Appendix B1
Biological Resources Report

BERGAMOT SPECIFIC PLAN
INITIAL STUDY

FIRSTCARBONSOLUTIONS™

Biological Resources Assessment and San Bernardino Merriam's Kangaroo Rat Habitat Assessment Citrus Valley Project City of Redlands, San Bernardino County, California

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SECTION 1: INTRODUCTION

At the request of Steven Cook of MLC Holdings, Inc., and the City of Redlands, FirstCarbon Solutions (FCS) conducted a field survey and prepared a Biological Resources Assessment (BRA) and San Bernardino Merriam's kangaroo rat (*Dipodomys merriami parvus*) Habitat Assessment for the 58-acre site of the proposed Citrus Valley Project (proposed project) in Redlands, California. The purpose of the BRA is to (1) document existing and potentially occurring biological resources on the project site and adjacent areas; (2) analyze potential project-related impacts to regulated and protected biological resources; and (3) evaluate the applicability of current local, State and federal laws.

1.1 - Project Site Location and History

The project site is located in the City of Redlands in San Bernardino County, California (Exhibit 1). The proposed project is the sole development covered under City of Redlands Specific Plan No. 64. The project site encompasses approximately 58.07 acres generally bounded by Domestic Avenue on the south, the Interstate 210 (I-210) Freeway to the west, and Texas Street to the east (Exhibit 2). To the south of the site is Citrus Valley High School, to the west is the I-210 Freeway, to the east are newer single-family residential neighborhoods, and to the north is vacant land and the Santa Ana River Wash. The project site is located in the Lugonia Subarea of the City of Redlands General Plan 2035.

The project site is situated on an alluvial terrace that drains into the Santa Ana River, which is located approximately 0.25 mile (450 meters) north of the project site. The project site is relatively flat, with a gentle slope (2 percent) from east to west. The elevation on the eastern portion of the site is approximately 1,306 feet above mean sea level (AMSL), while the northwest portion of the site is approximately 1,260 feet AMSL. The site has been an active citrus orchard for many years. Beyond grubbing and clearing of the site for the orchards, the only physical improvements have been the installation and operation of irrigation systems.

1.2 - Project Description

The concept of the proposed project, as defined in Specific Plan No. 64, is to provide the planning framework that will guide future development in a manner that responds to the unique characteristics of the site, fosters a sense of community and neighborhood, and responds to the residential market conditions of the City of Redlands. The master-planned residential development envisioned in Specific Plan No. 64involves the construction of a variety of single-family residential homes that would be clustered into unique neighborhoods, integrating an abundant amount of passive and active open space.

The Specific Plan was prepared in conjunction with the City's Planned Residential Development (PRD) Regulations. A PRD is defined as "a development located on a site approved as a subdivision, to be constructed by a person or corporate body, involving a variety of residential structure types, planned as a total entity and, therefore, subject to approval, development and regulation as one

land use complex."[1] The purpose of the PRD Regulations is to provide for greater flexibility in the design of residential developments and to promote a more efficient, aesthetically pleasing, and desirable use of land.

An illustrative site plan representing the conceptual development as proposed within this Specific Plan is depicted in Exhibit 3. Three distinct neighborhoods would allow for a variety of single-family residential housing types. Neighborhoods 1, 2, and 3 include a total of 317 single family residences on a variety of lot sizes, and active and passive open space encompasses approximately 17 acres, or approximately 29 percent of the overall project site. The open space areas would include approximately 12 acres for a City of Redlands public park, 3.68 acres of paseo/pocket park area, and 1.38 acres of open space to preserve a wildlife corridor along the western boundary of the project site.

[1] City of Redlands. 2020. Citrus Valley Specific Plan. March.

Source: Census 2000 Data, The CaSIL

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Exhibit 1
Regional Location Map

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Source: ESRI Aerial Imagery.

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Exhibit 2
Local Vicinity Map
Aerial Base

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Source: STB Landscape Architects, Inc., February 27, 2020.

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Exhibit 3
Project Plan Map

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SECTION 2: REGULATORY SETTING

2.1 - Federal

2.1.1 - Endangered Species Act

The United States Fish and Wildlife Service (USFWS) has jurisdiction over species listed as threatened or endangered under the Federal Endangered Species Act (FESA). Section 9 of FESA protects listed species from "take," which is broadly defined as actions taken to "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to engage in any such conduct." FESA protects threatened and endangered plants and animals and their critical habitat. Candidate species are those proposed for listing; during the environmental review process, resource agencies treat these species as if they were actually listed. Procedures for addressing impacts to federally listed species follow two principal pathways, both of which require consultation with the USFWS, which administers the FESA for all terrestrial species. The first pathway is the Section 10(a) incidental take permit, which applies to situations where a non-federal government entity must resolve potential adverse impacts to species protected under FESA. The second pathway is Section 7 consultation, which applies to projects directly undertaken by a federal agency or private projects requiring a federal permit or approval.

2.1.2 - Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) implements international treaties between the United States and other nations devised to protect migratory birds, their parts, eggs, and nests from activities such as hunting, pursuing, capturing, killing, selling, and shipping, unless expressly authorized in the regulations or by permit. The State of California has incorporated the protection of birds of prey in Sections 3800, 3513, and 3503.5 of the Fish and Game Code. All raptors and their nests are protected from take or disturbance under the MBTA (16 United States Code [USC] § 703, *et seq*.) and California statute (Fish and Game Code [FGC] § 3503.5). The golden eagle (*Aquila chrysaetos*) and bald eagle (*Haliaeetus leucocephalus*) are also afforded additional protection under the Eagle Protection Act, amended in 1973 (16 USC § 669, *et seq*.) and the Bald and Golden Eagle Protection Act (16 USC § 668–668d).

2.1.3 - Clean Water Act

Section 404

The United States Army Corps of Engineers (USACE) administers Section 404 of the federal Clean Water Act (CWA), which regulates the discharge of dredge and fill material into waters of the United States. The USACE has established a series of nationwide permits that authorize certain activities in waters of the United States if a proposed activity can demonstrate compliance with standard conditions. Normally, the USACE requires an individual permit for an activity that will affect an area equal to or in excess of 0.5 acre of waters of the United States. Projects that result in impacts to less than 0.5 acre can normally be conducted pursuant to one of the nationwide permits, if consistent with the standard permit conditions. The USACE also has discretionary authority to require an Environmental Impact Statement for projects that result in impacts to an area between 0.1 and 0.5

acre. Use of any nationwide permit is contingent on the activities having no impacts on endangered species.

Section 401

As stated in Section 401 of the CWA, "any applicant for a federal permit for activities that involve a discharge to waters of the State, shall provide the Federal permitting agency a certification from the State in which the discharge is proposed that states that the discharge will comply with the applicable provisions under the Federal Clean Water Act." Therefore, before the USACE will issue a Section 404 permit, applicants must apply for and receive a Section 401 Water Quality Certification from the Regional Water Quality Control Board (RWQCB).

2.2 - State

2.2.1 - CEQA Guidelines

The California Environmental Quality Act (CEQA) Guidelines provide thresholds of significance for determining the significance of potential impacts on the biological resources identified in this report. A project is considered to have a significant or potentially significant effect if it would:

- Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as being a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife (CDFW) or USFWS.
- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by CDFW or USFWS.
- 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.
- Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.
- Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.
- Conflict with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan.

2.2.2 - California Endangered Species Act

The State of California enacted the California Endangered Species Act (CESA) in 1984. CESA is similar to FESA but pertains to State-listed endangered and threatened species. CESA requires State agencies to consult with the CDFW when preparing CEQA documents. The purpose is to ensure that the State lead agency actions do not jeopardize the continued existence of a listed species or result in the destruction or adverse modification of habitat essential to the continued existence of those

species if there are reasonable and prudent alternatives available (FGC § 2080). CESA directs agencies to consult with the CDFW on projects or actions that could affect listed species, directs the CDFW to determine whether jeopardy would occur, and allows the CDFW to identify "reasonable and prudent alternatives" to the project consistent with conserving the species. CESA allows the CDFW to authorize exceptions to the State's prohibition against take of a listed species if the "take" of a listed species is incidental to carrying out an otherwise lawful project that has been approved under CEQA (FGC § 2081).

2.2.3 - California Fish and Game Code

Under CESA, the CDFW has the responsibility for maintaining a list of endangered and threatened species (FGC § 2070). Sections 2050 through 2098 of the Fish and Game Code outline the protection provided to California's rare, endangered, and threatened species. Section 2080 of the Fish and Game Code prohibits the taking of plants and animals listed under CESA. Section 2081 established an incidental take permit program for State-listed species. The CDFW maintains a list of "candidate species," which it formally notices as being under review for addition to the list of endangered or threatened species.

In addition, the Native Plant Protection Act of 1977 (NPPA) (FGC § 1900, *et seq*.) prohibits the taking, possessing, or sale within the State of any plants with a State designation of rare, threatened, or endangered (as defined by the CDFW). An exception to this prohibition in the NPPA allows landowners, under specified circumstances, to take listed plant species, provided that the owners first notify the CDFW and give the agency at least 10 days to come and retrieve (and presumably replant) the plants before they are plowed under or otherwise destroyed. Fish and Game Code Section 1913 exempts from "take" prohibition "the removal of endangered or rare native plants from a canal, lateral ditch, building site, or road, or other right of way." Project impacts to these species are not considered significant unless the species are known to have a high potential to occur within the area of disturbance associated with construction of the proposed project.

The CDFW also maintains lists of "Species of Special Concern" that serve as species "watch lists." The CDFW has identified many Species of Special Concern. Species with this status have limited distribution or the extent of their habitats has been reduced substantially, such that their populations may be threatened. Thus, their populations are monitored, and they may receive special attention during environmental review. While they do not have statutory protection, they may be considered rare under CEQA and thereby warrant specific protection measures. In addition to Species of Special Concern, the CDFW identifies animals that are tracked by the California Natural Diversity Database (CNDDB) but warrant no federal interest and no legal protection under FESA, CESA, MBTA, or California Fish and Game Code. These species are identified as California Special Animals (CDFW 2019) and are protected under CEQA.

Sensitive species that would qualify for listing but are not currently listed are afforded protection under CEQA. CEQA Guidelines Section 15065 (Mandatory Findings of Significance) requires that a substantial reduction in numbers of a rare or endangered species be considered a significant effect. CEQA Guidelines Section 15380 (Rare or Endangered Species) provides for the assessment of unlisted species as rare or endangered under CEQA if the species can be shown to meet the criteria

for listing. Unlisted plant species on the California Native Plant Society's (CNPS's) Lists 1A, 1B, and 2 would typically be considered under CEQA.

Sections 3500 to 5500 of the Fish and Game Code outline protection for fully protected species of mammals, birds, reptiles, amphibians, and fish. Species that are fully protected by these sections may not be taken or possessed at any time. The CDFW cannot issue permits or licenses that authorize the take of any fully protected species, except under certain circumstances such as scientific research and live capture and relocation of such species pursuant to a permit for the protection of livestock.

Under Section 3503.5 of the Fish and Game Code, it is unlawful to take, possess, or destroy any birds in the orders of *Falconiformes* or *Strigiformes* (birds of prey) or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by this code or any regulation adopted pursuant thereto. To comply with the requirements of CESA, an agency reviewing a proposed project within its jurisdiction must determine whether any State-listed endangered or threatened species may be present in the project study area and determine whether the proposed project will have a potentially significant impact on such species. In addition, the CDFW encourages informal consultation on any proposed project that may impact a candidate species.

Project-related impacts to species on the CESA endangered or threatened list would be considered significant. State-listed species are fully protected under the mandates of CESA. "Take" of protected species incidental to otherwise lawful management activities may be authorized under Fish and Game Code Section 206.591. Authorization from the CDFW would be in the form of an Incidental Take Permit.

Section 1602 of the Fish and Game Code requires any entity to notify the CDFW before beginning any activity that "may substantially divert or obstruct the natural flow of, or substantially change or use any material from the bed, channel, or bank of any river, stream, or lake" or "deposit debris, waste, or other materials that could pass into any river, stream, or lake." "River, stream, or lake" includes waters that are episodic and perennial; and ephemeral streams, desert washes, and watercourses with a subsurface flow. A Lake or Streambed Alteration Agreement will be required if the CDFW determines that project activities may substantially adversely affect fish or wildlife resources through alterations to a covered body of water.

2.2.4 - California Porter-Cologne Water Quality Control Act

The RWQCB regulates actions that would involve "discharging waste, or proposing to discharge waste, within any region that could affect the water of the state" (Water Code § 13260(a)), pursuant to provisions of the Porter-Cologne Water Quality Act. "Waters of the State" are defined as "any surface water or groundwater, including saline waters, within the boundaries of the state" (Water Code § 13050(e)).

2.2.5 - California Native Plant Society

The CNPS maintains a rank of plant species native to California that has low population numbers, limited distribution, or are otherwise threatened with extinction. This information is published in the Inventory of Rare and Endangered Vascular Plants of California. Potential impacts to populations of

CNPS ranked plants receive consideration under CEQA review. The following identifies the definitions of the CNPS ranks:

- **Rank 1A:** Plants presumed Extinct in California
- **Rank 1B:** Plants Rare, Threatened, or Endangered in California and elsewhere
- **Rank 2A:** Plants presumed extirpated in California but common elsewhere
- **Rank 2B:** Plants rare, threatened, or endangered in California but more common elsewhere
- **Rank 3:** Plants about which we need more information—A Review List
- **Rank 4:** Plants of limited distribution—A Watch List

All plants appearing on CNPS Rank 1 or 2 are considered to meet the CEQA Guidelines Section 15380 criteria. While only some of the plants ranked 3 and 4 meet the definitions of threatened or endangered species, potential impacts to these species or their habitats should be analyzed during the preparation of environmental documents relating to CEQA, as they may meet the definition of Rare or Endangered under CEQA Guidelines Section 15380 criteria.

2.2.6 - Regional and Local

City of Redlands

The City of Redlands General Plan 2035 (City of Redlands 2017) establishes long-range development policies to guide City departments, the Planning Commission, and City Council in their decision-making. The General Plan outlines principles and actions pertaining to natural resources and guidance for location, design, and quality of development to protect important wildlife, plants, and their associated habitats:

Principles

- **Principle 6-P.1:** Develop a balanced and integrated open space system that reflects a variety of considerations, including resource conservation, production of agriculture, recreation, aesthetics, and community identity.
- **Principle 6-P.5:** Encourage the preservation of natural habitat areas as open space.
- **Principle 6-P.6:** Promote access to and views of conservation areas in a manner consistent with good land resource stewardship.

Actions

- **Action 6-A.1:** Preserve as open space those areas that contain unique habitats, natural resources, and visual amenities such as citrus groves, hillsides, canyons, and waterways. These areas provide natural contrast with the urban cityscape.
- **Action 6-A.7:** Work with San Bernardino County, neighboring cities, conservation organizations, and landowners to maintain and enhance the trails, roadways, and lands within the Emerald Necklace, and to ensure that sensitive resources in these areas are not disturbed or degraded.
- **Action 6-A.8:** Provide sufficient resources for the maintenance of trails and conservation areas through both volunteer and City mechanisms.

- **Principle 6-P.7:** Protect environmentally sensitive lands, wildlife habitats, and rare, threatened, or endangered plant and animal communities.
- **Principle 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.
- **Principle 6-P.9:** Preserve, protect, and enhance wildlife corridors, including natural watercourses, connecting the San Bernardino National Forest, Santa Ana River Wash, Crafton Hills, San Timoteo and Live Oak Canyons, the Badlands, and other open space areas.
- **Action 6-A.11:** Require a biological assessment of any proposed project site within the Planning Area where species that are State or federally listed as rare, threatened, or endangered are identified as potentially present.
- **Action 6-A.12:** Require that proposed projects adjacent to, surrounding, or containing wetlands, riparian corridors, or wildlife corridors be subject to a site-specific analysis that will determine the appropriate size and configuration of a buffer zone.
- **Action 6-A.13:** Utilize conservation easements and preserves as means to conserve natural habitats.
- **Action 6-A.14:** Construct freeway and arterial street undercrossings or overpasses where necessary to establish and preserve identified wildlife corridors.
- **Action 6-A.20:** Work with State and County agencies in developing recovery and restoration plans after natural or manmade disasters to restore natural landscapes, habitats, and functioning ecosystems. As part of the recovery and restoration plans, include evaluation processes and implementation actions. Where appropriate, incorporate the use of native species.
- **Action 6-A.21:** Ensure that future activities in the Santa Ana River Wash are consistent with the habitat conservation policies of the Upper Santa Ana River Land Management Habitat Conservation Plan (Wash Plan).

SECTION 3: METHODS

The literature review and field survey evaluated the approximately 58-acre project site as well as a buffer area that extended 500 feet from the project site boundary. This ensures that the potential impacts on biological resources, species, and communities in the immediate project vicinity are adequately considered and addressed.

For the purpose of this report, special-status species refers to all species formally listed as threatened and/or endangered under FESA or CESA; listed as California Species of Special Concern; designated Fully Protected by the CDFW; given a rank of 1A, 1B, or 2 by the CNPS; or designated special-status by city, county, or other regional planning documents. Federal and State listed threatened and/or endangered species are legally protected under FESA/CESA. The designated special-status species listed by the CNPS have no direct legal protection, but they do require an analysis of impacts under CEQA.

3.1 - Literature Review

Prior to surveying the project site, an FCS Biologist reviewed existing documentation, topographic maps and aerial photographs, soil surveys, special-status species databases, and local tree ordinances to form a baseline from which to evaluate the biological resources that occur or have the potential to occur on the project site and/or in its vicinity.

3.1.1 - Existing Documentation

As part of the literature review, an FCS Biologist reviewed existing documentation for the project site and local vicinity. This documentation included previous biological studies and jurisdictional delineations for the project site and vicinity; literature pertaining to habitat requirements of special-status species potentially occurring in the project vicinity; and federal register listings, protocols, and species data provided by the USFWS and CDFW. These and other documents consulted during the preparation of this report are listed in Section 8, References

3.1.2 - Topographic Maps and Aerial Photographs

An FCS Biologist reviewed current United States Geological Survey (USGS) 7.5-minute topographic quadrangle map(s) and aerial photographs as a preliminary, high-level analysis of existing conditions . Information obtained from the review of the topographic maps included elevation range, general watershed information, and potential drainage feature locations. The FCS Biologist also reviewed aerial photographs and historical imagery in Google Earth to observe changes in biological conditions on the project site and vicinity over time.

3.1.3 - Soil Surveys

An FCS Biologist reviewed published soil surveys (United States Department of Agriculture [USDA] 1980) to determine soil series (i.e., group of soils with similar profiles) and soil mapping units occurring at the project site. The FCS Biologist reviewed habitat requirements pertaining to soils and

substrates for special-status species to establish whether on-site conditions are suitable for occurrence of special-status plant and wildlife species.

3.1.4 - Special-status Species Database Search

An FCS Biologist compiled a list of threatened, endangered, and otherwise special-status species previously recorded within the general project vicinity. The list was based on a search of the CNDDB (CDFW 2020), a CDFW-maintained special-status species and plant community account database, and the CNPS's Electronic Inventory (CNPSEI) of Rare and Endangered Vascular Plants of California database (CNPS 2020) for the *San Bernardino South, California* USGS 7.5-minute topographic quadrangle map and surrounding eight quadrangles (Devore, San Bernardino North, Harrison Mountain, Fontana, Redlands, Riverside West, Riverside East, and Sunnymead). To determine which special-status species have the greatest potential to occur on the project site, a query of species within 3 miles was also implemented.

The CNDDB Biogeographic Information and Observation System (BIOS 5; CDFW 2020) database was accessed to determine the distance between known recorded occurrences of special-status species and the project site.

3.1.5 - Jurisdictional Waters and Wetlands

FCS Biologists reviewed two reports that were recently prepared in support of the proposed project, including a jurisdictional delineation performed by Glen Lukos Associates (GLA) and a preliminary Biological Assessment prepared by FCS (Refer to Appendix C). FCS summarized information from these studies about the status of jurisdictional waters, wetlands, or other "waters of the United States and/or State" on and adjacent to the project site in this report.

3.2 - Field Survey

An FCS Biologist conducted a reconnaissance-level field survey of the project site and its 500-foot buffer area on May 24, 2020, from 9:00 a.m. to 12:00 p.m. The object of the survey was to assess and characterize the biological conditions on and adjacent to the site, including an identification of special-status plant and wildlife species and their habitats. During the survey, the Biologist searched for evidence of and habitat for special-status species that were identified in the literature review. A habitat assessment was performed specifically for San Bernardino Merriam's kangaroo rat. The field survey was not performed in a manner consistent with a focused or protocol survey for any other species.

3.2.1 - Plants and Vegetation Communities

The FCS Biologist identified common plants to species during the survey and compiled a complete species list in field notes. The Biologist collected samples of unidentified plants and identified them off-site with the use of taxonomic guides, such as Clarke et al. (2007) and Jepson eFlora (2020). Taxonomic nomenclature used in this study follows Baldwin et al. (2012). Common plant names, when not available from Baldwin et al. (2012), were taken from other regionally specific references.

The FCS Biologist noted and verified vegetation communities, wildlife habitats, and other biological resources and boundaries on an aerial photo, which was later digitized using ESRI ArcGIS software® ArcMap 10.0. Vegetation community and land cover types used to classify habitat types are based on Manual of California Vegetation (Sawyer et. al. 2009) and cross-referenced with CDFW's Natural Communities List (2019).

3.2.2 - Wildlife

The FCS Biologist observed and identified wildlife species during the reconnaissance-level survey by sight, calls, tracks, scat, or other signs, and compiled a list of species observed. Appropriate field guides were used to assist in identifying species, such as Peterson (2010), Reid (2006), and Stebbins (2003). During the survey, the Biologist evaluated the suitability of on-site habitats to support the special-status wildlife species that were identified in the CNDDB search.

3.2.3 - Wildlife Movement Corridors

Wildlife movement corridors link areas of suitable wildlife habitat that are otherwise separated by rugged terrain, changes in vegetation, or human disturbance. Urbanization and the resulting fragmentation of open space areas create isolated "islands" of wildlife habitat, forming separated populations. Corridors act as an effective link between populations.

The FCS Biologist evaluated the project site and 500-foot buffer area for evidence of a wildlife movement corridor. While the current study did not include a formal wildlife movement corridor study utilizing track plates, camera stations, scent stations, or snares, it did include the collection of data required to address Action 6-A.12 in the City of Redlands 2035 General Plan (City of Redlands 2017), a requirement pertaining to a wildlife corridor assessment. Therefore, the focus of this study was determining whether construction and implementation of the proposed project could have significant detrimental impacts on the regional movement of wildlife.

3.2.4 - San Bernardino Merriam's Kangaroo Rat Field Habitat Assessment

The FCS Biologist surveyed the project site and 500-foot buffer area for the presence of vegetation communities that could support kangaroo rats, including Riversidian alluvial fan sage scrub, and ruderal and annual grassland habitats with open vegetation and bare areas. The Biologist also evaluated the condition and suitability of existing wildlife habitats and whether they may provide breeding and/or foraging habitat for San Bernardino Merriam's kangaroo rat. The Biologist also searched the project site for evidence of kangaroo rats, including burrows, tracks, and scat.

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SECTION 4: RESULTS

The reconnaissance-level field survey was conducted by FCS Senior Biologist, Michael W. Tuma, on May 24, 2020, from 9:00 a.m. to 12:00 p.m. Weather conditions during the field survey included temperatures ranging from 71-82° F (degrees Fahrenheit), with clear skies and a calm to slight breeze.

4.1 - Environmental Setting

The project site includes current and former citrus orchards and is characterized by highly modified surfaces and soils, stands of orange trees, dirt roadways, and evidence of dumping and homeless encampments. The project site is bound on the north by other former or current orchards, on the east by residential development, on the south by a high school, and on the west by a channelized drainage and I-210. No undisturbed habitat or natural lands exist on the project site or within its 500-foot buffer area. In addition to the orange orchards, the project site contains areas of ruderal vegetation and bare ground.

The entire project area and 500-foot buffer area have a long history of agricultural land use. Historical imagery of the area in Google Earth shows use of the site for citrus orchards extending back to 1994. Additional historical aerial imagery from San Bernardino County Flood Control (CSUSB 2020) depicts use of the area for citrus orchards going back to 1964. Redlands has a history of citrus agriculture since the late 1800s, and the project site and immediate vicinity may have supported citrus orchards for more than 100 years. Thus, the project site has not supported natural vegetation communities and has been subjected to soil disturbances associated with agricultural use for many decades.

The project site and its 500-foot buffer area exhibited other land uses that threaten native vegetation and wildlife, including illegal dumping and homeless encampments.

There are no designated refuges or conservation areas within the project site or the 500-foot buffer area. In addition, the site is not located within a Multiple Species Habitat Conservation Plan (MSHCP). The Upper Santa Ana River Wash Land Management and Habitat Conservation Plan area is situated approximately 0.25 mile north of the project site.

4.1.1 - Topography

The project site is generally flat, with an entrenched, channelized drainage along the western boundary. Elevations within the project site range from approximately 384 meters above mean sea level on the western extent to 393 meters on the eastern extent of the project site.

4.1.2 - Soils

One soil type, Hanford sandy loam, 0 to 2 percent slopes, is mapped on the project site (USDA 1980). The Hanford series consists of very deep, well drained soils that formed in moderately coarse

textured alluvium dominantly derived from granite. Hanford soils are found on stream bottoms, floodplains, and alluvial fans and have slopes of 0 to 15 percent (Exhibit 4).

4.2 - Vegetation Communities

No natural vegetation communities occur on the project site or within its 500-foot buffer area. Seven land cover types were observed in the project site and 500-foot buffer area, including evergreen orchard, urban, ruderal, eucalyptus, barren, channelized drainage, and drainage basin (Table 1; photographs in Appendix A). A full list of plant species observed on the project site is presented in Table 2. Several native plants were observed in scattered, isolated locations in evergreen orchard and ruderal (annual grassland) habitats, but there was no indication of natural vegetation communities comprised of native plants anywhere on the project site or within its 500-foot buffer area (Exhibit 5).

Table 1: Vegetation Communities/Habitats Observed on the Project Site and Within the 500-foot Buffer Area

Vegetation Communities/Habitats	Area
Project Site	
Evergreen orchard	43.71 Acres
Ruderal	0.47 Acres
Eucalyptus	0.71 Acres
Barren	13.16 Acres
500-foot Buffer Area	
Evergreen orchard	21.11 Acres
Urban	30.15 Acres
Ruderal	10.92 Acres
Eucalyptus	3.53 Acres
Barren	26.63 Acres
Channelized Drainage	1.89 Acres
Drainage Basin	0.26 Acres

Table 2: Vascular Plants Observed on the Project Site

Common Name	Scientific name	Native/Exotic
Acacia	*Acacia* sp.	Exotic
Tree of heaven	*Ailanthus altissima*	Exotic
Western ragweed	*Ambrosia psilostachya*	Native
California sagebrush	*Artemisia californica*	Native

Common Name	Scientific name	Native/Exotic
Giant reed	*Arundo donax*	Exotic
Wild oats	*Avena barbatus/Avena fatua*	Exotic
Coyote brush	*Baccharis pilularis*	Native
Black mustard	*Brassica nigra*	Exotic
Rip-gut brome	*Bromus diandrus*	Exotic
Soft brome	*Bromus hordeaceus*	Exotic
Red brome	*Bromus madritensis*	Exotic
Mojave suncup	*Camissonia campestris*	Native
Lamb's quarters	*Chenopodium album*	Exotic
Orange tree	*Citrus × sinensis*	Exotic
California croton	*Croton californicus*	Native
Jimsonweed	*Datura stramonium*	Exotic
Flax-leaved horseweed	*Erigeron bonariensis*	Exotic
California buckwheat	*Eriogonum fasciculatum*	Native
Red stem filaree	*Erodium cicutarium*	Exotic
Blue gum	*Eucalyptus globulus*	Exotic
Rattlesnake weed	*Euphorbia albomarginata*	Native
Annual sunflower	*Helianthus annuus*	Native
Telegraphweed	*Heterotheca grandiflora*	Native
Prickly Russian thistle	*Kali tragus*	Exotic
Prickly lettuce	*Lactuca seriola*	Exotic
Yellow sweet clover	*Melilotus officinalis*	Exotic
White-stemmed blazing star	*Mentzelia albicaulis*	Native
Tree tobacco	*Nicotiana glauca*	Exotic
Lacy phacelia	*Phacelia tanacetifolia*	Native
Crimson fountaingrass	*Pennisetum setaceum*	Exotic
Fremont's cottonwood	*Populus fremontii*	Native
White rabbit tobacco	*Pseudognaphalium leucocephalum*	Native
Castor bean	*Ricinus communis*	Exotic
Black willow	*Salix gooddingii*	Native
Blue elderberry	*Sambucus nigra*	Native
Mediterranean grass	*Schismus barbatus*	Exotic
Peruvian peppertree	*Schinus molle*	Exotic
London rocket	*Sisymbrium irio*	Exotic

Common Name	Scientific name	Native/Exotic
Common sowthistle	*Sonchus oleraceus*	Exotic
Tamarisk	*Tamarix* sp.	Exotic
Puncture weed	*Tribulus terrestris*	Exotic
Mexican fan palm	*Washingtonia robusta*	Exotic

4.2.1 - Evergreen Orchard

Evergreen orchards comprise 43.71 acres of the project site and 21.11 acres within the 500-foot buffer area. Evergreen orchards are characterized by open, single-species tree-dominated habitats typically arranged in a linear, spaced pattern with an open understory. Evergreen orchard species include avocados, dates, grapefruit, lemons, limes, olives, oranges, tangerines, and other citrus trees. The understory typically consists of grasses and herbaceous, annual plants, or alternatively managed to prevent understory growth. Evergreen orchards provide habitat for a low diversity of wildlife species that are tolerant of human-modified environments, including common raven (*Corvus corax*), northern mockingbird (*Mimus polyglottos*), house finch (*Carpodacus mexicanus*), coyote (*Canis latrans*), and California ground squirrel (*Spermophilus beecheyi*). The evergreen orchards on and adjacent to the project site are comprised of orange trees (*Citrus* × *sinensis*) with an understory of predominantly non-native annual species, including common sowthistle (*Sonchus oleraceus*), prickly lettuce (*Lactuca seriola*), red brome (*Bromus madritensis*), soft brome (*Bromus hordeaceus*), prickly Russian thistle (*Russian thistle*), flax-leaved horseweed (*Erigeron bonariensis*), and telegraphweed (*Heterotheca grandiflora*), among others. Wildlife species observed in this community during the biological survey included common raven, mourning dove (*Zenaida macroura*), bushtit (*Psaltriparus minimus*), house finch, coyote, valley pocket gopher (*Thomomys bottae*), and California ground squirrel. Common ravens were abundant in the orange orchard, with more than 100 individuals observed.

4.2.2 - Urban/Developed

Urban/developed lands comprise 30.15 acres within the 500-foot buffer area (there is no urban/developed land within the project site). Urban developments are characterized by a combination of developed and hardscaped areas and manicured vegetation, including street/shade trees, lawns, and shrubs, and little or no exposed soil substrates. Irrigation and fertilization allow for tropical and other non-native and ornamental species to flourish in urban areas. Trees are often grown in a spaced pattern with an open understory, and lawns are typically one species maintained at a continuous, uniform height. Shrubs are grown as spaced individuals or in tight rows that are hedged. These conditions provide habitat to a low diversity of wildlife that are tolerant of human-modified environments, including rock dove (*Columba livia*), mourning dove, common raven, northern mockingbird, house finch, house sparrow (*Passer domesticus*), desert cottontail (*Sylvilagus audubonii*), and valley pocket gopher. Wildlife species observed in this community during the biological survey included common raven, mourning dove, Anna's hummingbird (*Calypte anna*), common raven, and California scrub jay (*Aphelocoma californica*).

4.2.3 - Ruderal (Annual Grassland)

Ruderal annual grassland habitat comprises 0.47 acre of the project site and 10.92 acres within the 500-foot buffer area. This vegetation community or habitat consists of non-native annual grasses and herbaceous plants. This community is comprised of invasive species that invade disturbed, bare areas. The percentage of non-native species is typically related to disturbance history, with greater disturbance correlating with higher composition of non-native species. Non-native, annual species flourish in the Mediterranean climate of California, as many of these species evolved under similar conditions in southern Europe and northern Africa. Plants in this community germinate during winter rains and complete their life cycles by the beginning of the summer dry period. Seeds often remain viable in the soil for many years. Typical species found in this community include wild oat (*Avena barbata* and *Avena fatua*), rip-gut brome (*Bromus diandrus*), soft brome, red brome, Mediterranean grass (*Schismus barbatus*), black mustard (*Brassica nigra*), red stemmed filaree (*Erodium cicutarium*), common sowthistle, prickly lettuce, Canadian horseweed, prickly Russian thistle, and telegraphweed. Species observed in this community during the biological survey included rip-gut brome, red brome, flax-leaved horseweed (*Erigeron bonariensis*), jimsonweed (*Datura stramonium*), black mustard, annual sunflower (*Helianthus annuus*), annual yellow sweetclover (*Melilotus indicus*), and lamb's quarters (*Chenopodium album*), among others. Wildlife species observed in this community included western fence lizard (*Sceloporus occidentalis*), common side-blotched lizard (*Uta stansburiana*), San Diegan tiger whiptail (*Aspidoscelis tigris stejnegeri*), desert cottontail, and California ground squirrel.

4.2.4 - Eucalyptus

Eucalyptus tree stands occupy 0.71 acre of the project site and 3.53 acres within its 500-foot buffer area. Eucalyptus tree habitats range from single-species thickets with little or no shrubby understory to scattered trees over a well-developed herbaceous and/or shrubby understory. In most cases, eucalyptus forms a dense stand with a closed canopy and little understory. Eucalyptus trees are also planted in hedgerows to provide a windbreak or as specimen trees in urban settings. There are more than 150 species of eucalyptus trees native to Australia – several are grown in California, including red gum (*Eucalyptus camaldulensis*), lemon scented gum (*Eucalyptus citriodora*), blue gum (*Eucalyptus globulus*), silver dollar gum (*Eucalyptus polyanthemos*), and red iron bark (*Eucalyptus sideroxylon*), among others. Within the project site and 500-foot buffer area there are stands of blue gum, including a hedgerow on the east side of I-210 and several small stands adjacent to the orange orchards. There was little to no understory beneath the blue gum trees. Wildlife observed in the eucalyptus stands included red-shouldered hawk (*Buteo lineatus*), which may be nesting in the trees.

4.2.5 - Barren

Barren areas occupy 13.16 acres of the project site and 26.63 acres within its 500-foot buffer area. Barren habitat is defined by the absence of vegetation. This habitat may occur naturally, such as along scoured riverbanks, but it is often seen in human-modified environments, such as recently grubbed and cleared fields or gravel parking lots. On the project site and within its 500-foot buffer area, barren habitat was observed in recently cleared and disked orchards and on dirt roads that access the orchards. Wildlife species observed in this community during the biological survey

included red-tailed hawk (*Buteo jamaicensis*), northern rough-winged swallow (*Stelgidopteryx serripennis*), common raven, western kingbird (*Tyrannus verticalis*), and California ground squirrel.

4.2.6 - Channelized Drainage—500-foot Buffer Area

There is a channelized, linear drainage along the western boundary of the project site that supports small areas of riparian vegetation and occupies approximately 1.89 acres within the 500-foot buffer area. The drainage is channelized to convey runoff from I-210 to the west and the irrigated orange orchards to the east. The drainage has been channelized and lined with concrete along the base of the channel and rock/rip rap installed along the banks for erosion protection. The drainage is approximately 15 feet in width and drains into the Santa Ana River, located approximately 0.25 mile to the north of the northwest corner of the project site. Vegetation in the drainage includes riparian/wetland indicator species, such as mulefat (*Baccharis salicifolia*), black willow (*Salix gooddingii*), Fremont's cottonwood (*Populus fremontii*), and blue elderberry (*Sambucus nigra*). Other species indicate the disturbed nature of the drainage, including tree tobacco, castor bean, tamarisk (*Tamarix* sp.), giant reed (*Arundo donax*), tree of heaven (*Ailanthus altissima*), Mexican fan palm (*Washingtonia robusta*), blue gum, and Peruvian pepper tree (*Shinus molle*). Native species along the edge of the drainage include California buckwheat (*Eriogonum fasciculatum*), California sagebrush (*Artemisia californica*), and coyote brush (*Baccharis pilularis*). Non-native species from the adjacent ruderal annual grassland transition into the edge of the drainage. Wildlife species observed in the drainage during the biological survey included western fence lizard, San Diegan tiger whiptail, Indian pea fowl (*Pavo cristatus*), ash-throated flycatcher (*Myiarchus cinerascens*), California towhee (*Melozone crissalis*), song sparrow (*Melospiza melodia*), lesser goldfinch (*Spinus psaltria*), and house finch.

4.2.7 - Drainage Basin—500-foot Buffer Area

There is a man-made drainage basin just south of the project site and adjacent to the high school that occupies approximately 0.26 acre within the 500-foot buffer area. The vegetation in the basin is largely ruderal in nature; however, there is a stand of broadleaf cattails (*Typha latifolia*) within the deepest part of the basin. Wildlife observed in this feature included Anna's hummingbird and lesser goldfinch.

4.3 - Wildlife

The vegetation community and land cover types discussed above provide habitat for numerous wildlife species that are tolerant of human disturbances. Wildlife activity was moderate during the biological survey and consisted primarily of avian species. The following are brief discussions of wildlife species observed within the project site during the field survey, separated into taxonomic groups. Each discussion contains representative examples of a particular taxonomic group either observed on-site or expected to occur. A full list of wildlife species observed on the project site is presented in Table 3.

4.3.1 - Invertebrates

Numerous invertebrate species were noted on the project site, including common pill-bug (*Armadillidium vulgare*), giant canyon isopod (*Porcellio dilatatus*), European earwig (*Forficula auricularia*), false stable fly (*Muscina stabulans*), little house fly (*Fannia canicularis*), hover fly (*Allograpta obliqua*), pale swallowtail (*Papilio eurymedon*), cabbage white butterfly (*Pieris rapae*), and European honey bee (*Apis mellifera*). These species pollinate flowering plants and provide a prey base to reptilian and avian species.

4.3.2 - Fishes

There are no fishes or habitats that would support fishes on the project site or within the 500-foot buffer area.

4.3.3 - Amphibians

Amphibian species were not observed on the project site but may be present due to the occurrence of the drainage basin and channelized drainage. During late winter rains, common amphibian species may breed in pooled water, particularly Pacific tree frog (*Pseudacris regilla*).

4.3.4 - Reptiles

Three reptilian species – all lizards – were observed on the project site. These included the common side-blotched lizard, western fence lizard, and San Diegan tiger whiptail. The San Diegan tiger whiptail is considered a Species of Special Concern by the CDFW. Other reptilian species that may be present on the project site include San Diego gopher snake (*Pituophis catenifer annectens*) and California kingsnake (*Lampropeltis californiae*).

4.3.5 - Birds

Birds are typically the most visible and commonly observed wildlife species, as was the case during the biological survey of the project site. The most common species on-site was common raven, with more than 100 individuals observed. The ravens appeared to be eating oranges in the orchards. Other notable species included red-shouldered hawk, which may be nesting in the eucalyptus trees west of the project site, and other species that may breed on the project site, including mourning dove, Anna's hummingbird, California scrub jay, northern mockingbird, California towhee, song sparrow, lesser goldfinch, and house finch.

4.3.6 - Mammals

Four mammalian species were observed on the project site during the biological survey, including coyote, valley pocket gopher, California ground squirrel, and desert cottontail. Other mammalian species that may be present on the project site include Virginia opossum (*Didelphis virginiana*), California myotis (*Myotis californicus*), raccoon (*Procyon lotor*), striped skunk (*Mephitis mephitis*), western harvest mouse (*Reithrodontomys megalotis*), black rat (*Rattus rattus*), and house mouse (*Mus musculus*).

Table 3: Vertebrate Wildlife Species Observed on the Project Site

Common Name	Scientific name	Native/Exotic
Side-blotched lizard	*Uta stansburiana*	Native
Western fence lizard	*Sceloporus occidentalis*	Native
San Diegan tiger whiptail	*Aspidoscelis tigris stejnegeri*	Native
Red-tailed hawk	*Buteo jamaicensis*	Native
Red-shouldered hawk	*Buteo lineatus*	Native
Common peafowl	*Pavo cristatus*	Exotic
Mourning dove	*Zenaida macroura*	Native
Anna's hummingbird	*Calypte anna*	Native
Ash-throated flycatcher	*Myiarchus cinerascens*	Native
Western kingbird	*Tyrannus verticalis*	Native
Western scrub jay	*Aphelocoma californica*	Native
Common raven	*Corvus corax*	Native
Northern rough-winged swallow	*Stelgidopteryx serripennis*	Native
Bushtit	*Psaltriparus minimus*	Native
California towhee	*Pipilo crissalis*	Native
Song sparrow	*Melospiza melodia*	Native
House finch	*Carpodacus mexicanus*	Native
Lesser goldfinch	*Cardeulis psaltria*	Native
Coyote	*Canis latrans*	Native
California ground squirrel	*Spermophilus beecheyi*	Native
Valley pocket gopher	*Thomomys bottae*	Native
Desert cottontail	*Sylvilagus audubonii*	Native

SECTION 5: SENSITIVE BIOLOGICAL RESOURCES

The following section discusses the existing site conditions and potential for special-status biological resources to occur on and immediately adjacent to the project site.

5.1 - Sensitive Natural Vegetation Communities

Special-status plant communities are considered sensitive biological resources based on federal, State, or local laws regulating their development, limited distributions, and habitat requirements of special-status plant or wildlife species that occur within them. The List of California Terrestrial Natural Communities (CDFW 2019) lists sensitive natural communities and provides alliance rankings according to their degree of imperilment. The CNDDB was used to identify sensitive natural vegetation communities that have been recorded within a 3-mile radius of the site. The project site was also searched for evidence of sensitive natural vegetation communities during the biological field survey. The CNDDB identified two sensitive communities that have been documented within 3 miles of the project site: Southern Sycamore Alder Riparian Woodland and Riversidian Alluvial Fan Sage Scrub. Neither of these vegetation communities occur on the project site or within its 500-foot buffer area. No other sensitive natural vegetation communities were found to occur on-site.

5.2 - Special-status Plant Species

The CNDDB (CDFW 2020) and CNPSEI (CNPS 2020) identified a total of 73 special-status plant species within the 9-quadrangle search area that includes and surrounds the project site (Appendix B, Table 1). Table 1 in Appendix B includes the species' status, required habitat types and features, and potential to occur on the project site. Occurrences of special-status plants within 3 miles of the project site are depicted in Exhibit 6. None of the special-status plant species compiled from the queries have the potential to occur on-site, based primarily on the absence of suitable habitat (natural vegetation communities) and long history of soil disturbance in the project area. For many of these species, the project site is also outside of their elevational ranges, and there were no recorded occurrences within 3 miles of the project site. Based on this analysis, special-status plant species are not expected to occur on the project site, and they are excluded from further discussion.

5.3 - Special-status Wildlife Species

The CNDDB (CDFW 2020) identified a total of 65 special-status wildlife species within the 9-quadrangle search area surrounding the project site (Appendix B, Table 2). Table 1 in Appendix B includes the species' status, required habitat types and features, and potential to occur on the project site. Occurrences of special-status wildlife species within 3 miles of the project site are depicted in Exhibit 6. Most (58) special-status wildlife species compiled in the query were determined to have no potential to occur on-site, based primarily on the absence of suitable habitat (natural vegetation communities) and the long history of soil disturbance in the area. For many of these species, the project site is located outside of their elevational ranges, and there were no recorded occurrences within 3 miles of the project site.

The following species were determined to have a low potential to occur on the project site and/or within its 500-foot buffer area:

- Burrowing owl
- Loggerhead shrike (*Lanius ludovicianus*)

The following species were determined to have a moderate potential to occur on the project site and/or within its 500-foot buffer area:

- Western spadefoot (*Spea hammondii*)
- Southern California legless lizard (*Anniella stebbinsi*)
- Cooper's hawk (*Accipiter cooperii*)
- California horned lark (*Eremophila alpestris actia*)

The following species were observed and are therefore present on the project site and within its 500-foot buffer area:

- San Diegan tiger whiptail

Each of these species are described further below, along with their habitat requirements, known occurrences in the project vicinity, and locations where they may occur on the project site or within its 500-foot buffer area.

5.3.1 - Burrowing Owl

Burrowing owl is designated as a California Species of Special Concern. Burrowing owls require large open expanses of sparsely vegetated areas on gently rolling or level terrain with an abundance of active or abandoned mammal burrows, particularly those of California ground squirrel and coyote. They may also use pipes and culverts where burrows are scarce. Typical habitat associated with the species includes short-grass prairies, grasslands, lowland scrub, agricultural lands (particularly rangelands), prairies, coastal dunes, desert floors, and some artificial, open areas as a year-round resident. Burrowing owl may also use golf courses, cemeteries, road allowances within cities, airports, vacant lots in residential areas, and irrigation ditches. There are two known records within 3 miles of the project site, from 1983 and 2006. Both records are on the San Bernardino International Airport grounds.

The recently cleared orchards that support barren habitat on and adjacent to the project site have a low potential to support burrowing owl. California ground squirrel were observed within and adjacent to the drainage channel west of the project site, and in the evergreen orchards on the western extent of the project site; however, none were observed on the barren lands on the project site, nor were any California ground squirrel or other mammalian burrows observed on the barren lands on the project site. . Due to the lack of mammalian burrows on the project site at the time of the survey, burrowing owl was assessed as having low potential to occur on-site.

5.3.2 - Loggerhead Shrike

Loggerhead shrike is designated as a California Species of Special Concern. This species frequents open habitats with sparse shrubs and trees, other suitable perches, bare ground, and low or sparse herbaceous cover. Loggerhead shrike prey upon small rodents and large insects, which they capture on the ground from flights from low perches. Their habit of hunting from perches usually makes them conspicuous in their open habitat. Loggerhead shrikes build stick nests in low trees or shrubs, where they raise two to four young. There are no known records of loggerhead shrike within 3 miles of the project site.

The barren and ruderal habitats on and adjacent to the project site may provide suitable foraging areas for loggerhead shrike, and the evergreen orchards and eucalyptus stands may provide suitable perching and nesting habitats.

5.3.3 - Western Spadefoot

Western spadefoot is designated as a California Species of Special Concern. This species prefers open areas with sandy or gravelly soils in a variety of habitats including mixed woodlands, grasslands, coastal sage scrub, chaparral, sandy washes, lowlands, river floodplains, alluvial fans, playas, alkali flats, foothills, and mountains. Western spadefoot breed in seasonally ephemeral pools of water that do not contain bullfrogs, fish, or crayfish. Breeding sites include vernal pools and other temporary rain pools, cattle tanks, and occasionally in pools within intermittent streams. Suitable breeding pools must support standing water for at least 4 to 11 weeks for the larval stages of this species to transform. Typically, the pools are turbid with little or no cover. Western spadefoot is nocturnal and almost completely terrestrial, entering water only to breed. They burrow underground using the hardened spades on their hind feet and can remain buried underground for most of the year, emerging during periods of rain for breeding. Breeding may take place from January to May, peaking in February and March, but may breed at any time of the year if conditions are favorable. Western spadefoots eat a variety of invertebrates, including adult beetles, larval and adult moths, crickets, flies, ants, and earthworms, and can consume enough in several weeks to survive the long period of underground dormancy. There are no known records within 3 miles of the project site.

The channelized drainage and drainage basin immediately adjacent to the project site may support suitable breeding habitat for western spadefoot, and all of the habitats on the project site may support subterranean habitat for this species.

5.3.4 - Southern California Legless Lizard

Southern California legless lizard is designated as a California Species of Special Concern. This species occurs in moist, warm, loose, and typically sandy soils in areas supporting plant cover, including beach dunes, sandy washes and alluvial fans in chaparral, pine-oak woodlands, desert scrub habitats with sycamores, cottonwoods, or oaks from sea level to 5,900 feet. Leaf litter under trees and bushes in sunny areas and dunes stabilized with native shrubs often indicate suitable habitat. This species forages in loose soil, sand, and leaf litter during the day and is sometimes found on the surface at dusk and at night. They are tolerant of human modified environments and are sometimes found in suburban gardens in Southern California. They are often found under surface objects such

as rocks, boards, driftwood, and logs. There are four known records, last observed in 2016, within 3 miles of the project site. A 2005 record was in an orange orchard that had not been active in recent years. The 2016 record was on a former orchard that had been cleared, but likely not disturbed further.

The evergreen orchards and ruderal habitats on the project site may support the occurrence of this species, particularly if debris such as boards, rocks, and logs are present to provide cover. The regular and recent disking of the former orchards on the project site likely make the area less suitable for occurrence of this species.

5.3.5 - Cooper's Hawk

Cooper's hawk is designated as a California Species of Special Concern. This species occurs in riparian forests and woodlands throughout California, including urban forests. It prefers patchy wooded areas, such as groves with edges with snags for perching. It nests in dense stands with moderate crown-depths, usually nests in second-growth conifer stands, or in deciduous riparian areas, usually near streams. Cooper's hawk prey on mid-sized birds such as jays, starlings, and doves, but they also consume small rodents. The species capture prey from cover or while flying quickly through dense vegetation, relying on surprise. There are no known records within 3 miles of the project site.

The eucalyptus stands and evergreen orchard habitats on and adjacent to the project site supports suitable foraging habitat for Cooper's hawk, and the eucalyptus stands may provide appropriate nesting habitat.

5.3.6 - California Horned Lark

California horned lark is designated as a California Species of Special Concern. This species is a common to abundant year-round resident that inhabits a variety of open habitats, such as grasslands and other open habitats with low, sparse vegetation, and typically where trees and large shrubs are absent. California horned lark nest on the ground, building grass-lined nests in a cup-shaped depression on open ground. This species is very gregarious and often forms large flocks that forage and roost together after the breeding season. California horned lark eats insects, snails, and spiders during breeding season and grass and forb seeds and other plant matter outside of the breeding season. There is one known record, from 2001, within 3 miles of the project site.

The barren areas on and adjacent to the project site may provide suitable foraging and nesting habitat for this species.

5.3.7 - San Diegan Tiger Whiptail

The San Diegan tiger whiptail (also called coastal whiptail) is designated as a California Species of Special Concern. This species occurs in hot, dry, open areas with sparse vegetation, such as forests, woodlands, chaparral, and riparian habitats. They are always most common in and around dense vegetation and are often found associated with sandy areas in and adjacent to gravelly arroyos or washes. It feeds on small invertebrates, especially spiders, scorpions, centipedes, termites, and other small lizards. San Diegan tiger whiptail are diurnal and when active, are very wary and move with abrupt stops and starts, side-to-side head movement, and tongue flicking. They are difficult to

approach and are capable of quick bursts of speed to scurry into heavy brush, burrows, or other cover. There are three known records, from 2014 and 2015, within 3 miles of the project site. One observation was in an area that supported remnant Riversidian fan sage scrub and annual grassland habitat near a storm drainage.

A population of San Diegan tiger whiptail was observed on and adjacent to the project site (Exhibit 7). Most individuals were observed in the southwestern corner of the project site in ruderal habitat, but were also present in the channelized drainage, in open areas along the western border of the project site adjacent to the channelized drainage, and in the large area of ruderal habitat on the parcel to the southwest of the project site. Individuals retreated to cover in and adjacent to the channelized drainage along the western border of the project site. The channelized drainage, which connects to the Santa Ana River Wash, provides a likely dispersal corridor for San Diegan tiger whiptails, linking the population occupying the large parcel supporting ruderal habitat southwest of the project site to the population in the Santa Ana River Wash.

5.4 - Nesting Birds

Several avian species observed during the biological survey of the project site and its 500-foot buffer area exhibited breeding behaviors, though no nests were located during the survey. Species that displayed breeding behaviors included a red-shouldered hawk and a song sparrow, each of which were observed calling from the eucalyptus stands on the western portion of the project area. Other species observed on the project site, including mourning dove, Anna's hummingbird, ash-throated flycatcher, western kingbird, western scrub jay, common raven, bushtit, California towhee, house finch, and lesser goldfinch (*Cardeulis psaltria*), may potentially nest on or directly adjacent to the project site. Special-status bird species, including burrowing owl, Cooper's hawk, loggerhead shrike, and California horned lark, may also nest on or directly adjacent to the project site. The nesting period for passerine species generally occurs between March through July, and for raptors and burrowing owls between February through August.

5.5 - Wildlife Movement Corridors

The channelized drainage along the western border of the project site likely provides a movement corridor for a number of terrestrial wildlife species, including Virginia opossum, coyote, raccoon, striped skunk, several rodent species, and several lizard species, including San Diegan tiger whiptail. The channelized drainage provides a connection and movement corridor between the Santa Ana River Wash to the north and the parcel supporting ruderal vegetation located directly southwest of the project site. The channelized drainage supports native riparian woodland species and eucalyptus trees that provide cover for dispersing wildlife species. The bank of the channelized drainage and portions of the terrace area adjacent to and up to approximately 30 feet of the edge of the bank likely also function as a part of the wildlife movement corridor. The channelized drainage bank and the adjoining terrace may be particularly useful for wildlife movements in areas where homeless encampments within the channelized drainage may limit the movement of some wildlife species. Because the channelized drainage is vegetated with eucalyptus trees and other native and non-native shrubs and trees, and the adjacent terrace is planted with a mature citrus orchard, wildlife

species that prefer forested areas with a closed canopy are more likely to use these areas for movements. Species that prefer more open habitats may avoid using this feature for movements.

5.6 - Jurisdictional Waters and Wetlands

An assessment of potentially jurisdictional features was conducted as part of the literature review and reconnaissance-level survey for the project site. FCS documented the drainage feature along the western extent of the project site that empties into the Santa Ana River, and suggested that it may be considered a jurisdictional water feature regulated by the USACE, RWQCB, and CDFW (Appendix C). FCS recommended a study to determine whether the extent of project impacts could potentially occur in jurisdiction areas. Rasnick performed an analysis of potential biological and regulatory development constraints of the project site, including a preliminary assessment of potentially jurisdictional habitats on the project site (Appendix C). The analysis identified the drainage feature as a County flood control channel running parallel to I-210 just west of the project boundary and indicated the following jurisdictional habitats:

- **USACE jurisdiction:** The channelized drainage includes 0.44 acre of waters of the United States, none of which is wetland. A total of 1,288 linear feet of streambed is present.
- **RWQCB jurisdiction:** The channelized drainage has been determined to be waters of the United States subject to regulation pursuant to Section 401 and 404 of the CWA.
- **CDFW jurisdiction:** CDFW jurisdiction associated with the channelized drainage totals approximately 1.04 acres, of which 0.14 acre consists of riparian stream and 0.90 acre consists of non-riparian stream. A total of 1,288 linear feet of streambed is present.

The jurisdictional features (USACE/RWQCB waters of the United States and CDFW streambed/riparian) identified in previous reports are located outside of the proposed project boundaries and development area and would not be affected by development of the proposed project (Refer to Appendix C).

5.7 - San Bernardino Merriam's Kangaroo Rat Habitat Assessment

San Bernardino Merriam's kangaroo rat occurs on alluvial floodplains of the Santa Ana River and its tributaries and adjacent upland habitats in the San Bernardino, Menifee, and San Jacinto Valleys in San Bernardino and Riverside Counties. McKernan (1997) determined that the Santa Ana River supports suitable habitat and one of the largest extant populations of the species. Critical habitat for the species was designated in the Santa Ana River Wash by the USFWS. San Bernardino Merriam's kangaroo rat prefers early (pioneer) and intermediate successional stages of Riversidian alluvial fan sage scrub, a plant community with coastal sage scrub and chaparral elements on alluvial terraces and braided river channels in southern California (McKernan 1997). The species excavates burrows in loose, sandy soils, usually near or beneath shrubs. The species may also occur in abandoned agricultural fields and orchards, but usually only when such habitats are adjacent to suitable natural habitats. San Bernardino Merriam's kangaroo rat abundance is greatest in areas of sandy soils with low-to-moderate perennial vegetative cover (less than 30 percent to 50 percent) and minimal density of non-native annual grass cover (McKernan 1997; MEC 2000). Root (2008a; 2008b)

determined that presence of San Bernardino Merriam's kangaroo rat was negatively correlated with dense stands of non-native grasses and areas dominated by surface boulders and rocks, and positively correlated with sandy soils, sparse vegetation cover, and presence of scalebroom (*Lepidospartum squamatum*).

There are 10 known records of San Bernardino Merriam's kangaroo rat, from 1989 to 2017, within 3 miles of the project site and mostly in Riversidean alluvial fan sage scrub habitat. One record from 2004 was in a recently disked agricultural field. None of the sites where the species was observed in the vicinity of the project site were in current or former citrus orchards. A large population of San Bernardino Merriam's kangaroo rat is known to occur within the Santa Ana River Wash north of the project site (McKernan 1997). Habitat conditions on the project site, including presence of evergreen orchards with dense canopies and repeatedly disturbed (disked) soils, have likely prevented San Bernardino Merriam's kangaroo rats from occupying the site for as long as the site has been used for citrus orchards. Furthermore, the channelized drainage that provides a wildlife movement corridor for many wildlife species is not conducive for facilitating movements of San Bernardino Merriam's kangaroo rat from the Santa Ana River to the project site due to the dense, closed canopy of trees that cover the drainage as well as the concrete substrate of the drainage that prevents burrowing opportunities. The long-term use of the project site as an evergreen orchard, coupled with the inability of San Bernardino Merriam's kangaroo rat to repopulate the site by dispersing from the Santa Ana River via the channelized drainage strongly suggests that the species is absent from the project site. No sign of San Bernardino Merriam's kangaroo rat, including burrows, tracks, or scat, was observed during the biological field survey of the project site.

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Source: Google Earth Pro Aerial Imagery. USDA Soils Data Mart, Southwest San Bernardino.

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Exhibit 4
Soils Map

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Source: Google Earth Pro Aerial Imagery | FCS

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Exhibit 5
Vegetation and Land Cover Types

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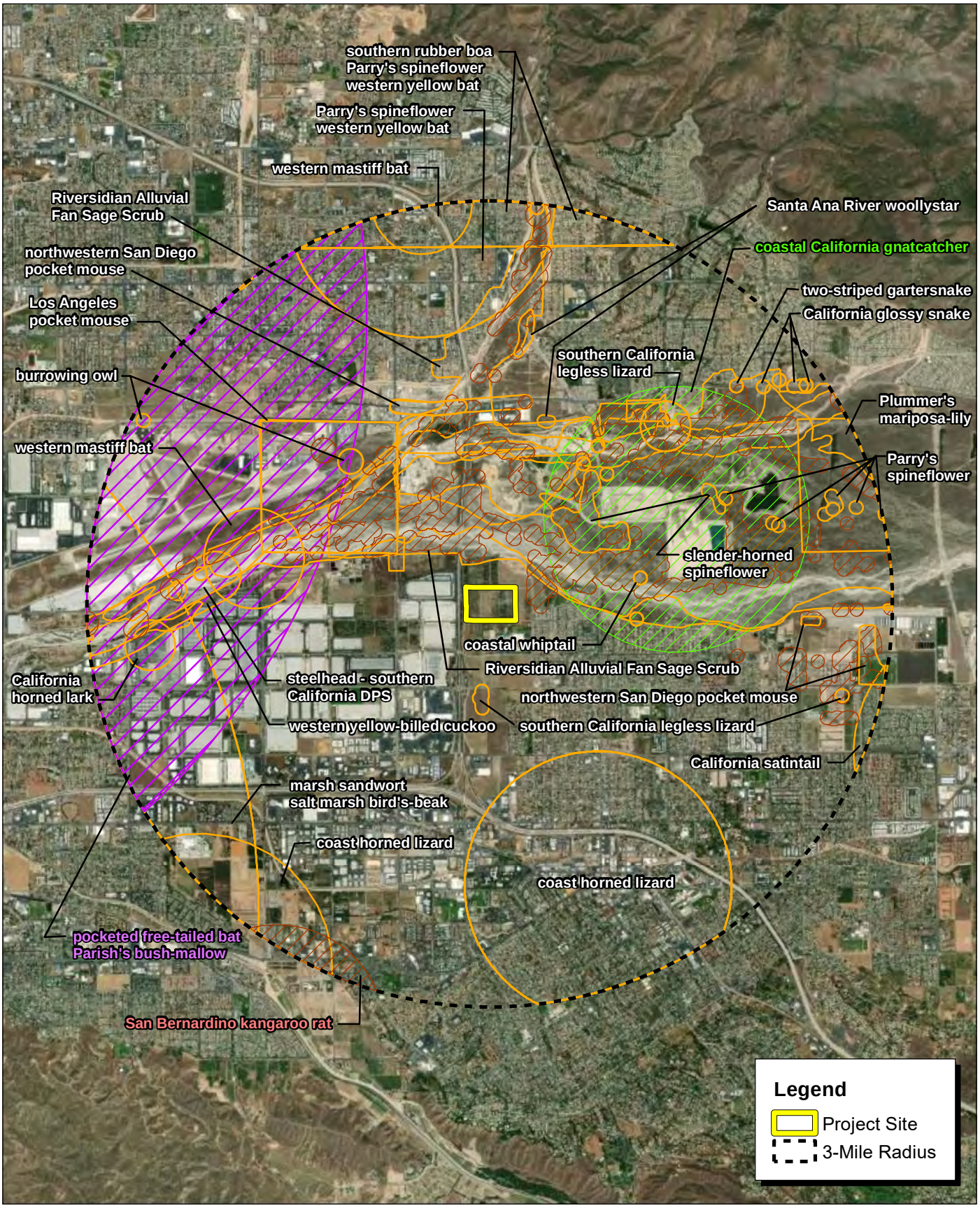

Source: ESRI Aerial Imagery.

Exhibit 6

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Occurrences of Previously Recorded Sensitive Biological Resources in the Project Vicinity

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Source: Google Earth Pro Aerial Imagery.

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Exhibit 7
Sensitive Biological Resources Recorded on the Project Site During the Biological Survey

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SECTION 6: IMPACT ANALYSIS AND RECOMMENDATIONS

The following discussion addresses potential impacts to special-status biological resources resulting from the proposed project and recommends mitigation measures, where appropriate, to minimize those impacts to a level of "less than significant" under CEQA.

Project development would cause direct and permanent loss of plant and wildlife habitats and could directly or indirectly lead to mortality, injury, or harassment of wildlife species from:

- Loss of foraging, roosting, denning, nesting, and/or breeding habitats, leading to displacement of resident wildlife and disruption of wildlife populations in adjacent areas.
- Fragmentation of adjacent habitats and providing a significant barrier to wildlife movement.
- Disruption of nocturnal wildlife behavior with increased lighting, glare, and noise.
- Disruption of the ecological function of a wildlife movement corridor along the channelized drainage.
- Project runoff into the channelized drainage, a potentially jurisdictional habitat.

These impacts and others are analyzed and addressed with proposed mitigation measures that would avoid or lessen them.

6.1 - Sensitive Natural Vegetation Communities

6.1.1 - Impact Analysis

Project development would cause direct impacts to 43.71 acres of evergreen orchard, 13.16 acres of barren land, 0.47 acre of ruderal (annual grassland) habitat, and 0.71 acre of eucalyptus stands. No sensitive vegetation communities would be directly affected by the proposed project, and no mitigation measures would be needed.

6.1.2 - Mitigation and Avoidance Measures

No mitigation and/or avoidance measures are needed as there are no anticipated impacts to sensitive natural vegetation communities.

6.2 - Special-status Plant Species

6.2.1 - Impact Analysis

No special-status plant species were detected during the biological survey. Based on the condition of habitats on the project site, no special-status plants are expected to occur there, nor are any expected to be directly affected by project development. No mitigation measures are needed to address impacts to special-status plant species.

6.2.2 - Mitigation and Avoidance Measures

No mitigation and/or avoidance measures are needed as there are no anticipated impacts to special-status plant species.

6.3 - Special-status Wildlife Species

One special-status wildlife species, San Diegan tiger whiptail, was determined to be present on the project site and within its 500-foot buffer area during the biological field survey. Additionally, this species likely uses the channelized drainage and immediately adjacent areas on the western extent of the project site as a corridor for movements between the Santa Ana River Wash and the undeveloped parcel located south of the project site. Several special-status wildlife species were assessed as exhibiting low to moderate potential to occur on the project site or within its 500-foot buffer area, including burrowing owl (low occurrence potential), loggerhead shrike (low occurrence potential), western spadefoot (moderate occurrence potential), southern California legless lizard (moderate occurrence potential), Cooper's hawk (moderate occurrence potential), and California horned lark (moderate occurrence potential).

6.3.1 - Impact Analysis

Ground-disturbing and habitat-altering project construction activities could directly kill, injure, or harass wildlife, including special-status species. Project construction activities and use of heavy equipment in wildlife habitats could cause direct impacts to wildlife, particularly less mobile, fossorial (burrowing) animals (e.g., small mammals or lizards) or those with a life stage in the soil or on plants (e.g., amphibians, nesting birds, insects). All of the special-status wildlife species that are present or have a potential to occur on the project site exhibit these characteristics. Pursuant to compliance with CEQA, a number of avoidance and mitigation measures that may reduce impacts to special-status wildlife species are presented below. These include reasonable and prudent measures to minimize and/or avoid impacts to special-status wildlife species.

6.3.2 - Mitigation and Avoidance Measures

Construction Monitoring and Pre-construction Surveys

A qualified Biologist will conduct a clearance survey of the entire project impact area, including any staging/laydown areas, no more than seven (7) days prior to initiating project activities to search for western spadefoot, California legless lizard, and San Diegan tiger whiptail. In addition, the qualified Biologist will be present on-site prior to the initiation of construction each day to monitor ground-disturbing or habitat-altering activities, verify that temporary fencing around sensitive areas is intact and in good condition (no gaps or holes), and search for special-status wildlife species that may have taken shelter under construction materials in staging/laydown areas.

If special-status wildlife species are observed during construction activities, all work within 50 feet of the animal(s) will be stopped. At no time will work occur within 50 feet of the animal without the Biological Monitor present. Any special-status wildlife species detected within the project impact area, including any staging/laydown areas, shall be allowed to move away on their own and shall not be captured or handled without authorization from the CDFW or USFWS.

Burrowing Owl Mitigation

Burrowing owls were not identified during the survey of the project site and due to a lack of habitat (mammal burrows) in the barren, recently disked areas on and adjacent to the project site, breeding season surveys for burrowing owl were not recommended. It may be possible that California ground squirrels and/or coyotes could excavate burrows in these areas prior to development of the site, thereby providing habitat for burrowing owls. To determine whether burrows have been excavated by burrowing mammals on barren areas of the project site prior to its development, a qualified Biologist shall perform a pre-construction burrowing owl survey to determine burrow locations within 30 days prior to construction activities using CDFW (2012) guidelines. If construction is delayed or suspended for more than 30 days after the survey, the area shall be resurveyed. Survey for occupied burrows shall be completed within all construction areas and within 300 feet from the proposed project impact area (where possible and appropriate based on locations of barren or ruderal habitats). At least 15 days prior to the expected start of any project-related ground disturbance activities, or restart of activities, the City shall provide a burrowing owl survey report with mapping exhibits to the CDFW. If no burrowing owls are detected during the pre-construction survey, no further action is necessary.

If burrowing owls are detected during the pre-construction survey, the City shall consult with the CDFW and USFWS to develop and implement a Burrowing Owl Mitigation Plan that includes mitigation measures outlined in CDFW (2012) guidelines.

Avoidance of Entrapment

To prevent inadvertent entrapment of animals during construction, all excavated, steep-walled holes or trenches more than 1 foot deep will be covered at the close of each working day with plywood or other suitable material, or provided with one or more escape ramps constructed of earth fill or wooden planks. Before such holes or trenches are filled, they will be thoroughly inspected for trapped animals. All pipes, culverts, or similar structures stored overnight will be inspected before they are subsequently moved, capped, and/or buried. If at any time wildlife is discovered, the Biologist will be contacted to determine the next steps.

Environmentally Sensitive Area Fencing

Sensitive areas, including the channelized drainage and wildlife corridor near the western project boundary or active avian nests, will be identified by a qualified Biologist and shown on the project design plans. The installation of the fencing around these sensitive areas will be monitored by the Biologist.

Erosion Control Materials

Project construction activities on the western side of the project site could cause sediment to enter the channelized drainage. Appropriate sediment and erosion control Best Management Practices (BMPs) will be employed during project construction to minimize sediment from entering the channelized drainage to protect water quality. To prevent wildlife from becoming entangled or trapped in erosion control materials, plastic monofilament netting (such as erosion control matting) or similar material will not be used. Several commercially available products that are marketed as

photodegradable and biodegradable contain synthetic netting, which can take several months to decompose. These products will not be used in habitat areas. Acceptable erosion control materials are those that use natural fibers such as jute, coconut, twine, or other similar biodegradable fibers.

Worker Environmental Awareness Program

Worker Environmental Awareness Program (WEAP) training will be implemented to educate construction workers about the presence of special-status plant and wildlife species on and near the project site. The WEAP training will be administered to construction personnel prior to the initiation of ground-disturbing or vegetation/habitat altering activities. All construction personnel on the project site shall be required to attend the WEAP training. During the WEAP training, construction personnel will be informed of the importance of avoiding ground-disturbing activities outside of designated work areas; the potential for special-status species to be present; the associated habitat for special-status species; and that is unlawful to take, harm, or harass special-status species.

6.4 - Nesting Birds

Trees in the citrus orchards and eucalyptus stands, vegetation in ruderal (nonnative grassland) habitat, and barren areas may provide potential nesting habitat for birds. Several species of raptors may nest in suitable habitat on and adjacent to the project, including raptors such as Cooper's hawk, red-shouldered hawk, and red-tailed hawk. Many common passerine species may nest in suitable habitats on and adjacent to the project, including mourning dove, Anna's hummingbird, ash-throated flycatcher, common raven, California scrub jay, song sparrow, and house finch, among others. Loggerhead shrike may nest in the citrus orchards, and California horned lark and burrowing owl (if suitable burrows are present) may nest in barren areas, on and adjacent to the project site.

6.4.1 - Impact Analysis

Project activities could directly or indirectly cause impacts to nesting birds, including special-status species, on and adjacent to the project site. Project construction activities could cause direct impacts through destruction of nests, eggs, or chicks, or indirect impacts through hazing or harassment of actively nesting birds to a degree that causes them to abandon the nest temporarily or permanently. These impacts would be considered violations of the MBTA and Sections 3800, 3513, and 3503.5 of the Fish and Game Code. Pursuant to compliance with CEQA, a number of avoidance and mitigation measures may reduce impacts to nesting birds are presented below. These include reasonable and prudent measures to minimize and/or avoid impacts to nesting birds, including special-status avian species.

6.4.2 - Mitigation and Avoidance Measures

Seasonal Avoidance

If construction occurs during the non-nesting season (September 1 through January 31), no impacts are expected; however, if construction activities are scheduled to occur during the nesting season (February 1 through August 31), mitigation is necessary to avoid potential impacts to migratory birds and their nests.

Pre-construction Nesting Bird Surveys

If construction or tree removal is proposed during the breeding/nesting season for migratory birds (typically February 15 through August 31), a qualified Biologist will conduct pre-construction surveys for migratory birds on the project site, including a 300-foot survey buffer, no more than 3 days prior to the start of ground-disturbing activities. If construction is delayed or suspended for more than 3 days after the survey, the area shall be resurveyed to re-confirm the presence/absence of any active nests.

Monitoring of Active Nests

If an active nest is located during pre-construction surveys, the USFWS and/or the CDFW (as appropriate) will be notified regarding the status of the nest. Furthermore, construction activities will be restricted as necessary to avoid disturbance of the nest until it is abandoned, or the Biologist deems disturbance potential to be minimal. Restrictions may include establishment of exclusion zones (no ingress of personnel or equipment at a minimum radius of 300 feet around an active raptor nest and 50-foot radius around an active non-raptor passerine bird nest) or alteration of the construction schedule.

A qualified Biologist will delineate the buffer using nest buffer signs, environmentally sensitive area fencing, pin flags, and or flagging tape. The buffer zone will be maintained around the active nest site(s) until the young have fledged and are foraging independently.

No action is necessary if no active nests are found or if construction will occur during the non-breeding season (typically September 1 through February 14).

6.5 - Wildlife Movement Corridor

The channelized drainage adjacent to the western project boundary provides a corridor for movement of wildlife species, including the San Diegan tiger whiptail. Development of the proposed project could cause direct, indirect, temporary, and permanent impacts to the wildlife movement corridor, and potentially negatively affecting its ecological function.

6.5.1 - Impact Analysis

Development of the proposed project could cause direct impacts to the wildlife movement corridor. The western extent of the project site is designed to include an open space area that will preserve the portion of the wildlife corridor within the project boundaries, including the eastern slope of the channelized drainage and the western extent of the adjacent terrace. However, development of the proposed project could cause indirect impacts to the wildlife movement corridor, including but not limited to construction-related noise, lighting, dust, and traffic. Exterior lighting within the developed project may have long term indirect impacts on wildlife movement. Artificial light shining on the channelized drainage could deter wildlife species that are sensitive to human activities from utilizing it as a corridor or foraging area.

Pursuant to compliance with CEQA and Principles and Actions defined in the City of Redlands General Plan 2035, a number of avoidance and mitigation measures may reduce impacts to the wildlife movement corridor are presented below. These include reasonable and prudent measures to minimize and/or avoid impacts to wildlife using the movement corridor, including special-status wildlife species.

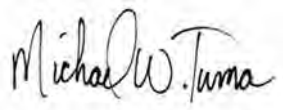
6.5.2 - Mitigation and Avoidance Measures

Following completion of construction, noise and lights would cause impacts to the wildlife corridor. Implementation of the following measures will minimize impacts to the wildlife corridor and surrounding open space to a less than significant level.

- **Lighting**: All lighting along the west side of the project site shall be downcast luminaries with light directed away from the channelized drainage that provides the wildlife movement corridor. All lighting installed within 100 feet of the western border of the project site will be designed to be directed away from the channelized drainage using shielded lights, low-sodium vapor lights, downcast lights, bollard lights, or other available light and glare minimization methods.
- **Maintaining the integrity and function of the wildlife movement corridor:** The wildlife movement corridor consists of the channelized drainage, its sloped banks, and portions (up to approximately 30 feet from the top of the drainage bank) of the terrace at the top of the bank. The proposed project has been designed to preserve the portion of the wildlife movement corridor that is situated within the project boundaries, including an area of between approximately 15 (in the southwest corner of the project) and 200 (in the northwest corner) feet of the eastern slope of the channelized drainage and portions of the adjacent terrace. This open space within the proposed project site will be planted with drought-tolerant native shrub species. The soil surface in this zone may be covered with decomposed granite, but it should not be irrigated. Shrub species that should be planted in this corridor include those found in Riversidian alluvial fan sage scrub, including California buckwheat, California sagebrush, brittlebush (*Encelia farinosa*), deerweed (*Acmispon glaber*), and chaparral yucca (*Hesperoyucca whipplei*). A qualified Botanist who specializes in California native species will direct plant selection and monitor their installation.

SECTION 7: CERTIFICATION

I hereby certify that the statements furnished above and in the attached exhibits present data and information required for this Biological Resources Assessment, and that the facts, statements, and information presented are true and correct to the best of my knowledge and belief.

Date: July 8, 2020 Signed: 

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Appendix A: Site Photographs

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Photograph 1: View of ruderal annual grassland habitat in the southwestern corner of the project site, facing northeast.

Photograph 2: View of evergreen orchard (oranges) on the project site, facing east.

Photograph 3: View of barren habitat on the project site, facing north.

Photograph 4: Ruderal habitat on west side of the project site, facing southeast.

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Appendix B:
Sensitive Species Tables

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B.1 - Special-status Plan Species Potentially Occurring on the Project Site

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Table B.1: Special-status Plant Species Potentially Occurring on the Project Site

Scientific Name Common Name	Status			Habitat Description[4]	Potential to Occur and Rationale	Included in Impact Analysis
	USFWS[1]	CDFW[2]	CNPS[3]			
Ferns						
Thelypteris puberula var. *sonorensis* Sonoran maiden fern	—	—	2B.2	Occurs along streams and seeps in mesic riparian areas. Elevation: 50-800 m	**No potential to occur**. Suitable habitat for this species is not present on or adjacent to the project site. There are no known records within 3 miles of the project site.	No
Asplenium vespertinum Western spleenwort	—	—	4.2	Occurs in rocky areas in chaparral, cismontane woodland, coastal scrub habitats. Blooming period: February–June Elevation: 200-1000 m	**No potential to occur**. Suitable habitat for this species is not present on or adjacent to the project site, and the soils on the project site have been subjected to numerous disturbances that would prevent its occurrence. There are no known records within 3 miles of the project site.	No
Monocots						
Allium howellii var. *clokeyi* Mt. Pinos onion	—	—	1B.3	Occurs on open slopes in sagebrush scrub on vertic clay soils. Bloom period: April–June Elevation: 1300-1850 m	**No potential to occur**. Project site is outside of the known elevational range of the species, and there is no suitable habitat on or adjacent to the project site. There are no known records within 3 miles of the project site.	No
Brodiaea filifolia Thread-leaved brodiaea	Threatened	Endangered	1B.1	Occurs in openings on clay soils in chaparral, cismontane woodland, coastal scrub, playas, valley and foothill grassland, and vernal pool habitats. Bloom period: March–June Elevation: 15-1020m	**No potential to occur**. Suitable habitat for this species is not present on or adjacent to the project site, and the soils on the project site have been subjected to numerous disturbances that would prevent its occurrence. There are no known records within 3 miles of the project site.	No
Calochortus catalinae Catalina mariposa lily	—	—	4.2	Occurs in chaparral, cismontane woodland, coastal scrub, and valley and foothill grassland habitats. Bloom period: March–June Elevation: < 700 m	**No potential to occur**. Suitable habitat for this species is not present on or adjacent to the project site, and the soils on the project site have been subjected to numerous disturbances that would prevent its occurrence. There are no known records within 3 miles of the project site.	No
Calochortus palmeri var. *palmeri* Palmer's mariposa-lily	—	—	1B.2	Occurs in wet meadows in chaparral, yellow pine forest, and wetland-riparian habitats. Bloom period: April–July Elevation: 1200-2200 m	**No potential to occur**. Project site is outside of the known elevational range of the species, and there is no suitable habitat on or adjacent to the project site. There are no known records within 3 miles of the project site.	No

Scientific Name Common Name	Status			Habitat Description[4]	Potential to Occur and Rationale	Included in Impact Analysis
	USFWS[1]	CDFW[2]	CNPS[3]			
Calochortus plummerae Plummer's mariposa-lily	—	—	4.2	Occurs on rocky and sandy sites, usually of granitic alluvial material, in coastal sage and Riversidean alluvial fan sage scrub, chaparral, valley and foothill grassland, cismontane woodland, and lower montane coniferous forest habitats. Can be very common after fire. Bloom period: May–July Elevation: 100-1700 m	**No potential to occur**. Suitable habitat for this species is not present on or adjacent to the project site, and the soils on the project site have been subjected to numerous disturbances that would prevent its occurrence. There is one known record of this species within 3 miles of the project site, observed in 1997.	No
Carex comosa Bristly sedge	—	—	2B.1	Occurs in mesic/saturated soils on edges of wetlands, lake-margins, and riparian areas. Blooming period: May–September Elevation: < 400 m	**No potential to occur**. Suitable habitat for this species is not present on or adjacent to the project site. There are no known records within 3 miles of the project site.	No
Fimbristylis thermalis Hot springs fimbristylis	—	—	2B.2	Occurs in wetlands in freshwater marshes, springs, meadows, and riparian habitats. Blooming period: July–September Elevation: 110-1340 m	**No potential to occur**. Suitable habitat for this species is not present on or adjacent to the project site. There are no known records within 3 miles of the project site.	No
Imperata brevifolia California satintail	—	—	2B.1	Occurs in wet springs, meadows, streambanks, and floodplains Bloom period: September–May Elevation: < 500 m	**No potential to occur**. Suitable habitat for this species is not present on or adjacent to the project site. There is one known record of this species within 3 miles of the project site, observed in 1891.	No
Juncus duranii Duran's rush	—	—	4.3	Occurs on mesic soils in lower and upper montane coniferous forests and meadows and seeps habitats. Blooming period: July–August Elevation: 1800-2750 m	**No potential to occur**. Project site is outside of the known elevational range of the species, and there is no suitable habitat on or adjacent to the project site. There are no known records within 3 miles of the project site.	No
Lilium humboldtii ssp. *ocellatum* Ocellated Humboldt lily	—	—	4.2	Occurs in openings in chaparral, cismontane woodland, coastal scrub, lower montane coniferous forest, and riparian woodland habitats. Blooming period: March–August Elevation: < 1800 m	**No potential to occur**. Suitable habitat for this species is not present on or adjacent to the project site. There are no known records within 3 miles of the project site.	No
Lilium parryi Lemon lily	—	—	1B.2	Occurs in meadows and streams in montane conifer forests. Blooming period: July–August Elevation: 1300--2600 m	**No potential to occur**. Project site is outside of the known elevational range of the species, and there is no suitable habitat on or adjacent to the project site. There are no known records within 3 miles of the project site.	No

Scientific Name Common Name	Status			Habitat Description[4]	Potential to Occur and Rationale	Included in Impact Analysis
	USFWS[1]	CDFW[2]	CNPS[3]			
Muhlenbergia californica California muhly	—	—	4.3	Occurs in mesic soils in seeps and streambanks in chaparral, coastal scrub, lower montane coniferous forest, and meadows and seeps habitats. Blooming period: June–September Elevation: 100-2000 m	**No potential to occur**. Suitable habitat for this species is not present on or adjacent to the project site. There are no known records within 3 miles of the project site.	No
Piperia leptopetala Narrow-petaled rein orchid	—	—	4.3	Occurs in cismontane woodland and lower and upper montane coniferous forest habitats. Blooming period: May–July Elevation: < 2200 m	**No potential to occur**. Suitable habitat for this species is not present on or adjacent to the project site. There are no known records within 3 miles of the project site.	No
Schoenus nigricans Black bog-rush	—	—	2B.2	Occurs in marshes, swamps, and springs, generally on alkaline soils Blooming period: August–September Elevation: < 1500 m	**No potential to occur**. Suitable habitat for this species is not present on or adjacent to the project site. There are no known records within 3 miles of the project site.	No
Sphenopholis obtusata Prairie wedge grass	—	—	2B.2	Occurs in wet meadows, streambanks, and ponds. Blooming period: April–June Elevation: 240-2870 m	**No potential to occur**. Suitable habitat for this species is not present on or adjacent to the project site. There are no known records within 3 miles of the project site.	No
Dicots						
Abronia villosa var. *aurita* Chaparral sand-verbena	—	—	1B.1	Occurs in sandy soils in chaparral, coastal scrub, and desert dunes habitats. Blooming period: January–September Elevation: < 1600 m	**No potential to occur**. Suitable habitat for this species is not present on or adjacent to the project site, and the soils on the project site have been subjected to numerous disturbances that would prevent its occurrence. There are no known records within 3 miles of the project site.	No
Acanthoscyphus parishii var. *parishii* Parish's oxytheca	—	—	4.2	Occurs in sandy or gravelly soils in chaparral and lower montane coniferous forest habitats. Blooming period: June–September Elevation: 1900-2600 m	**No potential to occur**. Project site is outside of the known elevational range of the species, and there is no suitable habitat on or adjacent to the project site. There are no known records within 3 miles of the project site.	No
Ambrosia monogyra Singlewhorl burrobrush	—	—	2B.2	Occurs in washes and dry riverbeds in chaparral habitat. Blooming period: August–November Elevation: < 500 m	**No potential to occur**. Suitable habitat for this species is not present on or adjacent to the project site. There are no known records within 3 miles of the project site.	No

Scientific Name Common Name	Status			Habitat Description[4]	Potential to Occur and Rationale	Included in Impact Analysis
	USFWS[1]	CDFW[2]	CNPS[3]			
Ambrosia pumila San Diego ambrosia	Endangered	—	1B.1	Occurs on upper terraces of rivers and drainages. Also found in openings in coastal sage scrub and areas adjacent to vernal pools. Blooming period: April–October Elevation: 33-1950 m	**No potential to occur**. Suitable habitat for this species is not present on or adjacent to the project site, and the soils on the project site have been subjected to numerous disturbances that would prevent its occurrence. There are no known records within 3 miles of the project site.	No
Arenaria paludicola Marsh sandwort	Endangered	Endangered	1B.1	Occurs in sandy soils in freshwater marshes and swamps in dense mats of *Typha*, *Juncus*, and *Scirpus*. Blooming period: May–August Elevation: < 300 m	**No potential to occur**. Project site is outside of the known elevational range of the species, and there is no suitable habitat on or adjacent to the project site. There is one known record of this species within 3 miles of the project site, observed in 1899.	No
Artemisia palmeri San Diego sagewort	—	—	4.2	Occurs in sandy, mesic soils in chaparral, coastal scrub, riparian forest, riparian scrub, and riparian woodland habitats. Blooming period: February–September Elevation: < 600 m	**No potential to occur**. Suitable habitat for this species is not present on or adjacent to the project site. There are no known records within 3 miles of the project site.	No
Astragalus hornii var. *hornii* Horn's milk-vetch	—	—	1B.1	Occurs on salty flats, alkali sinks, lake shores, and riparian habitats. Blooming period: May–October Elevation: 60-300 m	**No potential to occur**. Project site is outside of the known elevational range of the species, and there is no suitable habitat on or adjacent to the project site. There are no known records within 3 miles of the project site.	No
Berberis nevinii Nevin's barberry	Endangered	Endangered	1B.1	Occurs on steep, north-facing slopes or in low grade sandy washes in chaparral, cismontane woodland, coastal sage and Riversidean alluvial fan sage scrub, and riparian scrub habitats. Blooming period: March–June Elevation: 290-1575 m	**No potential to occur**. Suitable habitat for this species is not present on or adjacent to the project site. There are no known records within 3 miles of the project site. This conspicuous shrub was not observed during the biological field survey.	No
Castilleja lasiorhyncha San Bernardino Mountains owl's-clover	—	—	1B.2	Occurs in meadows, flats, pebble plains, and open forest habitats. Blooming period: May–August Elevation: 1000-2400 m	**No potential to occur**. Project site is outside of the known elevational range of the species, and there is no suitable habitat on or adjacent to the project site. There are no known records within 3 miles of the project site.	No
Caulanthus simulans Payson's jewelflower	—	—	4.2	Occurs in sandy and granitic soils in chaparral and coastal scrub habitats. Blooming period: March–may Elevation: 400-2200 m	**No potential to occur**. Project site is outside of the known elevational range of the species, and there is no suitable habitat on or adjacent to the project site. There are no known records within 3 miles of the project site.	No

Scientific Name Common Name	Status			Habitat Description[4]	Potential to Occur and Rationale	Included in Impact Analysis
	USFWS[1]	CDFW[2]	CNPS[3]			
Centromadia pungens ssp. *laevis* Smooth tarplant	—	—	1B.1	Occurs in alkali meadow, alkali scrub, and disturbed places in valley and foothill grassland, chenopod scrub, meadows, playas, and riparian woodland habitats. Bloom period: April–September Elevation: 0–640 m	**No potential to occur**. Suitable habitat for this species is not present on or adjacent to the project site. There are no known records within 3 miles of the project site.	No
Chloropyron maritimum ssp. *maritimum* Salt marsh bird's-beak	Endangered	Endangered	1B.2	Occurs in coastal salt marsh. Blooming period: May–October Elevation: < 10 m	**No potential to occur**. Suitable habitat for this species is not present on or adjacent to the project site. There is one known record of this species within 3 miles of the project site, observed in 1888.	No
Chorizanthe leptotheca Peninsular spineflower	—	—	4.2	Occurs on alluvial fans with granitic soils in chaparral, coastal scrub, and lower montane coniferous forest habitats. Bloom period: May–August Elevation: 300-1600 m	**No potential to occur**. Suitable habitat for this species is not present on or adjacent to the project site. There are no known records within 3 miles of the project site.	No
Chorizanthe parryi var. *parryi* Parry's spineflower	—	—	1B.1	Occurs on sandy soils in chaparral, coastal sage and Riversidean alluvial fan sage scrub habitats. Blooming period: April–June Elevation: 90-800 m	**No potential to occur**. Suitable habitat for this species is not present on or adjacent to the project site, and the soils on the project site have been subjected to numerous disturbances that would prevent its occurrence. There are four known records of this species within 3 miles of the project site, last observed in 2006.	No
Chorizanthe xanti var. *leucotheca* White-bracted spineflower	—	—	1B.2	Occurs on sandy or gravelly soils in creosote bush scrub and pinyon-juniper woodland. Also found on alluvial fans in coastal sage and Riversidean alluvial fan sage scrub habitat. Blooming period: April–June Elevation: 300-1300 m	**No potential to occur**. Suitable habitat for this species is not present on or adjacent to the project site, and the soils on the project site have been subjected to numerous disturbances that would prevent its occurrence. There are no known records within 3 miles of the project site.	No
Convolvulus simulans Small-flowered morning-glory	—	—	4.2	Occurs in clay, serpentinite soils and seeps in open chaparral, coastal scrub, and valley and foothill grassland habitats. Blooming period: April–June Elevation: 30-875 m	**No potential to occur**. Suitable habitat for this species is not present on or adjacent to the project site. There are no known records within 3 miles of the project site.	No
Cuscuta obtusiflora var. *glandulosa* Peruvian dodder	—	—	2B.2	Occurs on herbs including *Alternanthera*, *Dalea*, *Lythrum*, *Polygonum*, *Xanthium*. Blooming period: July–October Elevation: +- < 500 m	**No potential to occur**. Suitable habitat and hosts for this species are not present on or adjacent to the project site. There are no known records within 3 miles of the project site.	No

Scientific Name Common Name	Status			Habitat Description[4]	Potential to Occur and Rationale	Included in Impact Analysis
	USFWS[1]	CDFW[2]	CNPS[3]			
Cylindropuntia californica var. *californica* Snake cholla	—	—	1B.1	Occurs in chaparral and coastal scrub habitats. Blooming period: April–July Elevation: < 250 m	**No potential to occur**. Project site is outside of the known elevational range of the species, and there is no suitable habitat on or adjacent to the project site. There are no known records within 3 miles of the project site. This conspicuous cactus was not observed during the biological field survey.	No
Deinandra paniculate Paniculate tarplant	—	—	4.2	Occurs in vernally mesic soils and sometimes sandy soils in coastal scrub, valley and foothill grassland, and vernal pool habitats. Blooming period: March–December Elevation: < 1320 m	**No potential to occur**. Suitable habitat and hosts for this species are not present on or adjacent to the project site. There are no known records within 3 miles of the project site.	No
Dodecahema leptoceras Slender-horned spineflower	Endangered	Endangered	1B.1	Occurs on sandy soils on flood deposited terraces and washes in chaparral, cismontane woodland, and coastal sage and Riversidean alluvial fan sage scrub habitats. Associates include *Encelia*, *Dalea*, and *Lepidospartum*. Blooming period: April–June Elevation: 200-765 m	**No potential to occur**. Suitable habitat for this species is not present on or adjacent to the project site, and the soils on the project site have been subjected to numerous disturbances that would prevent its occurrence. There are five known records of this species within 3 miles of the project site, last observed in 2010.	No
Eriastrum densifolium ssp. *sanctorum* Santa Ana River woollystar	Endangered	Endangered	1B.1	Occurs on sandy soils on river floodplains or terraced fluvial deposits in chaparral and coastal sage and Riversidean alluvial fan sage scrub habitats. Blooming period: May–September Elevation: 180-700 m	**No potential to occur**. Suitable habitat for this species is not present on or adjacent to the project site, and the soils on the project site have been subjected to numerous disturbances that would prevent its occurrence. There are two known records of this species within 3 miles of the project site, last observed in 2018.	No
Eriophyllum lanatum var. *obovatum* Southern Sierra woolly sunflower	—	—	4.2	Occurs on sandy loam soils in lower and upper montane coniferous forest habitats. Blooming period: June–July Elevation: 1300-2500 m	**No potential to occur**. Project site is outside of the known elevational range of the species, and there is no suitable habitat on or adjacent to the project site. There are no known records within 3 miles of the project site.	No
Frasera neglecta Pine green-gentian	—	—	4.3	Occurs in lower and upper montane coniferous forest and pinyon and juniper woodland habitats. Blooming period: May–July Elevation: 1400-2500 m	**No potential to occur**. Project site is outside of the known elevational range of the species, and there is no suitable habitat on or adjacent to the project site. There are no known records within 3 miles of the project site.	No

Scientific Name Common Name	Status			Habitat Description[4]	Potential to Occur and Rationale	Included in Impact Analysis
	USFWS[1]	CDFW[2]	CNPS[3]			
Galium californicum ssp. *primum* Alvin Meadow bedstraw	—	—	1B.2	Occurs in shady areas at lower elevations in Jeffrey and Coulter pine forests. Blooming period: May–July Elevation: 1350-1700 m	**No potential to occur**. Project site is outside of the known elevational range of the species, and there is no suitable habitat on or adjacent to the project site. There are no known records within 3 miles of the project site.	No
Galium johnstonii Johnston's bedstraw	—	—	4.3	Occurs in chaparral, lower montane coniferous forest, pinyon and juniper woodland, and riparian woodland habitats. Blooming period: June–July Elevation: 1650-2300 m	**No potential to occur**. Project site is outside of the known elevational range of the species, and there is no suitable habitat on or adjacent to the project site. There are no known records within 3 miles of the project site.	No
Helianthus nuttallii ssp. *parishii* Los Angeles sunflower	—	—	1A	Occurs in freshwater and salt marshes in coastal areas. Blooming period: August–October Elevation: < 500 m	**No potential to occur**. Suitable habitat for this species is not present on or adjacent to the project site. There are no known records within 3 miles of the project site.	No
Heuchera caespitosa Urn-flowered alumroot	—	—	4.3	Occurs on rocky soils in cismontane woodland, lower and upper montane coniferous forest, and montane riparian forest habitats. Blooming period: May–August Elevation: 1900-2300 m	**No potential to occur**. Project site is outside of the known elevational range of the species, and there is no suitable habitat on or adjacent to the project site. There are no known records within 3 miles of the project site.	No
Heuchera parishii Parish's alumroot	—	—	1B.3	Occurs in rocky places in yellow pine forest, Red fir forest, subalpine forest, and alpine fell-fields. Blooming period: June–August Elevation: 1500-3800 m	**No potential to occur**. Project site is outside of the known elevational range of the species, and there is no suitable habitat on or adjacent to the project site. There are no known records within 3 miles of the project site.	No
Horkelia cuneata var. *puberula* Mesa horkelia	—	—	1B.1	Occurs on sandy or gravelly soils in chaparral, cismontane woodland, and coastal sage and Riversidean alluvial fan sage scrub habitats. Blooming period: February–July Elevation: 70-870 m	**No potential to occur**. Suitable habitat for this species is not present on or adjacent to the project site, and the soils on the project site have been subjected to numerous disturbances that would prevent its occurrence. There are no known records within 3 miles of the project site.	No
Hulsea vestita ssp. *parryi* Parry's sunflower	—	—	4.3	Occurs in rocky openings on granitic or carbonate soils in lower and upper montane coniferous forests and pinyon and juniper woodland habitats. Blooming period: April–August Elevation: 2000-2500 m	**No potential to occur**. Project site is outside of the known elevational range of the species, and there is no suitable habitat on or adjacent to the project site. There are no known records within 3 miles of the project site.	No

Scientific Name Common Name	Status			Habitat Description[4]	Potential to Occur and Rationale	Included in Impact Analysis
	USFWS[1]	CDFW[2]	CNPS[3]			
Ivesia argyrocoma var. *argyrocoma* Silver-haired ivesia	—	—	1B.2	Occurs on pebble plains in red fir and yellow pine forest habitats. Blooming period: June–August Elevation: 1450-2300 m	**No potential to occur**. Project site is outside of the known elevational range of the species, and there is no suitable habitat on or adjacent to the project site. There are no known records within 3 miles of the project site.	No
Juglans californica Southern California black walnut	—	—	4.2	Occurs on alluvial soils in chaparral, cismontane woodland, coastal scrub, and riparian woodland habitats. Blooming period: March–August Elevation: 30-900 m	**No potential to occur**. Suitable habitat for this species is not present on or adjacent to the project site. There are no known records within 3 miles of the project site. This conspicuous tree was not observed during the biological field survey.	No
Lasthenia glabrata ssp. *coulteri* Coulter's goldfields	—	—	1B.1	Occurs on alkaline soils in playas, sinks, grasslands, coastal salt marshes, and vernal pools. Bloom period: February–July Elevation: 1-1200 m	**No potential to occur**. Suitable habitat for this species is not present on or adjacent to the project site. There are no known records within 3 miles of the project site.	No
Lepidium virginicum var. *robinsonii* Robinson's pepper-grass	—	—	4.3	Occurs on dry soils in chaparral and coastal sage and Riversidean alluvial fan sage scrub habitats. Blooming period: January–July Elevation: 1-855 m	**No potential to occur**. Suitable habitat for this species is not present on or adjacent to the project site, and the soils on the project site have been subjected to numerous disturbances that would prevent its occurrence. There are no known records within 3 miles of the project site.	No
Lycium parishii Parish's desert-thorn	—	—	2B.3	Occurs on sandy to rocky slopes and canyons in creosote bush scrub and coastal sage and Riversidean alluvial fan sage scrub habitats. Blooming period: March–April Elevation: < 1000 m	**No potential to occur**. Suitable habitat for this species is not present on or adjacent to the project site. There are no known records within 3 miles of the project site. This conspicuous shrub was not observed during the biological field survey.	No
Malacothamnus parishii Parish's bush-mallow	—	—	1A	The one record for this species is in an area that is now developed and urbanized, but it likely supported Riversidean alluvial fan sage scrub habitat at the time of observation in 1895.	**No potential to occur**. Suitable habitat for this species is not present on or adjacent to the project site. Species is known from one specimen collected in San Bernardino in 1895 and is likely extirpated. This record is within 3 miles of the project site.	No
Monardella macrantha ssp. *hallii* Hall's monardella	—	—	1B.3	Occurs in chaparral, foothill woodland, yellow pine forest, mixed evergreen forest, and valley grassland habitats. Blooming period: June–October Elevation: 600-2000 m	**No potential to occur**. Project site is outside of the known elevational range of the species, and there is no suitable habitat on or adjacent to the project site. There are no known records within 3 miles of the project site.	No

Scientific Name Common Name	Status			Habitat Description[4]	Potential to Occur and Rationale	Included in Impact Analysis
	USFWS[1]	CDFW[2]	CNPS[3]			
Monardella pringlei Pringle's monardella	—	—	1A	Occurs on sandy soils in interior sand dune, coastal sage and Riversidean alluvial fan sage scrub habitats. Blooming period: Elevation: 300-400 m	**No potential to occur**. Suitable habitat for this species is not present on or adjacent to the project site, and the soils on the project site have been subjected to numerous disturbances that would prevent its occurrence. There are no known records within 3 miles of the project site.	No
Monardella saxicola Rock monardella	—	—	4.3	Occurs in rocky, usually serpentinite soils in closed-cone coniferous forest, chaparral, and lower montane coniferous forest habitats. Blooming period: June–September Elevation: 425-1800 m	**No potential to occur**. Project site is outside of the known elevational range of the species, and there is no suitable habitat on or adjacent to the project site. There are no known records within 3 miles of the project site.	No
Myosurus minimus ssp. *apus* Little mousetail				Occurs in mesic, alkaline soils in valley and foothill grassland and vernal pool habitats. Blooming period: March–June Elevation: < 2100 m	**No potential to occur**. Suitable habitat for this species is not present on or adjacent to the project site. There are no known records within 3 miles of the project site.	No
Nasturtium gambelii Gambel's water cress	Endangered	Threatened	1B.1	Occurs in freshwater and brackish marshes and at the margins of lakes and along streams in or just above the water level. Blooming period: April–October Elevation: 5-330 m	**No potential to occur**. Project site is outside of the known elevational range of the species, and there is no suitable habitat on or adjacent to the project site. There are no known records within 3 miles of the project site.	No
Opuntia basilaris var. *brachyclada* Short-joint beavertail	—	—	1B.2	Occurs in chaparral and oak/pine woodland habitats. Blooming period: April–June Elevation: 1200-1800 m	**No potential to occur**. Project site is outside of the known elevational range of the species, and there is no suitable habitat on or adjacent to the project site. There are no known records within 3 miles of the project site.	No
Perideridia parishii ssp. *parishii* Parish's yampah	—	—	2B.2	Occurs in damp meadows and seeps in lower and upper montane coniferous forest habitats. Blooming period: June–August Elevation: 2000-3000 m	**No potential to occur**. Project site is outside of the known elevational range of the species, and there is no suitable habitat on or adjacent to the project site. There are no known records within 3 miles of the project site.	No
Phacelia mohavensis Mojave phacelia	—	—	4.3	Occurs on sandy or gravelly soils in cismontane woodland, lower montane coniferous forest, meadows and seeps, and pinyon and juniper woodland habitats. Blooming period: April–August Elevation: 900-2570 m	**No potential to occur**. Project site is outside of the known elevational range of the species, and there is no suitable habitat on or adjacent to the project site. There are no known records within 3 miles of the project site.	No

Scientific Name Common Name	Status			Habitat Description[4]	Potential to Occur and Rationale	Included in Impact Analysis
	USFWS[1]	CDFW[2]	CNPS[3]			
Phacelia stellaris Brand's star phacelia	—	—	1B.1	Occurs in open areas in coastal dune, coastal sage and Riversidean alluvial fan sage scrub habitats. Blooming period: March–June Elevation: < 400 m	**No potential to occur**. Suitable habitat for this species is not present on or adjacent to the project site, and the soils on the project site have been subjected to numerous disturbances that would prevent its occurrence. There are no known records within 3 miles of the project site.	No
Pickeringia montana var. *tomentosa* Woolly chaparral-pea	—	—	4.3	Occurs in gabbroic, granitic, and clay soils in chaparral habitats. Blooming period: May–August Elevation: < 1700 m	**No potential to occur**. Suitable habitat for this species is not present on or adjacent to the project site. There are no known records within 3 miles of the project site.	No
Ribes divaricatum var. *parishii* Parish's gooseberry	—	—	1A	Occurs in moist or riparian woodland habitat. Blooming period: February–April Elevation: 60-310 m	**No potential to occur**. Project site is outside of the known elevational range of the species, and there is no suitable habitat on or adjacent to the project site. There are no known records within 3 miles of the project site.	No
Romneya coulteri Coulter's matilija poppy	—	—	4.2	Occurs in chaparral and coastal scrub habitats, often following fires. Blooming period: March–August Elevation: < 1200 m	**No potential to occur**. Suitable habitat for this species is not present on or adjacent to the project site. There are no known records within 3 miles of the project site.	No
Senecio aphanactis Chaparral ragwort	—	—	2B.2	Occurs on alkaline flats and dry, open, rocky areas in chaparral, cismontane woodland, and coastal sage and Riversidean alluvial fan sage scrub habitat. Blooming period: January–April Elevation: 10-800 m	**No potential to occur**. Suitable habitat for this species is not present on or adjacent to the project site, and the soils on the project site have been subjected to numerous disturbances that would prevent its occurrence. There are no known records within 3 miles of the project site.	No
Senecio astephanus San Gabriel ragwort	—	—	4.3	Occurs on rocky slopes in coastal bluff scrub and chaparral habitats. Blooming period: May–July Elevation: 400-1500 m	**No potential to occur**. Project site is outside of the known elevational range of the species, and there is no suitable habitat on or adjacent to the project site. There are no known records within 3 miles of the project site.	No
Sidalcea malviflora ssp. *dolosa* Bear Valley checkerbloom	—	—	1B.2	Occurs in meadows and seeps in lower montane coniferous forest, riparian woodland, and upper montane coniferous forest habitats. Blooming period: May–August Elevation: 1500-2300 m	**No potential to occur**. Project site is outside of the known elevational range of the species, and there is no suitable habitat on or adjacent to the project site. There are no known records within 3 miles of the project site.	No
Sidalcea neomexicana Salt spring checkerbloom	—	—	2B.2	Occurs in alkaline springs and marshes. Blooming period: March–June Elevation: < 1500 m	**No potential to occur**. Suitable habitat for this species is not present on or adjacent to the project site. There are no known records within 3 miles of the project site.	No

Scientific Name Common Name	Status			Habitat Description[4]	Potential to Occur and Rationale	Included in Impact Analysis
	USFWS[1]	CDFW[2]	CNPS[3]			
Sidotheca caryophylloides Chickweed oxytheca	—	—	4.3	Occurs on sandy soils in lower montane coniferous forest habitat. Blooming period: July–October Elevation: 1300-2600 m	**No potential to occur**. Project site is outside of the known elevational range of the species, and there is no suitable habitat on or adjacent to the project site. There are no known records within 3 miles of the project site.	No
Streptanthus bernardinus Laguna Mountains jewelflower	—	—	4.3	Occurs on mountain slopes in montane conifer forest and chaparral habitats. Blooming period: March–August Elevation: 1200-2500 m	**No potential to occur**. Project site is outside of the known elevational range of the species, and there is no suitable habitat on or adjacent to the project site. There are no known records within 3 miles of the project site.	No
Streptanthus campestris Southern jewelflower	—	—	1B.3	Occurs on open, rocky areas in conifer forest, chaparral, and woodland habitats. Blooming period: May–July Elevation: 900-2300 m	**No potential to occur**. Project site is outside of the known elevational range of the species, and there is no suitable habitat on or adjacent to the project site. There are no known records within 3 miles of the project site.	No
Symphyotrichum defoliatum San Bernardino aster	—	—	1B.2	Occurs in mesic areas such as ditches, streams, and springs in cismontane woodland, coastal sage and Riversidean alluvial fan sage scrub, lower montane coniferous forest, meadows and seeps, marshes and swamps, and vernally mesic valley and foothill grassland habitats. Blooming period: July–November Elevation: < 2050 m	**No potential to occur**. Suitable habitat for this species is not present on or adjacent to the project site, and the soils on the project site have been subjected to numerous disturbances that would prevent its occurrence. There are no known records within 3 miles of the project site.	No

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B.2 - Special-status Wildlife Species Potentially Occurring on the Project Site

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Table B.2: Special-status Wildlife Species Potentially Occurring on the Project Site

Scientific Name Common Name	Status		Habitat Description[3]	Potential to Occur and Rationale	Included in Impact Analysis
	USFWS[1]	CDFW[2]			
Invertebrates					
Streptocephalus woottoni Riverside fairy shrimp	Endangered	—	Occurs in deep lowland vernal pools that retain water for 2-8 months and occur on Diablo, Huerhuero, Redding, Stockpen, Linnea, Placentia, Olivenhain, and Salinas soil series in flat to gently sloping landscapes.	**No potential to occur**. Suitable habitat for this species is not present on or adjacent to the project site. There are no known records within 3 miles of the project site.	No
Bombus crotchii Crotch bumble bee	—	Candidate	Occurs in grassland and scrubland habitats. Nests in abandoned rodent burrows.	**No potential to occur**. Suitable habitat for this species is not present on or adjacent to the project site. There are no known records within 3 miles of the project site.	No
Bombus morrisoni Morrison bumble bee	—	—	Occurs in scrubland habitat. It nests underground and aboveground in structures and grass hummocks. Food plants include *Cirsium*, *Cleome*, *Helianthus*, *Lupinus*, *Chrysothamnus*, *Melilotus*	**No potential to occur**. Suitable habitat for this species is not present on or adjacent to the project site. There are no known records within 3 miles of the project site.	No
Carolella busckana Busck's gallmoth	—	—	Occurs in coastal scrub dunes.	**No potential to occur**. Suitable habitat for this species is not present on or adjacent to the project site. There are no known records within 3 miles of the project site.	No
Ceratochrysis longimala Desert cuckoo wasp	—	—	Occurs in sandy soils and dry areas in the upper Sonoran Desert.	**No potential to occur**. Suitable habitat for this species is not present on or adjacent to the project site. There are no known records within 3 miles of the project site.	No
Cicindela tranquebarica viridissima Greenest tiger beetle	—	—	Occurs in sandy areas and dunes in riparian woodlands.	**No potential to occur**. Suitable habitat for this species is not present on or adjacent to the project site. There are no known records within 3 miles of the project site.	No
Euchloe hyantis andrewsi Andrew's marble butterfly	—	—	Occurs in rocky canyons, cliffs, moraines, gravelly flats, hills, and washes. Host plants include *Streptanthus bernardinus*, *Arabis holboellii*, and *Thelypodium stenopetalum*.	**No potential to occur**. Suitable habitat and host species for this species are not present on or adjacent to the project site. There are no known records within 3 miles of the project site.	No
Euphydryas editha quino Quino checkerspot butterfly	Endangered	—	Occurs in grasslands, coastal sage scrub, chamise chaparral, red shank chaparral, juniper woodland, and semi-desert scrub habitats. Larval host plants are native species of plantain.	**No potential to occur**. Project site is outside of the known range of the species, and there is no suitable habitat on or adjacent to the project site. There are no known records within 3 miles of the project site.	No

Scientific Name Common Name	Status		Habitat Description[3]	Potential to Occur and Rationale	Included in Impact Analysis
	USFWS[1]	CDFW[2]			
Rhaphiomidas terminatus abdominalis Delhi Sands flower-loving fly	Endangered	—	Occurs on fine sandy soils of the Delhi series (primarily Delhi fine sand), often on wholly or partly sand dunes stabilized by sparse native vegetation.	**No potential to occur**. Suitable habitat for this species is not present on or adjacent to the project site. There are no known records within 3 miles of the project site.	No
Fish					
Catostomus santaanae Santa Ana sucker	Threatened	—	Occurs in smaller, permanent streams with cool water and depths ranging from a few centimeters to over 1 m.	**No potential to occur**. Suitable habitat for this species is not present on or adjacent to the project site. There are no known records within 3 miles of the project site.	No
Gila orcuttii Arroyo chub	—	SSC	Occurs in slow water stream sections with mud or sand bottoms.	**No potential to occur**. Suitable habitat for this species is not present on or adjacent to the project site. There are no known records within 3 miles of the project site.	No
Oncorhynchus mykiss irideus pop. 10 Steelhead - southern California DPS	Endangered	—	Occurs in Pacific coast streams, including the Santa Ana River.	**No potential to occur**. Suitable habitat for this species is not present on or adjacent to the project site. There is one known record, from 1950, within 3 miles of the project site.	No
Rhinichthys osculus ssp. 3 Santa Ana speckled dace	—	SSC	Occurs in small springs, streams, large rivers, and deep lakes, including headwaters of the Santa Ana and San Gabriel Rivers.	**No potential to occur**. Suitable habitat for this species is not present on or adjacent to the project site. There are no known records within 3 miles of the project site.	No
Amphibians					
Batrachoseps gabrieli San Gabriel slender salamander	—	—	Occurs on extensive rock talus on forested mountain slopes, often near a stream at elevations between 850-2,380 m.	**No potential to occur**. Project site is outside of the known elevational range of the species, and there is no suitable habitat on or adjacent to the project site. There are no known records within 3 miles of the project site.	No
Rana draytonii California red-legged frog	Threatened	SSC	Occurs in mesic forests in valleys and foothills near ponds or streams. May also occur in grasslands and coastal sage and Riversidean alluvial fan sage scrub near aquatic habitat. Breeds in permanent or ephemeral water sources, including lakes, ponds, reservoirs, slow streams, marshes, bogs, and swamps. Near ephemeral wetland habitats, require animal burrows or other moist refuges for estivation when the wetlands are dry.	**No potential to occur**. Suitable habitat for this species is not present on or adjacent to the project site. There are no known records within 3 miles of the project site.	No

Scientific Name Common Name	Status		Habitat Description[3]	Potential to Occur and Rationale	Included in Impact Analysis
	USFWS[1]	CDFW[2]			
Rana muscosa Southern mountain yellow-legged frog	Endangered	Endangered; SSC	Occurs in lakes, ponds, meadow streams, isolated pools, and sunny riverbanks in montane habitat at elevations between 370-3,660 m. Prefers clear, deep pools in streams that range from rocky, steep drainages to those with a gentle gradient, marshy margins, and sod banks.	**No potential to occur**. Project site is outside of the known elevational range of the species, and there is no suitable habitat on or adjacent to the project site. There are no known records within 3 miles of the project site.	No
Spea hammondii Western spadefoot	—	SSC	Occurs in open areas with sandy or gravelly soils in mixed woodlands, grasslands, coastal sage and Riversidean alluvial fan sage scrub, chaparral, sandy washes, lowlands, river floodplains, alluvial fans, playas, alkali flats, foothills, and mountains. Breeds in ephemeral rain pools that do not contain bullfrogs, fish, or crayfish.	**Moderate potential to occur**. Marginally suitable habitat for this species may be present in undisturbed upland areas on the project site adjacent to the channelized drainage and drainage basin. There are no known records within 3 miles of the project site.	Yes
Reptiles					
Anniella stebbinsi Southern California legless lizard	—	SSC	Occurs in moist, loose soil in coastal sand dunes and a variety of interior habitats, including sandy washes and alluvial fans.	**Moderate potential to occur**. Marginally suitable habitat for this species may be present in ruderal habitats on and adjacent to the project site. There are four known records, last observed in 2016, within 3 miles of the project site. A 2005 record was in an orange orchard that had not been active in recent years. The 2016 record was on a former orchard that had been cleared, but likely not disturbed further. The regular and recent disking of the former orchards on the project site likely make the area less suitable for occurrence of this species. However, the orchards on the project site may support the occurrence of this species.	Yes
Arizona elegans occidentalis California glossy snake	—	SSC	Occurs in areas of rocky washes and loose, sandy soils and for burrowing in desert scrub grassland, coastal sage and Riversidean alluvial fan sage scrub, and chaparral habitats. Prefer open sandy areas with scattered brush, but also found in rocky areas.	**No potential to occur**. Suitable habitat for this species is not present on or adjacent to the project site. There are two known records, from 2013 and 2015, within 3 miles of the project site, both in Riversidean alluvial fan sage scrub habitat.	No
Aspidoscelis hyperythra Orange-throated whiptail	—	WL	Occurs primarily on coarse soils in open coastal sage and Riversidean alluvial fan sage scrub habitat.	**No potential to occur**. Suitable habitat for this species is not present on or adjacent to the project site. There are no known records within 3 miles of the project site.	No
Aspidoscelis tigris stejnegeri San Diegan tiger whiptail	—	SSC	Occurs in dry, open areas with sparse foliage in coastal sage and Riversidean alluvial fan sage scrub, chaparral, woodland, and riparian habitats.	**Present**. Species was observed on and adjacent to the project site during the biological survey. There are three known records, from 2014 and 2015, within 3 miles of the project site. One observation was in an area that supported remnant Riversidean fan sage scrub and annual grassland habitat near a storm drainage.	Yes

Scientific Name Common Name	Status		Habitat Description[3]	Potential to Occur and Rationale	Included in Impact Analysis
	USFWS[1]	CDFW[2]			
Charina umbratical Southern rubber boa	—	Threatened	Occurs in rocks and logs or other debris in oak-conifer and mixed-conifer forests at elevations between 5,000 and 8,200 ft.	**No potential to occur**. Project site is outside of the known elevational range of the species, and there is no suitable habitat on or adjacent to the project site. There are ten known records, from elevations between 5,400 to 6,200 feet above mean sea level, within 3 miles of the project site.	No
Coleonyx variegatus abbotti San Diego banded gecko	—	SSC	Occurs in rocky areas in coastal sage scrub and chaparral habitats.	**No potential to occur**. Suitable habitat for this species is not present on or adjacent to the project site. There are no known records within 3 miles of the project site.	No
Crotalus ruber Red-diamond rattlesnake	—	SSC	Occurs in arid, rocky areas in creosote scrub, coastal sage and Riversidean alluvial fan sage scrub, chaparral, oak and pine woodlands, grasslands, on cultivated areas.	**No potential to occur**. Suitable habitat for this species is not present on or adjacent to the project site. There is one known record, from 2010, within 3 miles of the project site, in an undeveloped area near a large, rocky wash.	No
Diadophis punctatus modestus San Bernardino ringneck snake	—	—	Occurs in moist habitats, including wet meadows, rocky hillsides, gardens, farmland, grassland, chaparral, mixed coniferous forests, woodlands.	**No potential to occur**. Suitable habitat for this species is not present on or adjacent to the project site. There are no known records within 3 miles of the project site.	No
Actinemys pallida Southwestern pond turtle	—	SSC	Occurs in ponds, lakes, rivers, streams, marshes, and irrigation ditches with abundant vegetation and either rocky or muddy bottoms in woodland, forest, and grassland habitats.	**No potential to occur**. Suitable habitat for this species is not present on or adjacent to the project site. There are no known records within 3 miles of the project site.	No
Phrynosoma blainvillii Coast horned lizard	—	SSC	Occurs in open areas with sandy soil and low vegetation in grasslands, coniferous forests, woodlands, and chaparral.	**No potential to occur**. Suitable habitat for this species is not present on or adjacent to the project site. There are three known records, from 1926, 1925, and 1991, within 3 miles of the project site. The 1991 observation was in the Santa Ana River wash.	No
Salvadora hexalepis virgultea Coast patch-nosed snake	—	SSC	Occurs in canyons and rocky hillsides in chaparral, coastal sage and Riversidean alluvial fan sage scrub habitats.	**No potential to occur**. Suitable habitat for this species is not present on or adjacent to the project site. There are no known records within 3 miles of the project site.	No
Thamnophis hammondii Two-striped gartersnake	—	SSC	Occurs in rocky areas near water sources such as pools and streams in oak woodland, willow, coastal sage and Riversidean alluvial fan sage scrub, scrub oak, sparse pine, chaparral, and brushland habitats.	**No potential to occur**. Suitable habitat for this species is not present on or adjacent to the project site. There are two known records, from 2014, within 3 miles of the project site. These observations were in an area supporting Riversidean alluvial fan scrub and chaparral habitats near a large, rocky wash.	No

Scientific Name Common Name	Status		Habitat Description[3]	Potential to Occur and Rationale	Included in Impact Analysis
	USFWS[1]	CDFW[2]			
Birds					
Accipiter cooperii Cooper's hawk	—	CFG; WL	Occurs and nests in deciduous and mixed forests and open woodland habitats. Year-round resident in southern California.	**Moderate potential to occur**. Marginally suitable nesting habitat for this species in the eucalyptus stands on and adjacent to the project site. There are no known records within 3 miles of the project site.	Yes
Agelaius tricolor Tricolored blackbird	—	Threatened; SSC; CFG	Occurs and nests in large freshwater marshes with dense stands of hydrophytic vegetation (cattails, bulrushes, etc.). Short-distance migrant.	**No potential to occur**. Suitable habitat for this species is not present on or adjacent to the project site. There are no known records within 3 miles of the project site.	No
Aimophila ruficeps canescens Southern California rufous-crowned sparrow	—	CFG; WL	Occurs and nests on steep, often rocky hillsides with grass and forb patches in coastal sage and Riversidean alluvial fan sage scrub and sparse mixed chaparral habitats. Year-round resident in southern California.	**No potential to occur**. Suitable habitat for this species is not present on or adjacent to the project site. There are no known records within 3 miles of the project site.	No
Artemisiospiza belli belli Bell's sage sparrow	—	CFG; WL	Occurs and nests in coastal sage and Riversidean alluvial fan sage scrub and chaparral habitats. Year-round resident in southern California.	**No potential to occur**. Suitable habitat for this species is not present on or adjacent to the project site. There are no known records within 3 miles of the project site.	No
Athene cunicularia Burrowing owl	—	SSC; CFG	Occurs and nests in open, dry annual or perennial grasslands, deserts, and scrublands characterized by low-growing vegetation. A subterranean nester, dependent upon burrowing mammals, most notably the California ground squirrel. Short-distance migrant.	**Low potential to occur**. Marginally suitable nesting habitat for this species in bare areas (cleared orchard lands) on and adjacent to the project site. However, the cleared orchard lands are disked regularly and recently and there are no California ground squirrels occupying these areas. There are two known records, from 1983 and 2006, within 3 miles of the project site. Both records are associated with airports.	Yes
Baeolophus inornatus Oak titmouse	—	CFG	Occurs and nests in oak and oak-pine woodlands. Year-round resident in southern California.	**No potential to occur**. Suitable habitat for this species is not present on or adjacent to the project site. There are no known records within 3 miles of the project site.	No
Buteo regalis Ferruginous hawk	—	CFG; WL	Occurs and nests in open, arid grasslands, prairie, deserts, and shrub steppe habitats. Short-distance migrant in southern California.	**No potential to occur**. Suitable habitat for this species is not present on or adjacent to the project site. There are no known records within 3 miles of the project site.	No

Scientific Name Common Name	Status		Habitat Description[3]	Potential to Occur and Rationale	Included in Impact Analysis
	USFWS[1]	CDFW[2]			
Buteo swainsoni Swainson's hawk	—	Threatened; CFG	Occurs and nests in grasslands with scattered trees, juniper-sage flats, riparian areas, savannahs, and agricultural or ranch lands with groves or lines of trees. Requires adjacent suitable foraging areas such as grasslands, or alfalfa or grain fields supporting rodent populations. Long-distance migrant.	**No potential to occur**. Suitable habitat for this species is not present on or adjacent to the project site. There are no known records within 3 miles of the project site.	No
Coccyzus americanus occidentalis Western yellow-billed cuckoo	Threatened	Endangered	Occurs and nests in riparian forest along the broad lower flood-bottoms of larger river systems. Found in riparian jungles of willow, often mixed with cottonwoods; understory consists of blackberry, nettles, and wild grape. Long-distance migrant.	**No potential to occur**. Suitable habitat for this species is not present on or adjacent to the project site. There is one known record, from 1930, within 3 miles of the project site.	No
Coturnicops noveboracensis Yellow rail	—	SSC; CFG	Occurs and nests in shallow marshes, and wet meadows; in winter, drier freshwater and brackish marshes, as well as dense, deep grass, and rice fields. Long-distance migrant.	**No potential to occur**. Suitable habitat for this species is not present on or adjacent to the project site. There are no known records within 3 miles of the project site.	No
Empidonax traillii extimus Southwestern willow flycatcher	Endangered	Endangered	Occurs and nests in dense riparian woodlands. Long-distance migrant.	**No potential to occur**. Suitable habitat for this species is not present on or adjacent to the project site. There are no known records within 3 miles of the project site.	No
Eremophila alpestris actia California horned lark	—	CFG; WL	Occurs and nests in open areas with sparse vegetation. Year-round resident in southern California.	**Moderate potential to occur**. Marginally suitable foraging and nesting habitat for this species in bare areas (cleared orchard lands) on and adjacent to the project site. There is one known record, from 2001, within 3 miles of the project site.	Yes
Falco columbarius Merlin	—	WL	Occurs in open grasslands, savannahs, woodlands, lakes, wetlands, edges, and early successional stages in valley grasslands to ponderosa pine and montane hardwood-conifer habitats. Winter resident in California; does not nest in California.	**No potential to occur**. Suitable habitat for this species is not present on or adjacent to the project site. There are no known records within 3 miles of the project site.	No
Haliaeetus leucocephalus Bald eagle	Delisted	Endangered; FP; CFG	Occurs and nests near large water bodies such as sea coasts, coastal estuaries and inland lakes and rivers. Typically found within 3 km of a water source. Long-distance migrant.	**No potential to occur**. Suitable habitat for this species is not present on or adjacent to the project site. There are no known records within 3 miles of the project site.	No
Icteria virens Yellow-breasted chat	—	SSC; CFG	Occurs and nests in riparian thickets of willow and other bushy tangles near watercourses. Long-distance migrant.	**No potential to occur**. Suitable habitat for this species is not present on or adjacent to the project site. There are no known records within 3 miles of the project site.	No

Scientific Name Common Name	Status		Habitat Description[3]	Potential to Occur and Rationale	Included in Impact Analysis
	USFWS[1]	CDFW[2]			
Lanius ludovicianus Loggerhead shrike	—	SSC; CFG	Occurs and nests in broken woodlands, savannah, pinyon-juniper, Joshua tree, and riparian woodlands, desert oases, scrub & washes. Prefers open country for hunting, with perches for scanning, and fairly dense shrubs and brush for nesting.	**Low potential to occur**. Marginally suitable foraging habitat for this species may be present on or adjacent to the project site adjacent to bare areas (cleared orchard lands). There are no known records within 3 miles of the project site.	Yes
Laterallus jamaicensis coturniculus California black rail	—	Threatened; FP	Occurs and nests in freshwater marshes, wet meadows, and shallow margins of saltwater marshes bordering larger bays. Needs water depths of about 1 inch that do not fluctuate during the year and dense vegetation for nesting habitat.	**No potential to occur**. Suitable habitat for this species is not present on or adjacent to the project site. There are no known records within 3 miles of the project site.	No
Polioptila californica californica Coastal California gnatcatcher	Threatened	SSC; CFG	Occurs and nests in arid washes, on mesas, and slopes in coastal sage scrub below 2500 ft. Year-round resident in California.	**No potential to occur**. Suitable habitat for this species is not present on or adjacent to the project site. There is one known record, from 1995, within 3 miles of the project site in Riversidean alluvial fan sage scrub habitat in the Santa Ana River wash.	No
Setophaga petechia Yellow warbler	—	SSC; CFG	Occurs and nests in willow shrubs and thickets, cottonwoods, sycamores, ash, and alders, predominantly in riparian habitats. Long-distance migrant.	**No potential to occur**. Suitable habitat for this species is not present on or adjacent to the project site. There are no known records within 3 miles of the project site.	No
Spinus lawrencei Lawrence's goldfinch	—	—	Occurs and nests in oak and pine woodlands and chaparral, usually near water. Long-distance migrant.	**No potential to occur**. Suitable habitat for this species is not present on or adjacent to the project site. There are no known records within 3 miles of the project site.	No
Vireo bellii pusillus Least Bell's vireo			Occurs and nests in low riparian habitat in the vicinity of water or in dry river bottoms. Long-distance migrant.	**No potential to occur**. Suitable habitat for this species is not present on or adjacent to the project site. There is one known record, from 2016, within 3 miles of the project site in a wash in southern willow riparian scrub habitat.	No
Mammals					
Antrozous pallidus Pallid bat	—	SSC	Occurs in deserts, grasslands, shrublands, woodlands, and forests. Most common in open, dry habitats with rocky areas for roosting. Roosts must protect bats from high temperatures. Species is very sensitive to disturbance of roosting sites.	**No potential to occur**. Suitable habitat for this species is not present on or adjacent to the project site. There is one known record, from 1929, within 3 miles of the project site.	No
Chaetodipus fallax fallax Northwestern San Diego pocket mouse	—	SSC	Occurs in sandy, herbaceous areas, usually in association with rocks or coarse gravel, in coastal sage and Riversidean alluvial fan sage scrub, chaparral, and grasslands.	**No potential to occur**. Suitable habitat for this species is not present on or adjacent to the project site. There are six known records, from 2001 and 2002, within 3 miles of the project site in Riversidean alluvial fan sage scrub habitat.	No

Scientific Name Common Name	Status		Habitat Description[3]	Potential to Occur and Rationale	Included in Impact Analysis
	USFWS[1]	CDFW[2]			
Chaetodipus fallax pallidus Pallid San Diego pocket mouse	—	SSC	Occurs in sandy, herbaceous areas, usually in association with rocks or coarse gravel, in coastal sage and Riversidean alluvial fan sage scrub, chaparral, and grasslands.	**No potential to occur**. Suitable habitat for this species is not present on or adjacent to the project site. There are no known records within 3 miles of the project site.	No
Dipodomys merriami parvus San Bernardino kangaroo rat	Endangered	Candidate; SSC	Occurs on sandy loam substrates on first terraces and floodplains of washes in Riversidean alluvial fan sage scrub habitat.	**No potential to occur**. Suitable habitat for this species is not present on or adjacent to the project site. There are ten known records, from 1989 to 2017, within 3 miles of the project site and mostly in Riversidean alluvial fan sage scrub habitat. One record from 2004 was in a recently disked agricultural field. Habitat assessment performed for this species indicated no suitable habitat on site.	No
Dipodomys stephensi Stephens' kangaroo rat	Endangered	Threatened	Occurs primarily in annual and perennial grasslands, but also occurs in coastal sage scrub with sparse canopy cover. Can burrow into firm soil.	**No potential to occur**. Suitable habitat for this species is not present on or adjacent to the project site. There are no known records within 3 miles of the project site.	No
Eumops perotis californicus Western mastiff bat	—	SSC	Occurs in many open, semi-arid to arid habitats, including conifer and deciduous woodlands, coastal scrub, grasslands, chaparral. Roosts in crevices in cliff faces, high buildings, trees, and tunnels.	**No potential to occur**. Suitable habitat for this species is not present on or adjacent to the project site. There are two known records, from 1991 and 1992, within 3 miles of the project site.	No
Glaucomys oregonensis californicus San Bernardino flying squirrel	—	SSC	Occurs in California black oak or white fir dominated woodlands with large trees in mixed coniferous-deciduous forest and occasionally broad-leaf-deciduous forest habitats in montane areas.	**No potential to occur**. Suitable habitat for this species is not present on or adjacent to the project site. There are no known records within 3 miles of the project site.	No
Lasiurus xanthinus Western yellow bat	—	SSC	Occurs in valley foothill riparian, desert riparian, desert wash, and palm oasis habitats. Roosts in skirts of dead fronds in both native and non-native palm trees.	**No potential to occur**. Suitable habitat for this species is not present on or adjacent to the project site. There are two known records, from 1998, within 3 miles of the project site.	No
Lepus californicus bennettii San Diego black-tailed jackrabbit	—	SSC	Occurs in intermediate canopy stages of shrub habitats, open shrub, herbaceous tree, and herbaceous edges.	**No potential to occur**. Suitable habitat for this species is not present on or adjacent to the project site. There are no known records within 3 miles of the project site.	No
Neotoma lepida intermedia San Diego desert woodrat	—	SSC	Occurs in rock outcrops, rocky cliffs, and slopes in coastal sage and Riversidean alluvial fan sage scrub with moderate to dense canopies.	**No potential to occur**. Suitable habitat for this species is not present on or adjacent to the project site. There are two known records, from 2002 and 2007, within 3 miles of the project site in Riversidean alluvial fan sage scrub habitat.	No

Scientific Name Common Name	Status		Habitat Description[3]	Potential to Occur and Rationale	Included in Impact Analysis
	USFWS[1]	CDFW[2]			
Nyctinomops femorosaccus Pocketed free-tailed bat	—	SSC	Occurs in pine-juniper woodlands, desert scrub, palm oasis, desert wash, and desert riparian habitats. Roosts in caves, crevices, mines, tunnels, and man-made structures.	**No potential to occur**. Suitable habitat for this species is not present on or adjacent to the project site. There is one known record, from 1985, within 3 miles of the project site.	No
Onychomys torridus ramona Southern grasshopper mouse	—	SSC	Occurs on sandy soils on flat valley floor grassland and open coastal sage scrub habitats.	**No potential to occur**. Suitable habitat for this species is not present on or adjacent to the project site. There are no known records within 3 miles of the project site.	No
Perognathus alticola alticola White-eared pocket mouse	—	SSC	Occurs in bracken fern and grassy flats in yellow pine forest, but may also occur in chaparral, sagebrush scrub and pinyon juniper woodland habitats.	**No potential to occur**. Suitable habitat for this species is not present on or adjacent to the project site. There are no known records within 3 miles of the project site.	No
Perognathus longimembris brevinasus Los Angeles pocket mouse	—	SSC	Occurs in open areas with fine, sandy soils in lower elevation grasslands and coastal sage and Riversidean alluvial fan sage scrub habitats.	**No potential to occur**. Suitable habitat for this species is not present on or adjacent to the project site. There is one known record, from 2006, within 3 miles of the project site in Riversidean alluvial fan sage scrub habitat.	No
Taxidea taxus American badger	—	SSC	Occurs in drier open stages of most shrub, forest, and herbaceous habitats with friable soils. Requires sufficient food sources (rodents), friable soils, and open, uncultivated ground. Digs large burrows.	**No potential to occur**. Suitable habitat for this species is not present on or adjacent to the project site. There are no known records within 3 miles of the project site.	No

Code Designations

[1] Federal Status: 2020 USFWS Listing

- **ESU** = Evolutionary Significant Unit is a distinctive population.
- **FE** = Listed as endangered under the FESA.
- **FT** = Listed as threatened under the FESA.
- **FC** = Candidate for listing (threatened or endangered) under FESA.
- **FD** = Delisted in accordance with the FESA.
- **FPD** = Federally Proposed to be Delisted.
- **MBTA** = protected by the Migratory Bird Treaty Act
- **—** = Not federally listed

[2] State Status: 2020 CDFW Listing

- **SE** = Listed as endangered under the CESA.
- **ST** = Listed as threatened under the CESA.
- **SSC** = Species of Special Concern as identified by the CDFW.
- **FP** = Listed as fully protected under FGC.
- **CFG** = FGC =protected by FGC 3503.5
- **CR** = Rare in California.
- **WL** = Watch List.
- **—** = Not state listed

[3] **Habitat description**: Habitat description adapted from CNDDB (CDFW 2018a).

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Appendix C:
Previous Reports Prepared in Support of the Project

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C.1 - FCS (2019) Biological Resources Due Diligence Memo

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FIRSTCARBON SOLUTIONS™

Memo

Date: March 21, 2019

To: Matt Maehara, Assistant Forward Planning Manager
MLC Holdings, Inc.
5 Peters Canyon Road, Suite 310
Irvine, CA 92606

From: Robert Carroll, Project Biologist

Subject: Redlands Residential Project—Biological Resources Due Diligence Memo

Introduction

The Redlands Residential Project is a 46-acre site located on an existing orchard fields. The site is generally located on the north side of West Domestic Avenue and west of Texas Street in the City of Redlands, County of San Bernardino (Exhibit 1). The proposed project consists of developing several lots of existing orchard fields for residential housing. MLC Holdings, Inc. has requested a reconnaissance-level biological survey of the project site and due diligence memorandum. The goal of this survey is to characterize the existing habitat and search for the presence of sensitive natural communities, special-status plants and wildlife, jurisdictional areas, and potential wildlife corridors.

Environmental Setting

FirstCarbon Solutions (FCS) authored a due diligence memorandum to document current existing biological conditions for the project site. The site is located within the Redlands United States Geological Survey (USGS) 7.5 minute Quadrangle Map and primarily consists of a citrus orchard located along West Domestic Avenue in the City of Redlands. The site is bound by the Citrus Valley High School campus to the south, Texas Street and single-family homes to the east, citrus orchards to the north, and Interstate 210 (I-210) and the Santa Ana River to the west (Exhibit 2). The site shows evidence of current agricultural use and is designated as Agricultural land by the City of Redlands 2035 General Plan. Trash and several large concrete slabs were observed throughout the site.

Source: Census 2000 Data, The CaSIL

FIRSTCARBON SOLUTIONS™

5 2.5 0 5 Miles

Exhibit 1
Regional Location Map

Source: ESRI Aerial Imagery.

FIRSTCARBON SOLUTIONS™

2,000 1,000 0 2,000
Feet

Exhibit 2
Local Vicinity Map

REGULATORY SETTING

This section provides an overview of the laws and regulations that are applicable to the proposed project.

Federal Regulations

Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) implements international treaties between the United States and other nations devised to protect migratory birds, their parts, eggs, and nests from activities such as hunting, pursuing, capturing, killing, selling, and shipping, unless expressly authorized in the regulations or by permit. The State of California has incorporated the protection of birds of prey in Sections 3800, 3513, and 3503.5 of the Fish and Game Code. All raptors and their nests are protected from take or disturbance under the MBTA (16 United States Code [USC] § 703, *et seq*.) and California statute (Fish and Game Code [FGC] § 3503.5). The golden eagle (*Aquila chrysaetos*) and bald eagle (*Haliaeetus leucocephalus*) are also afforded additional protection under the Eagle Protection Act, amended in 1973 (16 USC § 669, *et seq*.) and the Bald and Golden Eagle Protection Act (16 USC §§ 668–668d).

Clean Water Act

Section 404

The United States Army Corps of Engineers (USACE) administers Section 404 of the federal Clean Water Act (CWA), which regulates the discharge of dredge and fill material into waters of the United States. The USACE has established a series of nationwide permits that authorize certain activities in waters of the United States, if a proposed activity can demonstrate compliance with standard conditions. Normally, the USACE requires an individual permit for an activity that will affect an area equal to or in excess of 0.5 acre of waters of the United States. Projects that result in impacts to less than 0.5 acre can normally be conducted pursuant to one of the nationwide permits, if consistent with the standard permit conditions. The USACE also has discretionary authority to require an Environmental Impact Statement for projects that result in impacts to an area between 0.1 and 0.5 acre. Use of any nationwide permit is contingent on the activities having no impacts to endangered species.

Section 401

As stated in Section 401 of the CWA, “any applicant for a federal permit for activities that involve a discharge to waters of the State, shall provide the Federal permitting agency a certification from the State in which the discharge is proposed that states that the discharge will comply with the applicable provisions under the Federal Clean Water Act.” Therefore, before the USACE will issue a Section 404 permit, applicants must apply for and receive a Section 401 Water Quality Certification from the Regional Water Quality Control Board (RWQCB).

State Regulations

California Fish and Game Code

Under the California Endangered Species Act (CESA), the California Department of Fish and Wildlife (CDFW) has the responsibility for maintaining a list of endangered and threatened species (FGC § 2070). Sections 2050 through 2098 of the Fish and Game Code outline the protection provided to California's rare, endangered, and threatened species. Section 2080 of the Fish and Game Code prohibits the taking of plants and animals listed under the CESA. Section 2081 established an incidental take permit program for state-listed species. The CDFW maintains a list of "candidate species," which it formally notices as being under review for addition to the list of endangered or threatened species.

In addition, the Native Plant Protection Act of 1977 (NPPA) (FGC § 1900, *et seq*.) prohibits the taking, possessing, or sale within the State of any plants with a State designation of rare, threatened, or endangered (as defined by the CDFW). An exception to this prohibition in the NPPA allows landowners, under specified circumstances, to take listed plant species, provided that the owners first notify the CDFW and give the agency at least 10 days to come and retrieve (and presumably replant) the plants before they are plowed under or otherwise destroyed. (Fish and Game Code Section 1913 exempts from "take" prohibition "the removal of endangered or rare native plants from a canal, lateral ditch, building site, or road, or other right of way.") Project impacts to these species are not considered significant unless the species are known to have a high potential to occur within the area of disturbance associated with construction of the proposed project.

The CDFW also maintains lists of "Species of Special Concern" that serve as species "watch lists." The CDFW has identified many Species of Special Concern. Species with this status have limited distribution or the extent of their habitats has been reduced substantially, such that their populations may be threatened. Thus, their populations are monitored, and they may receive special attention during environmental review. While they do not have statutory protection, they may be considered rare under the California Environmental Quality Act (CEQA) and thereby warrant specific protection measures.

Sensitive species that would qualify for listing but are not currently listed are afforded protection under CEQA. CEQA Guidelines Section 15065 (Mandatory Findings of Significance) requires that a substantial reduction in numbers of a rare or endangered species be considered a significant effect. CEQA Guidelines Section 15380 (Rare or Endangered Species) provides for the assessment of unlisted species as rare or endangered under CEQA if the species can be shown to meet the criteria for listing. Unlisted plant species on the California Native Plant Society's (CNPS's) Lists 1A, 1B, and 2 would typically be considered under CEQA.

Sections 3500 to 5500 of the Fish and Game Code outline protection for fully protected species of mammals, birds, reptiles, amphibians, and fish. Species that are fully protected by these sections may not be taken or possessed at any time. The CDFW cannot issue permits or licenses that authorize the take of any fully protected species, except under certain circumstances such as scientific research and live capture and relocation of such species pursuant to a permit for the protection of livestock.

Under Section 3503.5 of the Fish and Game Code, it is unlawful to take, possess, or destroy any birds in the orders of *Falconiformes* or *Strigiformes* (birds of prey) or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by this code or any regulation adopted pursuant thereto. To comply with the requirements of CESA, an agency reviewing a proposed project within its jurisdiction must determine whether any State-listed endangered or threatened species may be present in the project study area and determine whether the proposed project will have a potentially significant impact on such species. In addition, the CDFW encourages informal consultation on any proposed project that may impact a candidate species.

Project-related impacts to species on the CESA endangered or threatened list would be considered significant. State-listed species are fully protected under the mandates of CESA. "Take" of protected species incidental to otherwise lawful management activities may be authorized under Fish and Game Code Section 206.591. Authorization from the CDFW would be in the form of an Incidental Take Permit.

Section 1602 of the Fish and Game Code requires any entity to notify the CDFW before beginning any activity that "may substantially divert or obstruct the natural flow of, or substantially change or use any material from the bed, channel, or bank of any river, stream, or lake" or "deposit debris, waste, or other materials that could pass into any river, stream, or lake." "River, stream, or lake" includes waters that are episodic and perennial; and ephemeral streams, desert washes, and watercourses with a subsurface flow. A Lake or Streambed Alteration Agreement will be required if the CDFW determines that project activities may substantially adversely affect fish or wildlife resources through alterations to a covered body of water.

California Porter-Cologne Water Quality Control Act

The RWQCB regulates actions that would involve "discharging waste, or proposing to discharge waste, within any region that could affect the water of the state" (Water Code § 13260(a)), pursuant to provisions of the Porter-Cologne Water Quality Act. "Waters of the State" are defined as "any surface water or groundwater, including saline waters, within the boundaries of the state" (Water Code § 13050(e)).

California Department of Fish and Wildlife Species of Concern

In addition to formal listing under FESA and CESA, species receive additional consideration by the CDFW and local lead agencies during the CEQA process. Species that may be considered for review are included on a list of "Species of Special Concern," developed by the CDFW. It tracks species in California whose numbers, reproductive success, or habitat may be threatened. In addition to Species of Special Concern, the CDFW identifies animals that are tracked by the California Natural Diversity Database (CNDDB), but warrant no federal interest and no legal protection. These species are identified as California Special Animals.

California Native Plant Society

The CNPS maintains a rank of plant species native to California that has low population numbers, limited distribution, or are otherwise threatened with extinction. This information is published in the Inventory of

Rare and Endangered Vascular Plants of California. Potential impacts to populations of CNPS ranked plants receive consideration under CEQA review. The following identifies the definitions of the CNPS ranks:

- **Rank 1A:** Plants presumed Extinct in California
- **Rank 1B:** Plants Rare, Threatened, or Endangered in California and elsewhere
- **Rank 2:** Plants Rare, Threatened, or Endangered in California, but more numerous elsewhere
- **Rank 3:** Plants about which we need more information—A Review List
- **Rank 4:** Plants of limited distribution—A Watch List

All plants appearing on CNPS List 1 or 2 are considered to meet the CEQA Guidelines Section 15380 criteria. While only some of the plants ranked 3 and 4 meet the definitions of threatened or endangered species, the CNPS recommends that all Rank 3 and Rank 4 plants be evaluated for consideration under CEQA.

Local Regulations

City of Redlands

Biological resource related principles and actions of the City of Redlands 2035 General Plan serve to guide the location, design, and quality of development in order to protect important wildlife, plants, and their associated habitats.

- **Principle 6-P.1:** Develop a balanced and integrated open space system that reflects a variety of considerations, including resource conservation, production of agriculture, recreation, aesthetics, and community identity.
- **Principle 6-P.5:** Encourage the preservation of natural habitat areas as open space.
- **Principle 6-P.6:** Promote access to and views of conservation areas in a manner consistent with good land resource stewardship.
- **Action 6-A.1:** Preserve as open space those areas that contain unique habitats, natural resources, and visual amenities such as citrus groves, hillsides, canyons, and waterways. These areas provide natural contrast with the urban cityscape.
- **Action 6-A.7:** Work with San Bernardino County, neighboring cities, conservation organizations, and landowners to maintain and enhance the trails, roadways, and lands within the Emerald Necklace, and to ensure that sensitive resources in these areas are not disturbed or degraded.
- **Action 6-A.8:** Provide sufficient resources for the maintenance of trails and conservation areas through both volunteer and City mechanisms.
- **Principle 6-P.7:** Protect environmentally sensitive lands, wildlife habitats, and rare, threatened, or endangered plant and animal communities.
- **Principle 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.

- **Principle 6-P.9:** Preserve, protect, and enhance wildlife corridors, including natural watercourses, connecting the San Bernardino National Forest, Santa Ana River Wash, Crafton Hills, San Timoteo and Live Oak Canyons, the Badlands, and other open space areas.
- **Action 6-A.11:** Require a biological assessment of any proposed project site within the Planning Area where species that are State or federally listed as rare, threatened, or endangered are identified as potentially present.
- **Action 6-A.12:** Require that proposed projects adjacent to, surrounding, or containing wetlands, riparian corridors, or wildlife corridors be subject to a site-specific analysis that will determine the appropriate size and configuration of a buffer zone.
- **Action 6-A.13:** Utilize conservation easements and preserves as means to conserve natural habitats.
- **Action 6-A.14:** Construct freeway and arterial street undercrossings or overpasses where necessary to establish and preserve identified wildlife corridors.
- **Action 6-A.20:** Work with State and County agencies in developing recovery and restoration plans after natural or manmade disasters to restore natural landscapes, habitats, and functioning ecosystems. As part of the recovery and restoration plans, include evaluation processes and implementation actions. Where appropriate, incorporate the use of native species.
- **Action 6-A.21:** Ensure that future activities in the Santa Ana River Wash are consistent with the habitat conservation policies of the Upper Santa Ana River Land Management Habitat Conservation Plan (Wash Plan).

METHODOLOGY

Analysis of the biological resources associated with the project site entailed a thorough review of relevant literature followed by a reconnaissance-level field survey. The survey area included the entire project site as well as the site's immediate vicinity. The objectives of the survey were to document existing site conditions, identify environmental constraints, and determine the potential presence of special-status species.

Literature Review and Results

A literature review was conducted to provide a baseline from which to evaluate the biological resources potentially occurring on the site and in the surrounding area. The review was based on a search of the CDFW CNDDB (CDFW 2019), a special-status species and plant community account database, and the California Native Plant Society Electronic Inventory (CNPSEI) of Rare and Endangered Vascular Plants of California database (CNPS 2019) for the Redlands California USGS 7.5-minute quadrangle map.

A review of the CNDDB database and CNPSEI database for special-status species resulted in 28 special-status species and 8 rare and endangered vascular plants, respectively, with the potential to occur in the Redlands California USGS 7.5-minute quadrangle map. The database search results are attached (Attachment A).

Reconnaissance-Level Field Survey and Results

FCS biologists conducted the reconnaissance-level field survey on October 17, 2018. Weather conditions during the field survey were sunny with clear skies and an average temperature of 72°F (degrees Fahrenheit). The occasional gust of wind ranged between 0-5 miles per hour. The habitat within the project site is agricultural, consisting primarily of citrus trees, with open disked areas. A man-made homeless encampment was found along the western edge of the site near I-210.

The site is composed of agricultural land that has been previously disked or otherwise physically altered to an extent that native understory vegetation is no longer supported. The site is surrounded by ruderal grassland and other agricultural fields. Vegetation within the project site primarily consists of citrus trees; in addition to willow (*Salix* spp.), tree tobacco (*Nicotiana glauca*), eucalyptus (*Eucalyptus globulus*) and English ivy (*Hedera helix*) near the drainage feature found within the northwestern part of the site.

Burrows were present throughout the site, likely resulting from ground squirrel or gopher populations. The vegetation community and land cover types discussed above provide habitat for non-native and generalist wildlife species that are able to tolerate high levels of habitat disturbance. These species include small mammals and birds such as raccoon (*Procyon lotor*), mouse (*Mus musculus*), American crow (*Corvus brachyrhynchos*), and western scrub jay (*Aphelocoma californica*).

Species observed on-site during the survey include western fence lizard (*Sceloporus occidentalis*), yellow-rumped warbler (*Setophaga coronate*), American robin (*Turdus migratorius*), hermit thrush (*Catharus guttatus*), northern harrier (*Circus hudsonius*), house finch (*Haemorhous mexicanus*) and red-tailed hawk (*Buteo jamaicensis*). No threatened or endangered plant or wildlife species were observed during the reconnaissance-level field survey completed on October 17, 2018.

SUMMARY AND RECOMMENDATIONS

The following discussion addresses potential impacts to biological resources that could result from the project and recommends mitigation measures where appropriate to minimize those impacts to a level of “less than significant” under CEQA.

The project site provides habitat for a number of special-status wildlife species; however, it was determined that due to disturbance and a lack of suitable habitat on-site, no special-status plants are expected to occur. Trees found on-site may provide suitable habitat for species protected under the MBTA. The site contains suitable foraging and nesting habitat for various raptors, such as loggerhead shrike (*Lanius ludovicianus)*, and Cooper’s hawk (*Accipiter cooperii)*. Additionally, several raptors were observed displaying foraging behavior during the field survey. While there is a presence of suitable nesting habitat in the form of trees within the site for some bird species, the lack of dense thickets of contiguous riparian habitat would likely preclude species such as least Bell’s vireo (*Vireo bellii pusillus*), western yellow-billed cuckoo (*Coccyzus americanus occidentalis)*, southwestern willow flycatcher

(*Empidonax traillii extimus)*, and coastal California gnatcatcher (Polioptila californica californica). Western mastiff bat (*Eumops perotis californicus)* and pocketed free-ailed bat (*Nyctinomops femorosaccus)* also have the potential to occur on-site as there is roosting habitat, albeit marginal, within the project boundaries. Due to the burrows present on-site, the project site has the potential to impact burrowing owl (*Athene cunicularia*). Additionally, marginal habitat is present on-site for reptiles such as California glossy snake (*Arizona elegans occidentalis)*, coastal whiptail (*Aspidoscelis tigris stejnegeri)*, red diamond rattlesnake (*Crotalus ruber)* to occur on-site. Impacts to these special-status species would be considered a significant impact under CEQA. As such, it is recommended that pre-construction surveys be required in areas of specific project development as outlined below.

As mentioned above, the northwestern portion of the site contains a drainage feature that empties into the Santa Ana River that runs alongside I-210. Dependent on project design plans, and further surveying of this portion of the project site, this area may be considered a jurisdictional water feature regulated by the USACE, RWQCB, and CDFW. FCS recommends a delineation, as outlined below, to determine the extent of impacts that would potentially occur in these likely jurisdiction areas.

Citrus Valley High School, I-210, residential development, and other trafficked roads preclude significant wildlife movement throughout the greater project site and surrounding area. The project site does not fall within any Habitat Conservation Plan, regional or local, and will not have to follow any rules or regulations of any other Habitat Conservation Plan.

Mitigation Measures

Nesting Birds

Construction activities that occur during the nesting season (generally March 1 to August 31) would disturb nesting sites for birds protected by the MBTA and Fish and Game Code. No action is necessary if no active nests are found or if construction occurs during the non-breeding season (generally September 1 through February 14).

Implementation of the following avoidance and minimization measures would reduce impacts to nesting birds.

- To prevent impacts to MBTA-protected birds, nesting raptors, and their nests, removal of trees will be limited to only those necessary to construct the proposed project.
- If any tree removal is necessary, then it will occur outside the nesting season between September 1 and February 14. If trees cannot be removed outside the nesting season, pre-construction surveys will be conducted 3 days prior to tree removal to verify the absence of active nests.
- If an active nest is located during pre-construction surveys, the United States Fish and Wildlife Service and/or the CDFW (as appropriate) shall be notified regarding the status of the nest. Construction activities shall be restricted as necessary to avoid disturbance of the nest until it is abandoned or the agencies deem disturbance potential to be minimal. Restrictions may include

establishment of exclusion zones (no ingress of personnel or equipment at a minimum radius of 100 feet around an active raptor nest and a 50-foot radius around an active migratory bird nest) or alteration of the construction schedule.

- A qualified biologist will delineate the buffer using Environmentally Sensitive Area fencing, pin flags, and or yellow caution tape. The buffer zone will be maintained around the active nest site(s) until the young have fledged and are foraging independently.

Nesting Bats

Implementation of the following avoidance and minimization measures would reduce impacts to nesting bats, specifically to the western mastiff bat and the western yellow bat (*Lasiurus xanthinus*):

- If suitable roosting habitat for special-status bats will be affected by project construction (e.g., removal of buildings or trees or modification of bridges), a qualified wildlife biologist will conduct surveys for special-status bats during the appropriate time of day to maximize detectability to determine if bat species are roosting near the work area no less than 7 days and no more than 14 days prior to beginning ground disturbance and/or construction. Survey methodology may include visual surveys of bats (e.g., observation of bats during foraging period), inspection for suitable habitat, bat sign (e.g., guano), or use of ultrasonic detectors (Anabat, etc.). Visual surveys will include trees within 0.25 mile of project construction activities. The type of survey will depend on the condition of the potential roosting habitat. If no bat roosts are found, then no further study is required.
- If evidence of bat use is observed, the number and species of bats using the roost will be determined. Bat detectors may be used to supplement survey efforts.
- If roosts are determined to be present and must be removed, the bats will be excluded from the roosting site before the facility is removed. A mitigation program addressing compensation, exclusion methods, and roost removal procedures will be developed prior to implementation. Exclusion methods may include the use of one-way doors at roost entrances (bats may leave but cannot not reenter), or sealing roost entrances when the site can be confirmed to contain no bats. Exclusion efforts may be restricted during periods of sensitive activity (e.g., during hibernation or while females in maternity colonies are nursing young).
- If roosts cannot be avoided or it is determined that construction activities may cause roost abandonment, such activities may not commence until permanent, elevated bat houses have been installed outside of, but near to, the construction area. Placement and height will be determined by a qualified wildlife biologist, but the height of the bat house will be at least 15 feet. Bat houses will be multi-chambered and will be purchased or constructed in accordance with CDFW standards. The number of bat houses required will be dependent upon the size and number of colonies found, but at least one bat house will be installed for each pair of bats (if occurring individually), or of sufficient number to accommodate each colony of bats to be relocated.

Burrowing Owl

- No more than 30 days prior to the first ground-disturbing activities, the project applicant shall retain a qualified biologist to conduct a preconstruction survey on the project site. The survey shall establish the presence or absence of western burrowing owl and/or habitat features, and evaluate use by owls in accordance with CDFW survey guidelines.
- On the parcel where the activity is proposed, the biologist shall survey the proposed disturbance footprint and a 500-foot radius from the perimeter of the proposed footprint to identify burrows and owls. The survey shall take place near the sunrise or sunset in accordance with CDFW guidelines. All burrows or burrowing owls shall be identified and mapped. During the breeding season (February 1–August 31), surveys shall document whether burrowing owls are nesting on or directly adjacent to disturbance areas. During the non-breeding season (September 1–January 31), surveys shall document whether burrowing owls are using habitat on or directly adjacent to any disturbance area. Survey results will be valid only for the season during which the survey is conducted.
- If burrowing owls are not discovered, further mitigation is not required. If burrowing owls are observed during the pre-construction surveys, the applicant shall perform the following measures to limit the impact on the burrowing owls:
    1. Avoidance shall include establishment of a 160-foot non-disturbance buffer zone. Construction may occur during the breeding season if a qualified biologist monitors the nest and determines that the birds have not begun egg-laying and incubation, or that the juveniles from the occupied burrows have fledged. During the non-breeding season (September 1-January 31), the project proponent shall avoid the owls and the burrows they are using, if possible. Avoidance shall include the establishment of a 160-foot nondisturbance buffer zone.
    2. If it is not possible to avoid occupied burrows, passive relocation shall be implemented. Owls shall be excluded from burrows in the immediate impact zone and within a 160-foot buffer zone by installing one-way doors in burrow entrances. These doors shall be in place for 48 hours prior to excavation. The project area shall be monitored daily for 1 week to confirm that the owl has abandoned the burrow. Whenever possible, burrows should be excavated using hand tools and refilled to prevent re-occupation. Plastic tubing or a similar structure shall be inserted in the tunnels during excavation to maintain an escape route for any owls inside the burrow.

Special Status Reptiles

Preconstruction surveys for the presence special-status reptiles such as the California glossy snake, coastal whiptail, and red diamond rattlesnake shall be conducted immediately prior to the start of ground or vegetation disturbance during the spring and summer (April through August). The surveys shall be conducted by a qualified biologist and include the entire project site an appropriate buffer area. If special-status species are found, a qualified biologist shall relocate them to the nearest location, outside of potential project envelope.

Potential Jurisdictional Features

- A formal delineation is required to document the full extent of jurisdictional waters within the project site. Impacts to waters of the United States (i.e. USACE jurisdiction) would require a Section 404 Clean Water Act permit from the USACE and a Section 401 Water Quality Certification from the RWQCB. Impacts to riparian habitat under CDFW jurisdiction would require a Section 1602 Streambed Alteration Agreement from the CDFW. These permits shall be obtained prior to issuance of grading permits and implementation of the proposed project.
- The project applicant shall ensure that the project will result in no net loss of waters of the United States by providing mitigation through impact avoidance, impact minimization, and/or compensatory mitigation for the impact, as determined in the CWA Section 404/401 permit requirements.
- Compensatory mitigation may consist of (1) obtaining credits from a mitigation bank; (2) making a payment to an in-lieu fee program that will conduct wetland, stream, or other aquatic resource restoration, creation, enhancement, or preservation activities; and/or (3) providing compensatory mitigation through an aquatic resource restoration, establishment, enhancement, and/or preservation activity. This final type of compensatory mitigation may be provided at or adjacent to the impact site (i.e., on-site mitigation) or at another location, usually within the same watershed as the permitted impact (i.e., off-site mitigation). The project/permit applicant retains responsibility for the implementation and success of the mitigation project. Evidence of compliance with this mitigation measure shall be provided prior to initiating construction and grading activities for the proposed project.

REFERENCES

California Department of Fish and Wildlife (CDFW). 2019. CNDDB RareFind 5 California Natural Diversity Database Query for Special-Status Species. Website: https://map.dfg.ca.gov/rarefind/view/RareFind.aspx. Accessed March 7, 2019.

California Native Plant Society (CNPS). 2019. California Native Plant Society Rare and Endangered Plant Inventory. Website: http://www.rareplants.cnps.org/. Accessed March 7, 2019.

California Native Plant Society (CNPS). 2019. Rare Plant Program. Website: http://www.rareplants.cnps.org. Accessed March 7, 2019.

Attachment A:
CNDDB and CNPS Database Search Results

Selected Elements by Scientific Name

California Department of Fish and Wildlife

California Natural Diversity Database

Query Criteria: Quad IS (Redlands (3411712))

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Accipiter cooperii Cooper's hawk	ABNKC12040	None	None	G5	S4	WL
Aimophila ruficeps canescens southern California rufous-crowned sparrow	ABPBX91091	None	None	G5T3	S3	WL
Anniella stebbinsi southern California legless lizard	ARACC01060	None	None	G3	S3	SSC
Antrozous pallidus pallid bat	AMACC10010	None	None	G5	S3	SSC
Arenaria paludicola marsh sandwort	PDCAR040L0	Endangered	Endangered	G1	S1	1B.1
Arizona elegans occidentalis California glossy snake	ARADB01017	None	None	G5T2	S2	SSC
Aspidoscelis hyperythra orange-throated whiptail	ARACJ02060	None	None	G5	S2S3	WL
Aspidoscelis tigris stejnegeri coastal whiptail	ARACJ02143	None	None	G5T5	S3	SSC
Athene cunicularia burrowing owl	ABNSB10010	None	None	G4	S3	SSC
Berberis nevinii Nevin's barberry	PDBER060A0	Endangered	Endangered	G1	S1	1B.1
Bombus crotchii Crotch bumble bee	IIHYM24480	None	None	G3G4	S1S2	
Calochortus plummerae Plummer's mariposa-lily	PMLIL0D150	None	None	G4	S4	4.2
Carolella busckana Busck's gallmoth	IILEM2X090	None	None	G1G3	SH	
Centromadia pungens ssp. laevis smooth tarplant	PDAST4R0R4	None	None	G3G4T2	S2	1B.1
Chaetodipus fallax fallax northwestern San Diego pocket mouse	AMAFD05031	None	None	G5T3T4	S3S4	SSC
Chloropyron maritimum ssp. maritimum salt marsh bird's-beak	PDSCR0J0C2	Endangered	Endangered	G4?T1	S1	1B.2
Chorizanthe parryi var. parryi Parry's spineflower	PDPGN040J2	None	None	G3T2	S2	1B.1
Coccyzus americanus occidentalis western yellow-billed cuckoo	ABNRB02022	Threatened	Endangered	G5T2T3	S1	
Crotalus ruber red-diamond rattlesnake	ARADE02090	None	None	G4	S3	SSC
Cuscuta obtusiflora var. glandulosa Peruvian dodder	PDCUS01111	None	None	G5T4?	SH	2B.2

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Dipodomys merriami parvus San Bernardino kangaroo rat	AMAFD03143	Endangered	None	G5T1	S1	SSC
Dipodomys stephensi Stephens' kangaroo rat	AMAFD03100	Endangered	Threatened	G2	S2	
Dodecahema leptoceras slender-horned spineflower	PDPGN0V010	Endangered	Endangered	G1	S1	1B.1
Empidonax traillii extimus southwestern willow flycatcher	ABPAE33043	Endangered	Endangered	G5T2	S1	
Eremophila alpestris actia California horned lark	ABPAT02011	None	None	G5T4Q	S4	WL
Eriastrum densifolium ssp. sanctorum Santa Ana River woollystar	PDPLM03035	Endangered	Endangered	G4T1	S1	1B.1
Eumops perotis californicus western mastiff bat	AMACD02011	None	None	G5T4	S3S4	SSC
Icteria virens yellow-breasted chat	ABPBX24010	None	None	G5	S3	SSC
Imperata brevifolia California satintail	PMPOA3D020	None	None	G4	S3	2B.1
Lanius ludovicianus loggerhead shrike	ABPBR01030	None	None	G4	S4	SSC
Lasiurus xanthinus western yellow bat	AMACC05070	None	None	G5	S3	SSC
Lepidium virginicum var. robinsonii Robinson's pepper-grass	PDBRA1M114	None	None	G5T3	S3	4.3
Malacothamnus parishii Parish's bush-mallow	PDMAL0Q0C0	None	None	GXQ	SX	1A
Neotoma lepida intermedia San Diego desert woodrat	AMAFF08041	None	None	G5T3T4	S3S4	SSC
Nyctinomops femorosaccus pocketed free-tailed bat	AMACD04010	None	None	G4	S3	SSC
Oncorhynchus mykiss irideus pop. 10 steelhead - southern California DPS	AFCHA0209J	Endangered	None	G5T1Q	S1	
Perognathus longimembris brevinasus Los Angeles pocket mouse	AMAFD01041	None	None	G5T1T2	S1S2	SSC
Phrynosoma blainvillii coast horned lizard	ARACF12100	None	None	G3G4	S3S4	SSC
Polioptila californica californica coastal California gnatcatcher	ABPBJ08081	Threatened	None	G4G5T2Q	S2	SSC
Rana muscosa southern mountain yellow-legged frog	AAABH01330	Endangered	Endangered	G1	S1	WL
Rhinichthys osculus ssp. 3 Santa Ana speckled dace	AFCJB3705K	None	None	G5T1	S1	SSC

Selected Elements by Scientific Name

California Department of Fish and Wildlife

California Natural Diversity Database

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Ribes divaricatum var. parishii Parish's gooseberry	PDGRO020F3	None	None	G5TX	SX	1A
Riversidian Alluvial Fan Sage Scrub Riversidian Alluvial Fan Sage Scrub	CTT32720CA	None	None	G1	S1.1	
Setophaga petechia yellow warbler	ABPBX03010	None	None	G5	S3S4	SSC
Southern Coast Live Oak Riparian Forest Southern Coast Live Oak Riparian Forest	CTT61310CA	None	None	G4	S4	
Southern Sycamore Alder Riparian Woodland Southern Sycamore Alder Riparian Woodland	CTT62400CA	None	None	G4	S4	
Spea hammondii western spadefoot	AAABF02020	None	None	G3	S3	SSC
Taxidea taxus American badger	AMAJF04010	None	None	G5	S3	SSC
Thamnophis hammondii two-striped gartersnake	ARADB36160	None	None	G4	S3S4	SSC
Vireo bellii pusillus least Bell's vireo	ABPBW01114	Endangered	Endangered	G5T2	S2	

Record Count: 50

CNPS California Native Plant Society

Plant List

Inventory of Rare and Endangered Plants

8 matches found. *Click on scientific name for details*

Search Criteria

California Rare Plant Rank is one of [1B, 2B], FESA is one of [Endangered, Threatened], CESA is one of [Endangered, Threatened, Rare], Found in Quads 3411723, 3411722, 3411721, 3411713, 3411712, 3411711, 3311783 3311782 and 3311781;

Modify Search Criteria | Export to Excel | Modify Columns | Modify Sort | Display Photos

Scientific Name	Common Name	Family	Lifeform	Blooming Period	CA Rare Plant Rank	State Rank	Global Rank
Arenaria paludicola	marsh sandwort	Caryophyllaceae	perennial stoloniferous herb	May-Aug	1B.1	S1	G1
Berberis nevinii	Nevin's barberry	Berberidaceae	perennial evergreen shrub	(Feb)Mar-Jun	1B.1	S1	G1
Brodiaea filifolia	thread-leaved brodiaea	Themidaceae	perennial bulbiferous herb	Mar-Jun	1B.1	S2	G2
Chloropyron maritimum ssp. maritimum	salt marsh bird's-beak	Orobanchaceae	annual herb (hemiparasitic)	May-Oct (Nov)	1B.2	S1	G4?T1
Dodecahema leptoceras	slender-horned spineflower	Polygonaceae	annual herb	Apr-Jun	1B.1	S1	G1
Eriastrum densifolium ssp. sanctorum	Santa Ana River woollystar	Polemoniaceae	perennial herb	Apr-Sep	1B.1	S1	G4T1
Nasturtium gambelii	Gambel's water cress	Brassicaceae	perennial rhizomatous herb	Apr-Oct	1B.1	S1	G1
Sidalcea pedata	bird-foot checkerbloom	Malvaceae	perennial herb	May-Aug	1B.1	S1	G1

Suggested Citation

California Native Plant Society, Rare Plant Program. 2019. Inventory of Rare and Endangered Plants of California (online edition, v8-03 0.39). Website http://www.rareplants.cnps.org [accessed 07 March 2019].

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Questions and Comments

rareplants@cnps.org

C.2 - Rasnick (2019) Biological and Regulatory Constraint Analysis

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Maehara, Matt

From: Martin Rasnick <mrasnick@wetlandpermitting.com>
Sent: Tuesday, April 16, 2019 8:29 AM
To: Maehara, Matt
Subject: Redlands Property; Redlands: Biological and Regulatory Constraint Analysis

Dear Mr. Maehara:

Glenn Lukos Associates, Inc. (GLA) performed an analysis of potential biological and regulatory development constraints associated with the Redlands Property (the "Project") located in the City of Redlands, San Bernardino County, California[1]. The constraint analysis was based on the review of existing information available to us, combined with a site visit conducted by GLA regulatory specialists on April 4, 2019.

Sensitive resources considered for this analysis include special-status species (e.g., threatened and endangered, species of special concern, etc.), special-status habitats, nesting birds, waters of the United States (including wetlands) subject to the jurisdiction of the U.S. Army Corps of Engineers (Corps) and the Regional Water Quality Control Board (Regional Board), and waters of the State (including riparian vegetation) subject to the jurisdiction of the California Department of Fish and Wildlife (CDFW).

Impacts to special-status species and habitats must be addressed during project review under the California Environmental Quality Act (CEQA). In addition, federally listed species (threatened or endangered) are regulated by the U.S. Fish and Wildlife Service (USFWS) pursuant to the Federal Endangered Species Act (ESA). Species listed as threatened or endangered by the State of California are regulated by CDFW pursuant to the State ESA. Wildlife that are assigned other designations by CDFW (i.e., species of special concern, fully-protected species, etc.), and plants given special status by the California Native Plant Society (CNPS) are not granted additional protection, except that impacts to these species may need to be evaluated pursuant to CEQA.

I. SITE LOCATION AND DESCRIPTION

The approximate 46-acre property is located within the City of Redlands, San Bernardino County, California. The Project site is located at latitude 34.086775 and longitude –117.195495. The Project site is depicted on the U.S. Geological Survey (USGS) topographic map Redlands, California and is generally bounded by undeveloped land to the north, the Citrus Valley High School to the south, Texas Street to the east, and State Highway 210 to the west.

II. METHODOLOGY

GLA regulatory specialists Martin Rasnick and Lesley Lokovic visited the property on April 4, 2019 to conduct a biological and regulatory site review. GLA inspected the Project site to evaluate the conditions and resources present. Site reconnaissance was conducted in such a manner as to allow inspection of the entire site by direct observation, including the use of binoculars. The property was walked following transects spaced appropriately in order to achieve complete coverage of the site.

In addition to site reconnaissance, evaluation of the property included a review of the California Natural Diversity Database (CNDDB) for the Redlands quadrangle[2], a review of the 2019 CNPS on-line inventory[3], a soil map review, a review of USFWS species occurrence data, and a review of the First Carbon Solutions, Inc. (FCS) biological memorandum, dated March 21, 2019.

III. EXISTING CONDITIONS

The Project site generally consists of flat, disturbed land which contains an existing citrus operation, as well as a few fields which are fallow and consistently maintained. The majority of the Project site supports citrus trees (oranges), but a few native shrubs and non-native ruderal grasses/understory species are present. The site does not support drainages or drainage features, but there appears to be a County flood control channel running parallel to State Highway 210 just west of the Project boundary. GLA understands that this portion of the site is being avoided.

Vegetation identified on site, as noted above, is dominated by citrus trees and non-native species such as London rocket (*Sisymbrium irio*), wild oat (*Avena fatua*), short-pod mustard (*Hirschfeldia incana*), cheeseweed (*Malva parviflora*), hare barley (*Hordeum murinum*), brome grasses (*Bromus* sp.), prickly lettuce (*Lactuca serriola*), and Eucalyptus trees (*Eucalyptus* sp.).

Native species identified on site include stinging nettle (*Urtica dioica*), blue elderberry (*Sambucus cerulea*), mulefat (*Baccharis salicifolia*), and wild grape (*Vitis* sp.).

Bird species detected include American crow (*Corvus brachyrhynchos*), common raven (*Corvus corax*), mourning dove (*Zenaida macroura*), and house finch (*Haemorhous mexicanus*). Other wildlife identified on site include coyote (*Canas latrans*).

IV. REGULATORY PERMITTING

U.S. Army Corps of Engineers Clean Water Act Jurisdiction

Pursuant to Section 404 of the Clean Water Act (CWA), the Corps regulates the discharge of dredged and/or fill material into waters of the United States. The term "waters of the United States" is defined in Corps regulations at 33 CFR Part 328.3(a)[4] as:

> *(1) All waters which are currently used, 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) The territorial seas;*
> *(4) All impoundments of waters otherwise identified as waters of the United States under this section;*
> *(5) All tributaries, as defined in paragraph (c)(3) of this section, of waters identified in paragraphs (a)(1) through (3) of this section;*
> *(6) All waters adjacent to a water identified in paragraphs (a)(1) through (5) of this section, including wetlands, ponds, lakes, oxbows, impoundments, and similar waters;*
> *(7) All waters in paragraphs (a)(7)(i) through (v) of this section where they are determined, on a case-specific basis, to have a significant nexus to a water identified in paragraphs (a)(1) through (3) of this section. The waters identified in each of paragraphs (a)(7)(i) through (v) of this section are similarly situated and shall be combined, for purposes of a*

significant nexus analysis, in the watershed that drains to the nearest water identified in paragraphs (a)(1) through (3) of this section. Waters identified in this paragraph shall not be combined with waters identified in paragraph (a)(6) of this section when performing a significant nexus analysis. If waters identified in this paragraph are also an adjacent water under paragraph (a)(6), they are an adjacent water and no case-specific significant nexus analysis is required.

(i) Prairie potholes. Prairie potholes are a complex of glacially formed wetlands, usually occurring in depressions that lack permanent natural outlets, located in the upper Midwest.

(ii) Carolina bays and Delmarva bays. Carolina bays and Delmarva bays are ponded, depressional wetlands that occur along the Atlantic coastal plain.

(iii) Pocosins. Pocosins are evergreen shrub and tree dominated wetlands found predominantly along the Central Atlantic coastal plain.

(iv) Western vernal pools. Western vernal pools are seasonal wetlands located in parts of California and associated with topographic depression, soils with poor drainage, mild, wet winters and hot, dry summers.

(v) Texas coastal prairie wetlands. Texas coastal prairie wetlands are freshwater wetlands that occur as a mosaic of depressions, ridges, intermound flats, and mima mound wetlands located along the Texas Gulf Coast.

(8) All waters located within the 100- year floodplain of a water identified in paragraphs (a)(1) through (3) of this section and all waters located within 4,000 feet of the high tide line or ordinary high water mark of a water identified in paragraphs (a)(1) through (5) of this section where they are determined on a case-specific basis to have a significant nexus to a water identified in paragraphs (a)(1) through (3) of this section. For waters determined to have a significant nexus, the entire water is a water of the United States if a portion is located within the 100-year floodplain of a water identified in paragraphs (a)(1) through (3) of this section or within 4,000 feet of the high tide line or ordinary high water mark. Waters identified in this paragraph shall not be combined with waters identified in paragraph (a)(6) of this section when performing a significant nexus analysis. If waters identified in this paragraph are also an adjacent water under paragraph (a)(6), they are an adjacent water and no case-specific significant nexus analysis is required.

In the absence of wetlands, the limits of Corps jurisdiction in non-tidal waters, such as intermittent streams, extend to the OHWM which is defined at 33 CFR 328.3(e) as:

...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, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas.

The term “wetlands” (a subset of “waters of the United States”) is defined at 33 CFR 328.3(b) as "those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support...a prevalence of vegetation typically adapted for life in saturated soil conditions." In 1987 the Corps published a manual to guide its field personnel in determining jurisdictional wetland boundaries. The methodology set forth in the 1987 Wetland Delineation Manual and the Arid West Supplement generally require that, in order to be considered a wetland, the vegetation, soils, and hydrology of an area exhibit at least minimal hydric characteristics. While the manual and Supplement provide great detail in methodology and allow for varying special conditions, a wetland should normally meet each of the following three criteria:

- more than 50 percent of the dominant plant species at the site must be typical of wetlands (i.e., rated as facultative or wetter in the National List of Plant Species that Occur in Wetlands[5]);
- soils must exhibit physical and/or chemical characteristics indicative of permanent or periodic saturation (e.g., a gleyed color, or mottles with a matrix of low chroma indicating a relatively consistent fluctuation between aerobic and anaerobic conditions); and
- Whereas the 1987 Manual requires that hydrologic characteristics 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, the Arid West Supplement does not include a quantitative criteria with the exception for areas with "problematic hydrophytic vegetation", which require a minimum of 14 days of ponding to be considered a wetland.

Regional Water Quality Control Board Jurisdiction

Section 401 of the CWA requires any applicant for a Section 404 permit to obtain certification from the State that the discharge (and the operation of the facility being constructed) will comply with the applicable effluent limitation and water quality standards. In California, this 401 certification is obtained from the Regional Water Quality Control Board (Regional Board). The Corps, by law, cannot issue a Section 404 permit until a 401 certification is issued or waived.

Subsequent to the SWANCC decision, the Chief Counsel for the State Water Resources Control Board (SWRCB) issued a memorandum that addressed the effects of the SWANCC decision on the Section 401 Water Quality Certification Program.[6] The memorandum states:

> *California's right and duty to evaluate certification requests under section 401 is pendant to (or dependent upon) a valid application for a section 404 permit from the Corps, or another application for a federal license or permit. Thus if the Corps determines that the water body in question is not subject to regulation under the COE's 404 program, for instance, no application for 401 certification will be required…*
> *The SWANCC decision does not affect the Porter Cologne authorities to regulate discharges to isolated, non-navigable waters of the states….*
>
> *Water Code section 13260 requires "any person discharging waste, or proposing to discharge waste, within any region that could affect the waters of the state to file a report of discharge (an application for waste discharge requirements)." (Water Code § 13260(a)(1) (emphasis added).) The term "waters of the state" is defined as "any surface water or groundwater, including saline waters, within the boundaries of the state." (Water Code § 13050(e).) The U.S. Supreme Court's ruling in SWANCC has no bearing on the Porter-Cologne definition. While all waters of the United States that are within the borders of California are also waters of the state, the converse is not true—waters of the United States is a subset of waters of the state. Thus, since Porter-Cologne was enacted California always had and retains authority to regulate discharges of waste into any waters of the state, regardless of whether the COE has concurrent jurisdiction under section 404. The fact that often Regional Boards opted to regulate discharges to, e.g., vernal pools, through the 401 program in lieu of or in addition to issuing waste discharge requirements (or waivers thereof) does not preclude the regions from issuing WDRs (or waivers of WDRs) in the absence of a request for 401 certification….*

In this memorandum the SWRCB's Chief Counsel has made the clear assumption that fill material to be discharged into isolated waters of the United States is to be considered equivalent to "waste" and therefore subject to the authority of the Porter Cologne Water Quality Act.[7]

California Department of Fish and Wildlife

Pursuant to Division 2, Chapter 6, Sections 1600-1617 of the California Fish and Game Code, the CDFW regulates all diversions, obstructions, or changes to the natural flow or bed, channel, or bank of any river, stream, or lake, which supports fish or wildlife.

CDFW defines a stream (including creeks and rivers) as "a body of water that flows at least periodically or intermittently through a bed or channel having banks and supports fish or other aquatic life. This includes watercourses having surface or subsurface flow that supports or has supported riparian vegetation." CDFW's definition of "lake" includes "natural lakes or man-made reservoirs." CDFW also defines a stream as "a body of water that flows, or has flowed, over a given course during the historic hydrologic regime, and where the width of its course can reasonably be identified by physical or biological indicators."

It is important to note that the Fish and Game Code defines fish and wildlife to include: all wild animals, birds, plants, fish, amphibians, invertebrates, reptiles, and related ecological communities including the habitat upon which they depend for continued viability (FGC Division 5, Chapter 1, section 45 and Division 2, Chapter 1 section 711.2(a) respectively).

Furthermore, Division 2, Chapter 5, Article 6, Section 1600 et seq. of the California Fish and Game Code does not limit jurisdiction to areas defined by specific flow events, seasonal changes in water flow, or presence/absence of vegetation types or communities.

V. PROJECT CONSTRAINTS AND RECOMMENDATIONS

Jurisdictional Waters

The Project site does not support waters of the U.S. that would be regulated by the Corps pursuant to Section 404 of the CWA or the Regional Board pursuant to Section 401 of the CWA, nor does the site support waters of the State that would be regulated by the CDFW pursuant to Section 1602 of the State Fish and Game Code or the Regional Board pursuant to Section 13260 of the California Water Code.

There is a County flood control channel located immediately west of the Project site. Although jurisdictional waters are not expected to be a constraint for the Project, GLA recommends conducting a formal jurisdictional delineation to confirm the presence/absence of Corps, CDFW, and/or Regional Board jurisdictional waters within the Project. Jurisdictional waters are not expected to be a constraint for this Project.

Special-Status Plants

Species were considered based on a number of factors, including: 1) species identified by the April 2019 CNDDB as occurring (either currently of historically) on or in the vicinity of the Project site, and 2) any other species that are known to occur within the vicinity of the Project site, or for which potentially suitable habitat occurs on site.

No special status plants are present within the Project site, nor do they have the potential to be present due to existing site conditions. Special-status plants are not a constraint to this Project.

If the project has not gone through the CEQA process, GLA recommends that a general biological survey for plants be conducted, the results of which will be described in the Project biological resources report and the

biological resources section prepared as a part of the Project CEQA document. This report would document plants within the Project.

Either way, special-status plants are not a constraint to this Project.

Special-Status Wildlife

Species were considered based on a number of factors, including: 1) species identified by the April 2019 CNDDB as occurring (either currently of historically) on or in the vicinity of the Project site; or 2) any other species that are known to occur within the vicinity of the Project site, or for which potentially suitable habitat occurs on site.

No special status wildlife is present within the Project site. Although special-status wildlife are not expected to be a constraint to this Project, the Project does support marginally suitable habitat for the burrowing owl (*Athene cunicularia*); therefore, GLA recommends that focused surveys for the burrowing owl occur within areas of suitable habitat on site.

Additionally, the Project site is approximately 500 feet south from designated critical habitat for the San Bernardino kangaroo rat (*Dipodomys merriami parvus*) [SBKR], a federally endangered species, and about 400 feet from known occurrences of the SBKR east of the Project. Although suitable habitat does not appear to be present for this species on site, GLA recommends that a habitat assessment for the SBKR, and if necessary, trapping occur to verify the presence/absence of this species from the site.

If the project has not gone through the CEQA process, GLA recommends that a general biological survey for wildlife, as well as habitat assessments/surveys for the species noted above, be conducted, the results of which will be described in the Project biological resources report and the biological resources section prepared as a part of the Project CEQA document.

Either way, special-status wildlife are not expected to be a constraint to this Project

Critical Habitat

The Project site is not located within any proposed or designated USFWS Critical Habitat.

Nesting Birds

The Project site contains habitat with the potential to support nesting birds and nesting birds will be addressed as part of the Project biological resources report and the biological resources section prepared for the Project CEQA document (if CEQA has not yet been completed). The CEQA document and biological resources report may potentially contain mitigation measures to protect nesting birds as impacts to nesting birds are prohibited under the Migratory Bird Treaty Act and California Fish and Game Code.[8] The presence of vegetation with the potential to support nesting birds may represent a seasonal constraint to development if not removed at the appropriate time of the year. This will be analyzed under CEQA and in the Project biological resources report. As long as trees, shrubs, and herbaceous vegetation with the potential to support nesting birds are removed from September 16th to February 14th (which is assumed to be the period outside of the nesting season), then no further actions would be recommended by GLA, nor would they be expected to be required under CEQA.

If vegetation must be removed during the nesting season (assumed to be February 15th through September 15th), a nesting bird survey should be conducted within three days prior to vegetation removal to prevent any impacts to active nests. If active nests are identified onsite, then adequate buffers should be provided around the nests, as determined by a qualified biologist, until the nests are no longer active.

This will also be analyzed as part of a biological report prepared for the Project, and in the biological resources section of the CEQA document. Additionally, it is expected that a nesting bird survey mitigation measure will be included in both the biological resources report and the biological resources section of the CEQA document.

Based on the lack of sensitive biological resources on site, this Project represents a low risk for MLC to purchase.

GLA is pleased and available to assist MLC with the biological documentation and surveys needed for the Project under CEQA, and post-CEQA.

If you have any questions regarding this email, please call me at (949) 340-3851 at the office or (714) 323-6221 on my cellular telephone.

Thanks.

Martin Rasnick | Principal/Senior Regulatory Specialist | Glenn Lukos Associates, Inc.
29 Orchard, Lake Forest, California 92630
949.340.3851 office | 714.323.6221 cell | mrasnick@wetlandpermitting.com
For periodic regulatory updates follow GLA on LinkedIn

[1] Please note, the biological constraints analysis will alert the client to potential constraints in development of the property. Additional analysis may be necessary to support any permitting that may be required and/or to satisfy local or lead agency requirements under CEQA. Separate and more detailed surveys may be required for the permitting/approval process, if needed.
[2] California Department of Fish and Wildlife. April 2019. Natural Diversity Database: RareFind 5.
[3] California Native Plant Society. 2019. On-Line Inventory of Rare and Endangered Plants of California (Eighth Edition).
[4] As revised by the Corps and EPA, "Clean Water Rule: Definition of 'Waters of the United States"; Final Rule," 80 Federal Register 124 (29 June, 2015), pp. 37054-37127, redacted October 9, 2015, enjoined and ordered by the U.S. District on August 16, 2018.
[5] Lichvar, R.W., D.L. Banks, W.N. Kirchner, and N.C. Melvin. 2016. *The National Wetland Plant List*: 2016 wetland ratings. Phytoneuron 2016-30: 1-17. Published 28 April 2016. ISSN 2153 733X.

[6] Wilson, Craig M. January 25, 2001. Memorandum addressed to State Board Members and Regional Board Executive Officers.
[7] On June 17, 2016, the SWRCB issued a draft "Procedures for Discharges of Dredged or Fill Materials to Waters of the State" which provides definitions for wetlands, procedures for jurisdictional delineations, and procedures for obtaining permits for impacts to waters of the State.
[8] The MBTA makes it unlawful to take, possess, buy, sell, purchase, or barter any migratory bird listed in 50 C.F.R. Part 10, including feathers or other parts, nests, eggs, or products, except as allowed by implementing regulations (50 C.F.R.21). In addition, sections 3505, 3503.5, and 3800 of the California Department of Fish and Game Code prohibit the take, possession, or destruction of birds, their nests or eggs.

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C.3 - GLA (2020) Jurisdictional Delineation

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GLENN LUKOS ASSOCIATES

Regulatory Services

February 27, 2020

Matt Maehara
MLC Holdings
5 Peters Canyon Road,
Suite 310
Irvine, California 92606

SUBJECT: Jurisdictional Delineation for the Redlands Property Development Project, an Approximate 58-Acre Property Located in the City of Redlands, San Bernardino County, California.

Dear Mr. Maehara:

This letter report summarizes our preliminary findings of U.S. Army Corps of Engineers (Corps), Regional Water Quality Control Board (Regional Board), and California Department of Fish and Wildlife (CDFW) jurisdiction for the Redlands Property Development Project (Project), an approximate 58-acre property located in the City of Redlands, San Bernardino County, California.[1] This report also summarizes our findings of potential jurisdiction associated with an ephemeral drainage feature that is located adjacent to, but outside of, the Project boundary[2]. The Project site and adjacent off-site area are collectively referred to herein as the "Study Area."

The Project site primarily consists of disturbed, actively farmed land with citrus trees, totaling approximately 58 acres in the City of Redlands, San Bernardino County, California [Exhibit 1 – Regional Map]. The Project site is located in Section 16, Township 1 South, and Range 3 West and is generally bounded by undeveloped land to the north, Domestic Avenue to the south, Texas Street to the east, and State Highway 210 to the west (as depicted on the U.S. Geological Survey (USGS) topographic map Redlands, California [dated 1967 and photo-revised in 1988]) [Exhibit 2]. An off-site drainage feature runs adjacent to and west of the site. While this feature is not located within the Project site, it has been evaluated as part of the overall Study Area and is included as part of this report. No blue-line streams are associated with the Study Area.

[1] This report presents our best effort at estimating the subject jurisdictional boundaries using the most up-to-date regulations and written policy and guidance from the regulatory agencies. Only the regulatory agencies can make a final determination of jurisdictional boundaries.

[2] Adjacent off-site areas were delineated from line of sight through the use of binoculars and/or aerial imagery.

In October 2019, regulatory specialists of Glenn Lukos Associates, Inc. (GLA) examined the Study Area to determine the limits of (1) Corps jurisdiction pursuant to Section 404 of the Clean Water Act, (2) Regional Board jurisdiction pursuant to Section 401 of the CWA and Section 13260 of the California Water Code (CWC), and (3) CDFW jurisdiction pursuant to Division 2, Chapter 6, Section 1600 of the Fish and Game Code. Enclosed are 200-scale maps [Exhibits 3A and 3B] that depict the areas of Corps, Regional Board, and CDFW jurisdiction. Photographs to document the topography, vegetative communities, and general widths of each of the waters are provided as Exhibit 4 and a soils map is provided as Exhibit 5.

Corps/Regional Board jurisdiction associated with the Study Area totals approximately 0.44 acre of waters of the United States (WoUS), none of which is wetland. A total of 1,288 linear feet of streambed is present.

CDFW jurisdiction associated with the Study Area totals approximately 1.04 acres, of which 0.14 acre consists of riparian stream and 0.90 acre consists of non-riparian stream. A total of 1,288 linear feet of streambed is present.

I. METHODOLOGY

Prior to beginning the field delineation, a color aerial photograph, a topographic base map of the property, the previously cited USGS topographic map, and a soils map were examined to determine the locations of potential areas of Corps, Regional Board, and CDFW jurisdiction. Suspected jurisdictional areas were field checked for evidence of stream activity and/or wetland vegetation, soils and hydrology. Where applicable, reference was made to the 2008 Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States (OWHM Manual)[3] to identify the width of Corps jurisdiction and suspected wetland habitats on the site were evaluated using the methodology set forth in the U.S. Army Corps of Engineers 1987 Wetland Delineation Manual[4] (Wetland Manual) and the 2008 Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Supplement (Arid West Supplement).[5] While in the field the potential limits of jurisdiction were recorded with a sub-meter Trimble GPS device in conjunction with a color aerial photograph using visible landmarks. Other data were recorded onto wetland data sheets.

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[3] U.S. Army Corps of Engineers. 2008. A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States

[4] Environmental Laboratory. 1987. Corps of Engineers Wetlands Delineation Manual, Technical Report Y-87-1, U.S. Army Engineer Waterways Experimental Station, Vicksburg, Mississippi.

[5] U.S. Army Corps of Engineers. 2008. Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0), ed. J. S. Wakeley, R. W. Lichvar, and C. V. Noble. ERDC/EL TR-08-28. Vicksburg, MS: U.S. Army Engineer Research and Development Center.

The National Cooperative Soil Survey (NCSS) has mapped the following soil types as occurring in the general vicinity of the Project [Exhibit 5]:

Hanford Sandy Loam, 0 to 2 Percent Slopes (HbA)

The Hanford series consists of very deep, well drained soils that formed in moderately coarse textured alluvium dominantly from granite. Hanford soils are on stream bottoms, floodplains and alluvial fans and have slopes of 0 to 15 percent. The mean annual precipitation is about 12 inches and the mean annual air temperature is about 63 degrees F.

The mean annual soil temperature at a depth of 20 inches is about 59 to 68 degrees F., and the soil temperature is not below 47 degrees F. for any significant period. Soil between the depths of about 8 to 24 inches usually is dry all of the time from late April or May until November or early December and usually is moist in some or all parts of this section all the rest of the year. The 10 to 40-inch control section averages sandy loam, coarse sandy loam, fine sandy loam or gravelly equivalents of each. The coarse fragments range from 0 to 35 percent. The particle size control section has little or no stratification. Clay content usually averages 6 to 18 percent. Organic matter is less than 1 percent and decreases regularly with increasing depth. Below a depth of 40 inches some pedons have marked stratification. The soils are medium acid to slightly alkaline and usually become more alkaline with depth. Secondary free carbonates do not occur above a depth of 40 inches. In some cases, carbonates have been added to the soil by farmers which results in slight effervescence in the surface layers.

Hanford soils are used for growing a wide range of fruits, vegetables, and general farm crops. They are also used for urban development and dairies. Vegetation in uncultivated areas is mainly annual grasses and associated herbaceous plants.

None of these soil units are identified as hydric in the SCS's publication, Hydric Soils of the United States[6]. In addition, none of the soil units are listed as hydric by the Southwestern San Bernardino County Soil Survey.

[6] United States Department of Agriculture, Soil Conservation Service. 1991. Hydric Soils of the United States, 3rd Edition, Miscellaneous Publication Number 1491. (In cooperation with the National Technical Committee for Hydric Soils.)

II. JURISDICTION

A. Army Corps of Engineers

Pursuant to Section 404 of the Clean Water Act, the Corps regulates the discharge of dredged and/or fill material into waters of the United States. The term "waters of the United States" is defined in Corps regulations at 33 CFR Part 328.3(a) as:

> *(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 foreign commerce including any such waters:*
> *(i) Which are or could be used by interstate or foreign travelers for recreational or other purposes; or*
> *(ii) From which fish or shellfish are or could be taken and sold in interstate or foreign 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 identified in paragraphs (a) (1)-(4) of this section;*
> *(6) The territorial seas;*
> *(7) Wetlands adjacent to waters (other than waters that are themselves wetlands) identified in paragraphs (a) (1)-(6) of this section.*
> *(8) Waters of the United States do not include prior converted cropland. Notwithstanding the determination of an area's status as prior converted cropland by any other federal agency, for the purposes of the Clean Water Act, the final authority regarding Clean Water Act jurisdiction remains with the EPA.*
>
> *Waste treatment systems, including treatment ponds or lagoons designed to meet the requirements of CWA (other than cooling ponds as defined in 40 CFR 123.11(m) which also meet the criteria of this definition) are not waters of the United States.*

In the absence of wetlands, the limits of Corps jurisdiction in non-tidal waters, such as intermittent streams, extend to the OHWM which is defined at 33 CFR 328.3(e) as:

> *...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, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas.*

1. Solid Waste Agency of Northern Cook County v. United States Army Corps of Engineers, et al.

Pursuant to Article I, Section 8 of the U.S. Constitution, federal regulatory authority extends only to activities that affect interstate commerce. In the early 1980s the Corps interpreted the interstate commerce requirement in a manner that restricted Corps jurisdiction on isolated (intrastate) waters. On September 12, 1985, the U.S. Environmental Protection Agency (EPA) asserted that Corps jurisdiction extended to isolated waters that are used or could be used by migratory birds or endangered species, and the definition of "waters of the United States" in Corps regulations was modified as quoted above from 33 CFR 328.3(a).

On January 9, 2001, the Supreme Court of the United States issued a ruling on *Solid Waste Agency of Northern Cook County v. United States Army Corps of Engineers, et al.* (SWANCC). In this case the Court was asked whether use of an isolated, intrastate pond by migratory birds is a sufficient interstate commerce connection to bring the pond into federal jurisdiction of Section 404 of the Clean Water Act.

The written opinion notes that the court's previous support of the Corps' expansion of jurisdiction beyond navigable waters (*United States v. Riverside Bayview Homes, Inc*.) was for a wetland that abutted a navigable water and that the court did not express any opinion on the question of the authority of the Corps to regulate wetlands that are not adjacent to bodies of open water. The current opinion goes on to state:

> *In order to rule for the respondents here, we would have to hold that the jurisdiction of the Corps extends to ponds that are not adjacent to open water. We conclude that the text of the statute will not allow this.*

Therefore, we believe that the court's opinion goes beyond the migratory bird issue and says that no isolated, intrastate water is subject to the provisions of Section 404(a) of the Clean Water Act (regardless of any interstate commerce connection). However, the Corps and EPA have issued a joint memorandum which states that they are interpreting the ruling to address only the migratory bird issue and leaving the other interstate commerce clause nexuses intact.

2. Rapanos v. United States and Carabell v. United States

On June 5, 2007, the EPA and Corps issued joint guidance that addresses the scope of jurisdiction pursuant to the Clean Water Act in light of the Supreme Court's decision in the consolidated cases *Rapanos v. United States* and *Carabell v. United States* ("Rapanos"). The chart below was provided in the joint EPA/Corps guidance.

For sites that include waters other than Traditional Navigable Waters (TNWs) and/or their adjacent wetlands or Relatively Permanent Waters (RPMs) tributary to TNWs and/or their adjacent wetlands, as set forth in the chart below, the Corps must apply the "significant nexus" standard.

For "isolated" waters or wetlands, the joint guidance also requires an evaluation by the Corps and EPA to determine whether other interstate commerce clause nexuses, not addressed in the SWANCC decision are associated with isolated features on project sites for which a jurisdictional determination is being sought from the Corps.

The Corps and EPA will assert jurisdiction over the following waters:

- Traditional navigable waters.
- Wetlands adjacent to traditional navigable waters.
- Non-navigable tributaries of traditional navigable waters that are relatively permanent where the tributaries typically flow year-round or have continuous flow at least seasonally (e.g., typically three months).
- Wetlands that directly abut such tributaries.

The Corps and EPA will decide jurisdiction over the following waters based on a fact-specific analysis to determine whether they have a significant nexus with a TNW:

- Non-navigable tributaries that are not relatively permanent.
- Wetlands adjacent to non-navigable tributaries that are not relatively permanent.
- Wetlands adjacent to but that do not directly abut a relatively permanent non-navigable tributary.

The agencies generally will not assert jurisdiction over the following features:

- Swales or erosional features (e.g., gullies, small washes characterized by low volume, infrequent or short duration flow).
- Ditches (including roadside ditches) excavated wholly in and draining only uplands and that do not carry a relatively permanent flow of water.

The agencies will apply the significant nexus standard as follows:

- A significant nexus analysis will assess the flow characteristics and functions of the tributary itself and the functions performed by all wetlands adjacent to the tributary to determine if they significantly affect the chemical, physical and biological integrity of downstream traditional navigable waters.
- Significant nexus includes consideration of hydrologic and ecologic factors.

3. Wetland Definition Pursuant to Section 404 of the Clean Water Act

The term "wetlands" (a subset of "waters of the United States") is defined at 33 CFR 328.3(b) as "those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support...a prevalence of vegetation typically adapted for life in saturated soil conditions." In 1987 the Corps published the Wetland Manual to guide its field personnel in determining jurisdictional wetland boundaries. The methodology set forth in the Wetland Manual and the Arid West Supplement generally require that, in order to be considered a wetland, the vegetation, soils, and hydrology of an area exhibit at least minimal hydric characteristics. While the Wetland Manual and Arid West Supplement provide great detail in methodology and allow for varying special conditions, a wetland should normally meet each of the following three criteria:

- More than 50 percent of the dominant plant species at the site must be typical of wetlands (i.e., rated as facultative or wetter in the Arid West 2016 Regional Wetland Plant List[7],[8]);
- Soils must exhibit physical and/or chemical characteristics indicative of permanent or periodic saturation (e.g., a gleyed color, or mottles with a matrix of low chroma indicating a relatively consistent fluctuation between aerobic and anaerobic conditions); and

- Whereas the Wetland Manual requires that hydrologic characteristics 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, the Arid West Supplement does not include

[7] Lichvar, R.W., D.L. Banks, W.N. Kirchner, and N.C. Melvin. 2016. Arid West 2016 Regional Wetland Plant List. Phytoneuron 2016-30: 1-17. Published 28 April 2016.
[8] Note the Corps also publishes a National List of Plant Species that Occur in Wetlands (Lichvar, R.W., D.L. Banks, W.N. Kirchner, and N.C. Melvin. 2016. The National Wetland Plant List: 2016 wetland ratings. Phytoneuron 2016-30: 1-17. Published 28 April 2016.); however, the Regional Wetland Plant List should be used for wetland delineations within the Arid West Region.

a quantitative criteria with the exception for areas with "problematic hydrophytic vegetation", which require a minimum of 14 days of ponding to be considered a wetland.

B. Regional Water Quality Control Board

The State Water Resource Control Board and each of its nine Regional Boards regulate the discharge of waste (dredged or fill material) into waters of the United States[9] and waters of the state. Waters of the United States are defined above in Section II.A and waters of the state are defined as "any surface water or groundwater, including saline waters, within the boundaries of the state" (California Water Code 13050[e]).

Section 401 of the CWA requires certification for any federal permit or license authorizing impacts to waters of the U.S. (i.e., waters that are within federal jurisdiction), such as Section 404 of the CWA and Section 10 of the Safe Rivers and Harbors Act, to ensure that the impacts do not violate state water quality standards. When a project could impact waters outside of federal jurisdiction, the Regional Board has the authority under the Porter-Cologne Water Quality Control Act to issue Waste Discharge Requirements (WDRs) to ensure that impacts do not violate state water quality standards. Clean Water Act Section 401 Water Quality Certifications, WDRs, and waivers of WDRs are also referred to as orders or permits.

1. State Wetland Definition

The Water Boards define an area as wetland[10] as follows: *An area is wetland if, under normal circumstances, (1) the area has continuous or recurrent saturation of the upper substrate caused by groundwater, or shallow surface water, or both; (2) the duration of such saturation is sufficient to cause anaerobic conditions in the upper substrate; and (3) the area's vegetation is dominated by hydrophytes or the area lacks vegetation.*

[9] Therefore, wetlands that meet the current definition, or any historic definition, of waters of the U.S. are waters of the state. In 2000, the State Water Resources Control Board determined that all waters of the U.S. are also waters of the state by regulation, prior to any regulatory or judicial limitations on the federal definition of waters of the U.S. (California Code or Regulations title 23, section 3831(w)). This regulation has remained in effect despite subsequent changes to the federal definition. Therefore, waters of the state includes features that have been determined by the U.S. Environmental Protection Agency (U.S. EPA) or the U.S. Army Corps of Engineers (Corps) to be "waters of the U.S." in an approved jurisdictional determination; "waters of the U.S." identified in an aquatic resource report verified by the Corps upon which a permitting decision was based; and features that are consistent with any current or historic final judicial interpretation of "waters of the U.S." or any current or historic federal regulation defining "waters of the U.S." under the federal Clean Water Act.

[10] State Water Resources Control Board. 2019. State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State. [For Inclusion in the Water Quality Control Plans for Inland Surface Waters and Enclosed Bays and Estuaries and Ocean Waters of California].

The following wetlands are waters of the state:

1. *Natural wetlands;*
2. *Wetlands created by modification of a surface water of the state;*[11] *and*
3. *Artificial wetlands*[12] *that meet any of the following criteria:*

a. Approved by an agency as compensatory mitigation for impacts to other waters of the state, except where the approving agency explicitly identifies the mitigation as being of limited duration;
b. Specifically identified in a water quality control plan as a wetland or other water of the state;
c. Resulted from historic human activity, is not subject to ongoing operation and maintenance, and has become a relatively permanent part of the natural landscape; or
d. Greater than or equal to one acre in size, unless the artificial wetland was constructed, and is currently used and maintained, primarily for one or more of the following purposes (i.e., the following artificial wetlands are not waters of the state unless they also satisfy the criteria set forth in 2, 3a, or 3b):

i. Industrial or municipal wastewater treatment or disposal,
ii. Settling of sediment,
iii. Detention, retention, infiltration, or treatment of stormwater runoff and other pollutants or runoff subject to regulation under a municipal, construction, or industrial stormwater permitting program,
iv. Treatment of surface waters,
v. Agricultural crop irrigation or stock watering,
vi. Fire suppression,
vii. Industrial processing or cooling,
viii. Active surface mining – even if the site is managed for interim wetlands functions and values,
ix. Log storage,
x. Treatment, storage, or distribution of recycled water, or

[11] "Created by modification of a surface water of the state" means that the wetland that is being evaluated was created by modifying an area that was a surface water of the state at the time of such modification. It does not include a wetland that is created in a location where a water of the state had existed historically but had already been completely eliminated at some time prior to the creation of the wetland. The wetland being evaluated does not become a water of the state due solely to a diversion of water from a different water of the state.
[12] Artificial wetlands are wetlands that result from human activity.

xi. Maximizing groundwater recharge (this does not include wetlands that have incidental groundwater recharge benefits); or
xii. Fields flooded for rice growing.[13]

All artificial wetlands that are less than an acre in size and do not satisfy the criteria set forth in 2, 3.a, 3.b, or 3.c are not waters of the state. If an aquatic feature meets the wetland definition, the burden is on the applicant to demonstrate that the wetland is not a water of the state.

C. California Department of Fish and Wildlife

Pursuant to Division 2, Chapter 6, Sections 1600-16017 of the California Fish and Game Code, the CDFW regulates all diversions, obstructions, or changes to the natural flow or bed, channel, or bank of any river, stream, or lake, which supports fish or wildlife.

CDFW defines a stream (including creeks and rivers) as "a body of water that flows at least periodically or intermittently through a bed or channel having banks and supports fish or other aquatic life. This includes watercourses having surface or subsurface flow that supports or has supported riparian vegetation." CDFW's definition of "lake" includes "natural lakes or man-made reservoirs." CDFW also defines a stream as "a body of water that flows, or has flowed, over a given course during the historic hydrologic regime, and where the width of its course can reasonably be identified by physical or biological indicators."

It is important to note that the Fish and Game Code defines fish and wildlife to include: all wild animals, birds, plants, fish, amphibians, invertebrates, reptiles, and related ecological communities including the habitat upon which they depend for continued viability (FGC Division 5, Chapter 1, section 45 and Division 2, Chapter 1 section 711.2(a) respectively). Furthermore, Division 2, Chapter 5, Article 6, Section 1600 et seq. of the California Fish and Game Code does not limit jurisdiction to areas defined by specific flow events, seasonal changes in water flow, or presence/absence of vegetation types or communities.

[13] Fields used for the cultivation of rice (including wild rice) that have not been abandoned due to five consecutive years of non-use for the cultivation of rice (including wild rice) that are determined to be a water of the state in accordance with these Procedures shall not have beneficial use designations applied to them through the Water Quality Control Plan for the Sacramento and San Joaquin River Basins, except as otherwise required by federal law for fields that are considered to be waters of the United States. Further, agricultural inputs legally applied to fields used for the cultivation of rice (including wild rice) shall not constitute a discharge of waste to a water of the state. Agricultural inputs that migrate to a surface water or groundwater may be considered a discharge of waste and are subject to waste discharge requirements or waivers of such requirements pursuant to the Water Board's authority to issue or waive waste discharge requirements or take other actions as applicable.

III. RESULTS

A. Corps Jurisdiction

Corps jurisdiction associated with the Study Area totals approximately 0.44 acre of WoUS, none of which is wetland. A total of 1,288 linear feet of streambed is present. The boundaries of jurisdiction are depicted on the enclosed maps (Exhibit 3A).

The Study Area contains one linear drainage feature that runs parallel to, and west of, the Project site. The drainage is an ephemeral feature that is fed by urban runoff originating from the adjacent State Highway 210 and local agricultural operations. The drainage is incised with disturbed rock/rip rap along its side banks for erosion protection. The drainage averages 15 feet in width as evidenced by the presence of terracing, sediment deposition, debris wracking, and water marks. The drainage is a tributary to the Santa Ana River (an RPW), which is tributary to the Pacific Ocean (a TNW).

The lower reach of the channel supports a small patch of riparian vegetation that includes mulefat (*Baccharis salicifolia*), black willow (*Salix gooddingii*), and cottonwood (*Populus fremontii*). As flows within the drainage continue northerly, the vegetation shifts to non-native invasive species typical of disturbed sites and upland conditions that include castor bean (*Ricinis communis*), tree tobacco (*Nicotiana glauca*), tree of heaven (*Ailanthus altissima*), pepper (*Schinus ssp.*), ornamental pine (*Pinus ssp.*), and eucalyptus (*Eucalyptus ssp.*). The upper banks are sparsely vegetated with Russian thistle (*Salsola ssp.*), jimson weed (*Datura stramonium*), telegraph weed (*Heterotheca grandiflora*), California buckwheat (*Eriogonum fasciculatum*), coyote brush (*Baccharis pilularis*), and non-native grasses. No wetland data pits were excavated due to a lack of wetland hydrology and a predominance of upland vegetation.

B. Regional Water Quality Control Board Jurisdiction

The drainage has been determined to be WoUS subject to regulation pursuant to Section 401 and 404 of the CWA. This drainage does not need to be addressed separately pursuant to Section 13260 of the CWC, the Porter-Cologne Act.

C. CDFW Jurisdiction

CDFW jurisdiction associated with the Study Area totals approximately 1.04 acres, of which 0.14 acre consists of riparian stream and 0.90 acre consists of non-riparian stream. A total of

1,288 linear feet of streambed is present. The boundaries of jurisdiction are depicted on the enclosed maps (Exhibit 3B).

The Study Area contains one linear drainage feature that runs parallel to, and west of, the Project site. The drainage is an ephemeral feature that is fed by urban runoff originating from the adjacent State Highway 210 and local agricultural operations. The drainage is incised with disturbed rock/rip rap along its side banks for erosion protection. The drainage is a tributary to the Santa Ana River, which is ultimately tributary to the Pacific Ocean. The drainage averages approximately 35 feet in width from top of bank and includes associated riparian habitat in the lower reach.

The lower reach of the channel supports a small patch of riparian vegetation that includes mulefat, black willow, and cottonwood. As flows within the drainage continue northerly, the vegetation shifts to non-native invasive species typical of disturbed sites and upland conditions that include castor bean, tree tobacco, tree of heaven, pepper, ornamental pine, and eucalyptus. The upper banks are sparsely vegetated with Russian thistle, jimson weed, telegraph weed, California buckwheat, coyote brush, and non-native grasses.

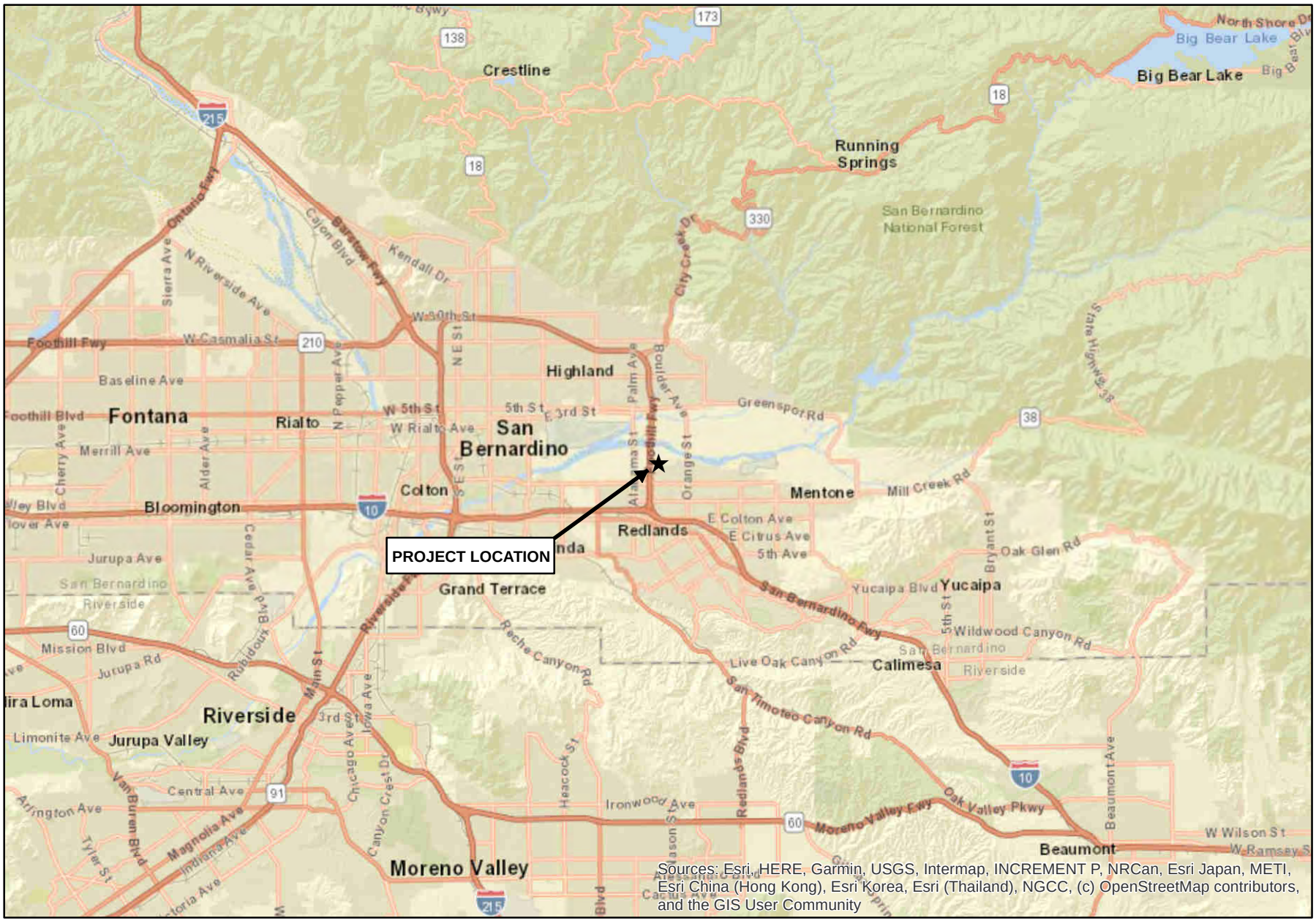
If you have any questions about this letter report, please contact me at (949) (949) 340-3851.

Sincerely,

GLENN LUKOS ASSOCIATES, INC.

Martin Rasnick
Principal/Sr. Regulatory Specialist

p: 1423b.jd.rpt



Source: ESRI World Street Map

N

0 2 4 8 Miles

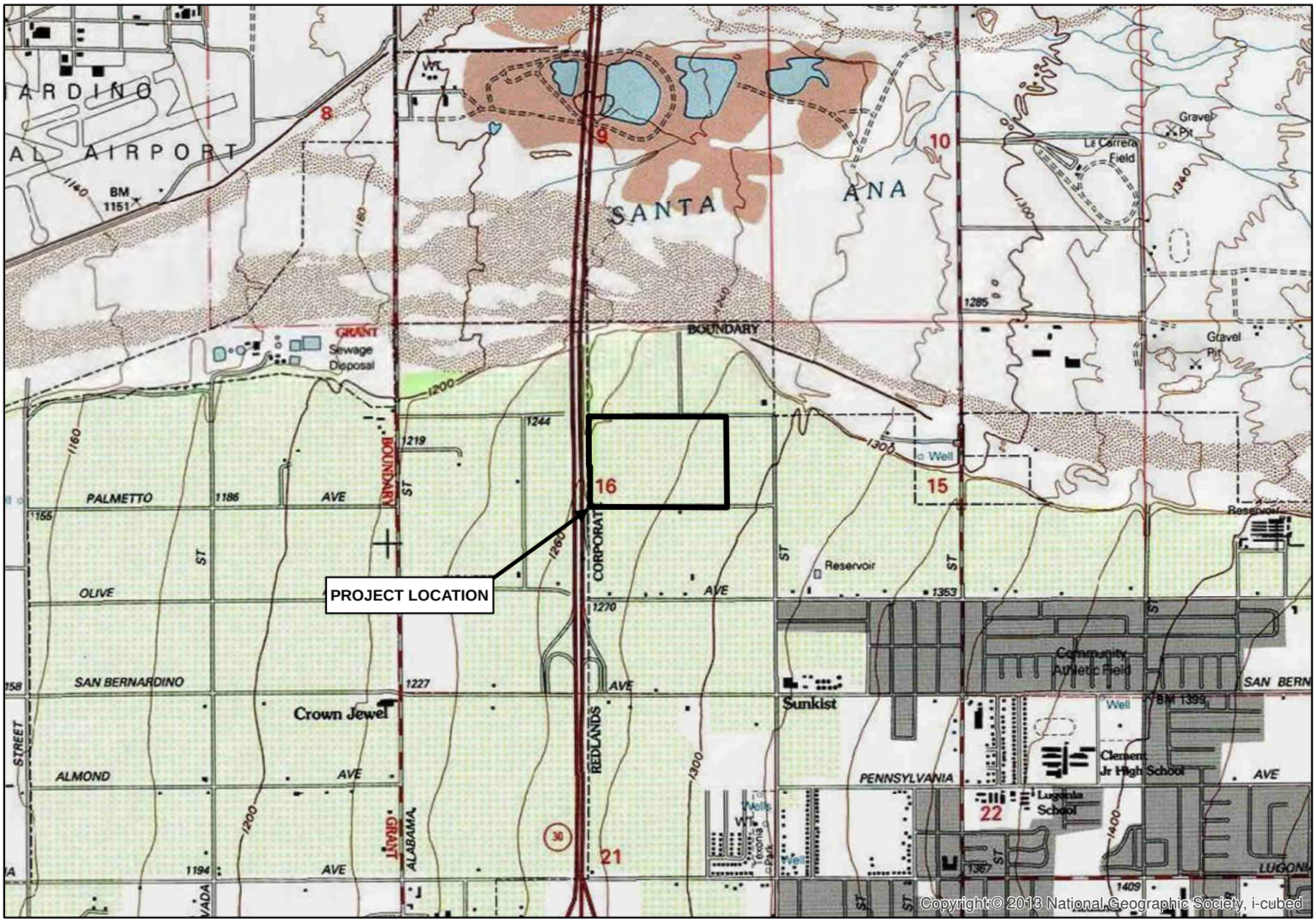
REDLANDS PROPERTY DEVELOPMENT PROJECT

Regional Map

GLENN LUKOS ASSOCIATES

Exhibit 1

Adapted from USGS Redlands, CA quadrangle



N

0 1,000 2,000 4,000 Feet

REDLANDS PROPERTY DEVELOPMENT PROJECT

Vicinity Map

GLENN LUKOS ASSOCIATES

Exhibit 2

Study Area Boundary

Project Location

Corps/RWQCB Non-Wetland Waters

15 Width in Feet

N

0 100 200 400

Feet

1 inch = 200 feet

Coordinate System: State Plane 5 NAD 83
Projection: Lambert Conformal Conic
Datum: NAD83
Map Prepared by: K. Kartunen, GLA
Date Prepared: February 27, 2020

REDLANDS PROPERTY DEVELOPMENT PROJECT

Corps/RWQCB Jurisdictional Delineation Map

GLENN LUKOS ASSOCIATES

Exhibit 3A

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Study Area Boundary

Project Location

CDFW Non-Riparian Streambed

CDFW Riparian

35 Width in Feet

N

0 100 200 400

Feet

1 inch = 200 feet

Coordinate System: State Plane 5 NAD 83
Projection: Lambert Conformal Conic
Datum: NAD83
Map Prepared by: K. Kartunen, GLA
Date Prepared: February 27, 2020

REDLANDS PROPERTY DEVELOPMENT PROJECT

CDFW Jurisdictional Delineation Map

GLENN LUKOS ASSOCIATES

Exhibit 3B

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Photograph 1: View of the off-site drainage looking downstream.

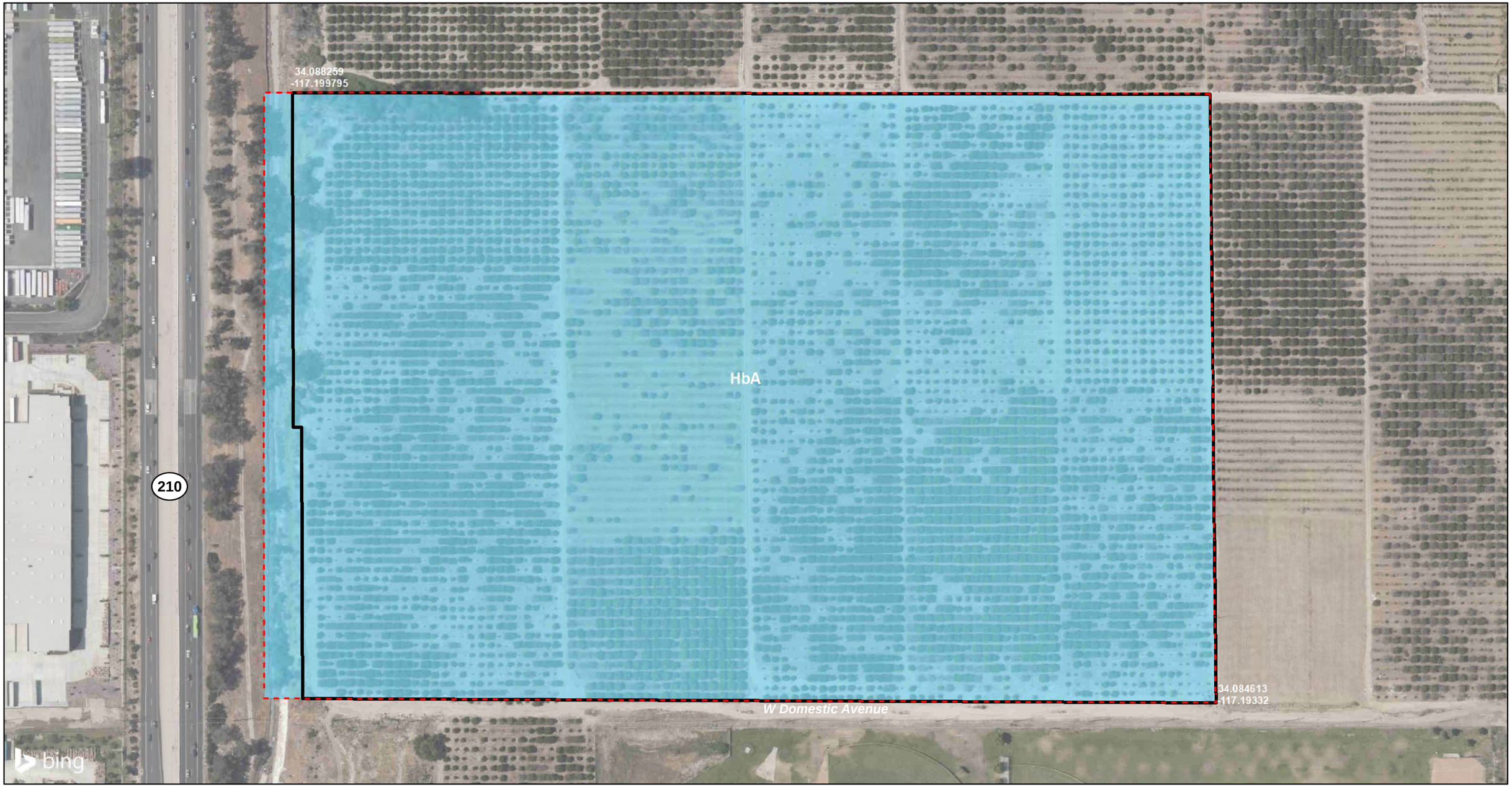
Photograph 2: View of the off-site drainage looking upstream towards single eucalyptus tree that occurs prior to patch of riparian vegetation.

GLENN LUKOS ASSOCIATES

Exhibit 4

REDLANDS PROPERTY DEVELOPMENT PROJECT

Site Photographs



Study Area Boundary

Project Location

HbA - Hanford Sandy Loam, 0 to 2 percent slopes

N

0 100 200 400

Feet

1 inch = 200 feet

Coordinate System: State Plane 5 NAD 83
Projection: Lambert Conformal Conic
Datum: NAD83
Map Prepared by: K. Kartunen, GLA
Date Prepared: February 27, 2020

REDLANDS PROPERTY DEVELOPMENT PROJECT

Soils Map

GLENN LUKOS ASSOCIATES

Exhibit 5

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