or a distinct population segment of the species is at risk across all or a significant portion of the species range, or 2. The species depends on ecological refugia or specialized or unique habitats on BLM-administered lands, and there is evidence that such areas are threatened with alteration such that the continued viability of the species in that area would be at risk. The Bureau Sensitive Species designation is not meant to include federally listed, proposed, candidate, or state listed species. It is BLM policy to provide sensitive species with the same level of protection given to federal candidate species.

Appendix E (cont.)
Explanation of Status Codes for Plant and Animal Species

OTHER CODES AND ABBREVIATIONS

California Native Plant Society California Rare Plant Rank (CRPR) Codes

Lists

1A = Presumed extirpated in California and either rare or extinct elsewhere. Eligible for state listing.

1B = Rare, threatened, or endangered in California and elsewhere. Eligible for state listing.

2A = Presumed extirpated in California but common elsewhere. Eligible for state listing.

2B = Rare, threatened, or endangered in California but more common elsewhere. Eligible for state listing.

3 = Review List: Plants about which more information is needed. Some eligible for state listing.

4 = Watch List: Plants of limited distribution. Needs monitoring for changes in population status. Few (if any) eligible for state listing.

List/Threat Code Extensions

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

.2 = Moderately threatened in California (20-80% occurrences threatened / moderate degree and immediacy of threat)

.3 = Not very threatened in California (less than 20% of occurrences threatened / low degree and immediacy of threat or no current threats known)

A “CA Endemic” entry corresponds to those taxa that only occur in California.

All List 1A (presumed extinct in California) and some List 3 (need more information; a review list) plants lacking threat information receive no extension. Threat Code guidelines represent only a starting point in threat level assessment. Other factors, such as habitat vulnerability and specificity, distribution, and condition of occurrences, are considered in setting the Threat Code.

Appendix F

San Bernardino Kangaroo Rat Habitat Assessment

HELIX Environmental Planning, Inc.
7578 El Cajon Boulevard
La Mesa, CA 91942
619.462.1515 tel
619.462.0552 fax
www.**helixepi**.com

August 17, 2021

Pulte Group
27401 Los Altos, Suite 400
Mission Viejo, CA 92691
Attn: Sohail Bokhari

Subject: San Bernardino Kangaroo Rat Habitat Assessment for the Redlands 38 Property, City of Redlands, San Bernardino County, California

Dear Mr. Bokhari:

HELIX Environmental Planning, Inc. (HELIX) has completed an updated habitat assessment for the San Bernardino kangaroo rat (*Dipodomys merriami parvus*; SBKR) at an approximately 38.0-acre property, herein referred to as the project site or site, comprised of Assessor's Parcel Number (APN) 0168-132-05 in the City of Redlands, San Bernardino County, California. A previous assessment was completed by Michael Baker International (MBI) in May 2017 (MBI 2017). This report documents the current assessment completed by HELIX in August 2021. The current August 2021 assessment confirmed the previous May 2017 findings that SBKR is not likely to occur and additional protocol-level presence/absence trapping surveys are not recommended.

PROJECT SITE LOCATION AND GENERAL DESCRIPTION

The approximately 38.0-acre project site is located within the northeastern portions of the City of Redlands in San Bernardino County, California. The site is depicted on the Redlands United States Geological Survey (USGS) 7.5-minute topographic quadrangle in Section 24 of Township 1 south, Range 3 west. Specifically, the project site is located on the north of Capri Avenue, east of Granite Street, south of San Bernardino Avenue, and west of Wabash Avenue.

The project site is flat, with an average elevation of approximately 1,600 feet above mean sea level. Where vegetation is present, it is dominated by ruderal (weedy) plant species. From a biological resources standpoint, the site is considered to be heavily disturbed as a result of previous agricultural uses, routine disking, illegal dumping, domestic pet (dog) use, and abutting developments. Residential land uses are located to the east, south, and west of the project site. Regularly trafficked roadways (Capri Avenue and Wabash Avenue) and existing residential developments occur to the immediate south, east, and west of the site. The heavily trafficked San Bernardino Avenue, Redlands Sports Park, and disturbed vacant land (previously agriculture) occur to the immediate north. Disturbed vacant land and

the Redlands Municipal Airport occur further to the north, followed by the Santa Ana River wash, which is located approximately 0.7 mile north of the site.

METHODS

Pre-Survey Investigation

Prior to conducting the habitat assessment survey, a thorough review of relevant maps, databases, and literature pertaining to the target species within the project vicinity was completed. Recent and historical aerial imagery, soils data, U.S. Geological Survey (USGS) topography, and other maps (Google 2021) of the project site and vicinity were reviewed. The previous May 2017 SBKR habitat assessment was also reviewed (MBI 2017).

SBKR Habitat Assessment Survey

The SBKR habitat assessment survey was conducted over the entire approximately 38.0-acre project site by HELIX biologist Kelly Rios on August 4, 2021. Ms. Rios holds recovery permit #TE018909-04 issued by the U.S. Fish and Wildlife Service (USFWS) authorizing her to survey for and trap SBKR. Ms. Rios systematically walked the project site using meandering transects less than 10 meters apart to achieve 100 percent visual coverage and inspect the site for evidence and sign of SBKR and its habitat, including:

- Kangaroo rat dusting baths, scat, tracks, and tail drags;
- Potential kangaroo rat and other burrows excavated in loose soils, crevices, and within shrub root systems;
- Sandy soils deposited by fluvial (flood) rather than Aeolian (wind) processes; and,
- Sparse Riversidean alluvial fan sage scrub (RAFSS) habitat, particularly in the pioneering and intermediate phases.

Field notes and representative photographs of the existing biological resources found at the project site were taken by Ms. Rios during the habitat assessment survey.

TARGET SPECIES BIOLOGY

SBKR is the only subspecies of Merriam's kangaroo rat found in the San Bernardino Valley, west of San Gorgonio Pass, and south of Cajon Pass. The species occurs predominantly in alluvial fan sage scrub habitats that are confined to river and floodplains of southern San Bernardino County. Like the Dulzura kangaroo rat but smaller in size and with only four toes on the hind feet, the SBKR has lightly tinted yellowish fur with a dusky brown over-wash above and a white underside. Highly adapted to southwestern deserts and their natural flood cycles, these rats need only the moisture within their food to survive. The species' diet is comprised primarily of seeds, but also feeds on herbaceous vegetation and insects in the spring and serves as a vital component for reproduction. Year-round trappings have revealed that *parvu*s can breed twice from spring to summer, although once is the norm.

The primary habitat of SBKR is pioneer and intermediate RAFSS underlined with sandy soils deposited by fluvial processes. Burrows are dug in loose soil, usually near or beneath shrubs. SBKR is confined to inland valley scrub communities, and more particularly, to scrub communities occurring along rivers,

streams and drainages. Most of the drainages have been historically altered as a result of flood control efforts and the resulting increased use of river resources, including mining, off-road vehicle use and road and housing development. This increased use of river resources has resulted in a reduction in both the amount and quality of habitat available for SBKR. Primary Constituent Elements (PCE's) are physical or biological features essential to the conservation of a species for which its designated critical habitat is based on. The PCEs essential to support the biological needs of foraging, reproducing, rearing of young, intra-specific communication, dispersal, genetic exchange, or sheltering for SBKR include:

- River, creek, stream, and wash channels; alluvial fans, flood plains, flood benches and terraces; and historic braided channels that are subject to dynamic geomorphological and hydrological processes;
- Alluvial sage scrub and associated vegetation such as coastal sage scrub and chamise chaparral with a moderately open canopy;
- Soil series consisting of sand, sandy loam, or loam within its geographical range; and
- Upland areas proximal to flood plains containing suitable habitat (land adjacent to alluvial fan that provides refugia).

RESULTS

As found during the previous assessment in 2017, the updated 2021 assessment revealed no evidence of SBKR and the species' potential to occur remains unlikely for the following reasons. No kangaroo rat dusting baths, scat, tracks, tail drags, or other sign of SBKR were observed. No potential kangaroo rat burrows were observed; the burrows observed on-site were confirmed to be characteristic of California ground squirrel (*Otospermophilus beecheyi*) and Botta's pocket gopher (*Thomomys bottae*), most of which were collapsed, abandoned/inactive, and situated around the perimeter of the site near the abutting roadways.

No RAFSS habitat occurs on-site. Review of aerial imagery suggests that the site has not supported RAFSS for several decades and on the contrary has been characterized by agriculture or routinely disked vacant land. Plant species observed during the assessment included primarily non-native grasses such as ripgut (*Bromus diandrus*) and wild oat (*Avena fatua*), and ruderal (weedy) species such as short-pod mustard (*Hirschfeldia incana*), telegraph weed (*Heterotheca grandiflora*), and rancher's fiddleneck (*Amsinckia menziesii*), among others. These herbaceous plant species are not indicative of RAFSS, coastal sage scrub, chamise chaparral, or other habitat types associated with SBKR.

The site is not characterized by any river, creek, stream, wash channels, alluvial fans, flood plains, flood benches, terraces, or historic braided channels subject to dynamic geomorphological and hydrological processes. The site occurs approximately 0.7 mile from the Santa Ana River wash and is separated from the wash by developments that include the Redlands Municipal Airport, Redlands Sports Park, and San Bernardino Avenue. Although the site does support loose sandy soils in areas, it is routinely disked and far removed from any historic fluvial influence. Last, sign of known SBKR predators were observed throughout the site; most notably, sign of domestic dog and digging.

CONCLUSION

No evidence of SBKR or its habitat were observed during the August 2021 habitat assessment. The habitat is considered to be poor quality and the species is not expected to occur. Given the current conditions, protocol-level trapping surveys are not recommended.

CLOSING

We appreciate the opportunity to provide you with this habitat assessment letter report. If you have questions regarding the information presented in this letter report, please contact Kelly Rios or me at (619) 462-1515.

Sincerely,

Karl Osmundson
Principal Biologist/Biology Group Manager

Enclosure:

Attachment A: Representative Photographs

REFERENCES

Google. 2021. Google Earth Pro 7.3.4.8248. Available online at: http://earth.google.com/

Michael Baker International (MBI). 2017. Results of a San Bernardino Kangaroo Rat (*Dipodomys merriami parvus*) (SBKR) Habitat Suitability Assessment for a Project located in the City of Redlands, San Bernardino, California. May 18. 4 pp.

Attachment A

Representative Photographs

REPRESENTATIVE PHOTOGRAPHS
SBKR HABITAT ASSESSMENT
REDLANDS 38

Photo 1. Northeast portions of site facing southwest.

Photo 2. North-central portions of the site facing south.

REPRESENTATIVE PHOTOGRAPHS
SBKR HABITAT ASSESSMENT
REDLANDS 38

Photo 3. Northwestern portions of the site facing southeast.

Photo 4. Southwestern portions of the site facing northeast.

REPRESENTATIVE PHOTOGRAPHS
SBKR HABITAT ASSESSMENT
REDLANDS 38

Photo 5. Southwestern portions of site facing north.

Photo 6. Southern portions of the site facing north.

REPRESENTATIVE PHOTOGRAPHS
SBKR HABITAT ASSESSMENT
REDLANDS 38

Photo 7. Southeastern portions of the site facing northwest.

Appendix G

Federal Jurisdiction Information

Appendix G
Federal Jurisdictional Information

WETLANDS AND "WATERS OF THE U.S." DEFINITIONS

WETLANDS

The U.S. Army Corps of Engineers (USACE; 33 CFR 328.3) and the Environmental Protection Agency (EPA; 40 CFR 230.3) jointly define wetlands as "[t]hose areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions" (Environmental Laboratory 1987).

WATERS OF THE U.S.

The official definition of "Waters of the U.S." and their limits of jurisdiction (as they may apply) are defined by the USACE' Regulatory Program Regulations (33 CFR 328.3, paragraphs [a] 1-3 and [e], and Section 328.4, paragraphs [c] 1 and 2) as follows:

1. All waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide;
2. All interstate waters including interstate wetlands;
3. All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, the use, degradation, or destruction of which could affect interstate or foreign commerce including any such waters,
    i. which are or could be used by interstate or foreign travelers for recreation or other purposes; or
    ii. from which fish or shellfish are or could be taken and sold in interstate commerce; or
    iii. which are used or could be used for industrial purpose by industries in interstate commerce;
4. All impoundments of waters otherwise defined as waters of the United States under the definition;
5. Tributaries of waters;
6. The territorial seas;
7. Wetlands adjacent to waters (other than waters that are themselves wetlands)…

Appendix G (cont.)
Federal Jurisdictional Information

NON-TIDAL WATERS OF THE U.S.

The limits of jurisdiction in non-tidal waters: In the absence of adjacent wetlands, the jurisdiction extends to the OHWM, or when adjacent wetlands are present, the jurisdiction extends to the limit of the adjacent wetlands.

The term OHWM refers to that line on the shore established by the fluctuation of water and indicated by physical characteristics such as clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation (scouring), the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas.

Waters of the U.S. must exhibit an OHWM or other evidence of surface flow created by hydrologic physical changes. These physical changes include (Riley 2005):

- Natural line impressed on the bank
- Shelving
- Changes in the character of soil
- Destruction of terrestrial vegetation
- Presence of litter and debris
- Wracking
- Vegetation matted down, bent, or absent
- Sediment sorting
- Leaf litter disturbed or washed away
- Scour
- Deposition
- Multiple observed flow events
- Bed and banks
- Water staining
- Change in plant community

Further guidance on identifying the OHWM in the Arid Southwest (Lichvar and McColley 2008). This publication provided geomorphic and vegetation OHWM indicators specific to the Arid Southwest.

Jurisdictional areas also must be connected to Waters of the U.S. (Guzy and Anderson 2001; U.S. Supreme Court 2001).

As a consequence of the U.S. Supreme Court decision in Rapanos v. United States, a memorandum was developed regarding Clean Water Act jurisdiction (Grumbles and Woodley 2007). The memorandum states that the EPA and the USACE will assert jurisdiction over traditional navigable waters (TNW), wetlands adjacent to TNW, tributaries to TNWs that are a relatively permanent water body (RPW), and wetlands adjacent to TNW. An RPW has year-round flow or a continuous seasonal flow (i.e., typically for three months or longer). Jurisdiction over other waters (i.e., non TNW and RPW) will be based on a fact-specific analysis to determine if they have a significant nexus to a TNW.

Pursuant to the USACE Instructional Guidebook (USACE and EPA 2007), the significant nexus evaluation will cover the subject reach of the stream (upstream and downstream) as well as its adjacent wetlands (Illustrations 2 through 6, USACE and EPA 2007). The evaluation will include the flow characteristics,

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annual precipitation, ability to provide habitat for aquatic species, ability to retain floodwaters and filter pollutants, and proximity of the subject reach to a TNW, drainage area, and the watershed.

WETLAND CRITERIA

Wetland boundaries are determined using three mandatory criteria (hydrophytic vegetation, wetland hydrology, and hydric soil) established for wetland delineations and described within the Wetlands Delineation Manual (Environmental Laboratory 1987) and the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (USACE 2008). Following is a brief discussion of the three criteria and how they are evaluated.

Vegetation

"Hydrophytic vegetation is defined herein as the sum total of macrophytic plant life that occurs in areas where the frequency and duration of inundation or soil saturation produce permanently or periodically saturated soils of sufficient duration to exert a controlling influence on the plant species present" (Environmental Laboratory 1987).

The wetland indicator status (obligate upland, facultative upland, facultative, facultative wetland, obligate wetland, or no indicator status) of the dominant plant species of all vegetative layers is determined. Species considered to be hydrophytic include the classifications of facultative, facultative wetland, and obligate wetland as defined in the current list of wetland plants of the Arid Southwest (Lichvar, et al. 2016; Table A-1). The percent of dominant wetland plant species is calculated. The hydrophytic vegetation criterion is considered to be met if it meets the "Dominance Test," "Prevalence Index," or the vegetation has morphological adaptations for prolonged inundation.

Table A-1
DEFINITIONS OF PLANT INDICATOR CATEGORIES

Indicator Categories	Abbreviation	Qualitative Description
Obligate	OBL	Almost always occur in wetlands
Facultative Wetland	FACW	Usually occur in wetlands but may occur in non-wetlands
Facultative	FAC	Occur in wetlands and non-wetlands
Facultative Upland	FACU	Usually occur in non-wetlands but may occur in wetlands
Upland	UPL	Almost never occur in wetlands

Hydrology

"The term 'wetland hydrology' encompasses all hydrologic characteristics of areas that are periodically inundated or have soils saturated to the surface at some time during the growing season. Areas with evident characteristics of wetland hydrology are those where the presence of water has an overriding influence on characteristics of vegetation and soils due to anaerobic reducing conditions, respectively" (Environmental Laboratory 1987).

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Hydrologic characteristics must indicate that the ground is saturated to within 12 inches of the surface for at least five percent of the growing season during a normal rainfall year (approximately 18 days for most of low-lying southern California). Hydrology criteria are evaluated based on the characteristics listed below (USACE 2008). Where positive indicators of wetland hydrology are present, the limit of the OHWM (or the limit of adjacent wetlands) is noted and mapped. Evidence of wetland hydrology is met by the presence of a single primary indicator or two secondary indicators.

Primary

- surface water (A1)
- high water table (A2)
- saturation (A3)
- water marks (B1; non-riverine)
- sediment deposits (B2; non-riverine)
- drift deposits (B3; non-riverine
- surface soil cracks (B6)
- inundation visible on aerial imagery (B7)
- water-stained leaves (B9)
- salt crust (B11)
- biotic crust (B12)
- aquatic invertebrates (B13)
- hydrogen sulfide odor (C1)
- oxidized rhizospheres along living roots (C3)
- presence of reduced iron (C4)
- recent iron reduction in tilled soils (C6)
- thin muck surface (C7)

Secondary

- watermarks (B1; riverine)
- sediment deposits (B2; riverine)
- drift deposits (B3; riverine)
- drainage patterns (B10)
- dry-season water table (C2)
- crayfish burrows (C8)
- saturation visible on aerial imagery (C9)
- shallow aquitard (D3)
- FAC-neutral test (D5)

In the absence of all other hydrologic indicators and in the absence of significant modifications of an area's hydrologic function, positive hydric soil characteristics are assumed to indicate positive wetland hydrology. This assumption applies unless the site visit was done during the wet season of a normal or wetter-than-normal year. Under those circumstances, wetland hydrology would not be present.

Soils

The USACE and EPA, in their administration of Section 404 of the Clean Water Act, rely on the National Technical Committee for Hydric Soils (NTCHS) for a definition of hydric soils. According to the NTCHS, "A

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hydric soil is a soil that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part." (Federal Register 1994)

Soils must exhibit physical and/or chemical characteristics indicative of permanent or periodic saturation. Soil matrix and mottle colors are identified at each sampling plot using a Munsell soil color chart (Kollmorgen 1994). Generally, an 18-inch or deeper pit is excavated with a shovel at each sampling plot unless refusal occurs above 18 inches.

Soils in each area are closely examined for hydric soil indicators, including the characteristics listed below. Hydric soil indicators are presented in three groups. Indicators for "All Soils" (A) are used in any soil regardless of texture, indicators for "Sandy Soils" (S) area used in soil layers with USDA textures of loamy fine sand or coarser, and indicators for "Loamy and Clayey Soils" (F) are used with soil layers of loamy very fine sand and finer (USACE 2008 and Vasilias et al. 2017).

- histosols (A1)
- histic epipedons (A2)
- black histic (A3)
- hydrogen sulfide (A4)
- stratified layers (A5)
- 1 cm muck (A9)
- depleted below dark surface (A11)
- thick dark surface (A12)
- sandy mucky mineral (S1)
- sandy gleyed matrix (S4)
- sandy redox (S5)
- stripped matrix (S6)
- loamy mucky mineral (F1)
- loamy gleyed matrix (F2)
- depleted matrix (F3)
- redox dark surface (F6)
- depleted dark surface (F7)
- redox depressions (F8)
- vernal pools (F9)
- 2 cm muck (A10)
- reduced vertic (F18)
- red parent material (TF2)

Hydric soils may be assumed to be present in plant communities that have complete dominance of obligate or facultative wetland species. In some cases, there is only inundation during the growing season and determination must be made by direct observation during that season, recorded hydrologic data, testimony of reliable persons, and/or indication on aerial photographs.

NON-WETLAND WATERS OF THE U.S.

The non-wetland Waters of the U.S. designation is met when an area has periodic surface flows but lacks sufficient indicators to meet the hydrophytic vegetation and/or hydric soils criteria. For purposes of delineation and jurisdictional designation, the non-wetland Waters of the U.S. boundary in non-tidal areas is the OHWM as described in the Section 404 regulations (33 CFR Part 328).

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U.S. Geological Survey Mapping

The U.S. Geological Survey (USGS) quad maps are one of the resources used to aid in the identification and mapping of jurisdictional areas. Their primary uses include understanding the subregional landscape position of a site, major topographical features, and a project's position in the watershed.

In our experience, the designation of watercourse as a blue-line stream (intermittent or perennial) on USGS maps has been unreliable and typically overstates the hydrology of most streams. This has also been the experience of others, including the late Dr. Luna Leopold. Dr. Leopold was a hydrologist with USGS from 1952 to 1972, professor in the Department of Geology and Geophysics and Department of Landscape Architecture, University of California, Berkeley from 1972 to 1986, and Professor Emeritus from 1987 until his death in 2006. In regard to USGS maps, Dr. Leopold wrote, "I tried to devise a way of defining hydrologic criteria for the channels shown on topographic maps and developed some promising procedures. None were acceptable to the topographers, however. I learned that the blue lines on a map are drawn by non-professional, low-salaried personnel. In actual fact, they are drawn to fit a rather personalized aesthetic" (Leopold 1994).

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Appendix H

State Jurisdiction Information

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CALIFORNIA FISH AND WILDLIFE REGULATIONS

The California Department of Fish and Wildlife (CDFW) regulates alterations or impacts to streambeds or lakes (wetlands) under Fish and Game Code Sections 1600 through 1616 for any private, state, or local government or public utility-initiated projects. The Fish and Game Code Section 1602 requires any entity to notify the CDFW before beginning any activity that will do one or more of the following: (1) substantially obstruct or divert the natural flow of a river, stream, or lake; (2) substantially change or use any material from the bed, channel, or bank of a river, stream, or lake; or (3) deposit or dispose of debris, waste, or other material containing crumbled, flaked, or ground pavement where it can pass into a river, stream, or lake. Fish and Game Code Section 1602 applies to all perennial, intermittent, and ephemeral rivers, and streams as well as lakes in the state.

In order to notify the CDFW, a person, state, or local governmental agency or public utility must submit a complete notification package and fee to the CDFW regional office that serves the county where the activity will take place (CDFW 2016). A fee schedule is included in the notification package materials. Under the Permit Streamlining Act (Government Code Sections 65920 et seq.), the CDFW has 30 days to determine whether the package is complete. If the requestor is not notified within 30 days, the application is automatically deemed to be complete.

Once the notification package is deemed to be complete, the CDFW will determine whether the applicant will need a Lake or Streambed Alteration Agreement (SAA) for the activity, which will be required if the activity could substantially adversely affect an existing fish and wildlife resource. If an SAA is required, the CDFW will conduct an on-site inspection, if necessary, and submit a draft SAA that will include measures to protect fish and wildlife resources while conducting the project. If the applicant is applying for a regular SAA (less than five years), the CDFW will submit a draft SAA within 60 calendar days after notification is deemed complete. The 60-day time period does not apply to notifications for long-term SAAs (greater than five years).

After the applicant receives the SAA, the applicant has 30 calendar days to notify the CDFW whether the measures in the draft SAA are acceptable. If the applicant agrees with the measures included in the draft SAA, the applicant will need to sign the SAA and submit it to the CDFW. If the applicant disagrees with any measures in the draft SAA, the applicant must notify the CDFW in writing and specify the measures that are not acceptable. Upon written request, the CDFW will meet with the applicant within 14 calendar days of receiving the request to resolve the disagreement. If the applicant fails to respond in writing within 90 calendar days of receiving the draft SAA, the CDFW may withdraw that SAA. The time periods described above may be extended at any time by mutual agreement.

After the CDFW receives the signed draft SAA, the CDFW will make it final by signing the SAA; however, the CDFW will not sign the SAA until it both receives the notification fee and ensures that the SAA complies with the California Environmental Quality Act (Public Resources Code Section 21000 et seq.). After the applicant receives the final agreement, the applicant may begin the project, provided that the applicant has obtained any other necessary federal, state, and/or local authorizations.

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WATER RESOURCE CONTROL BOARD REGULATIONS

SECTION 401 WATER QUALITY CERTIFICATION

Whenever a project requires a federal Clean Water Act (CWA) Section 404 permit or a Rivers and Harbors Act Section 10 permit, it must first obtain a CWA Section 401 Water Quality Certification. The Regional Water Quality Control Board (RWQCB) administers the 401 Certification program. Federal CWA Section 401 requires that every applicant for a Section 404 permit must request a Water Quality Certification that the proposed activity will not violate state and federal water quality standards.

PORTER-COLOGNE WATER QUALITY CONTROL ACT

The State Water Resource Control Board (SWRCB) and the RWQCB regulate the discharge of waste to waters of the State via the 1969 Porter-Cologne Water Quality Control Act (Porter-Cologne) as described in the California Water Code (SWRCB 2017). The California Water Code is the State's version of the federal CWA. Waste, according to the California Water Code, includes sewage and any and all other waste substances, liquid, solid, gaseous, or radioactive, associated with human habitation, or of human or animal origin, or from any producing, manufacturing, or processing operation, including waste placed within containers of whatever nature prior to, and for purposes of, disposal. State waters that are not federal waters may be regulated under Porter-Cologne. A Report of Waste Discharge must be filed with the RWQCB for projects that result in discharge of waste into waters of the State. The RWQCB will issue Waste Discharge Requirements (WDRs) or a waiver. The WDRs are the Porter-Cologne version of a CWA 401 Water Quality Certification.

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