
APPENDIX D3
Biological Technical Report



Biological Technical Report for
The District at Jurupa Valley Project Site
Jurupa Valley, California

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Acronyms and Abbreviations

BMP	best management practices
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CFGF	California Fish and Game Code
City	City of Jurupa Valley
CNPS	California Native Plant Society
COS	conservation and open space
CRPR	California Rare Plant Rank
CWA	Clean Water Act
dB(A)	A-weighted decibels
DBESP	Determination of Biologically Equivalent or Superior Preservation
ESA	Endangered Species Act
JDC	Jurupa Ditch Company
JCSD	Jurupa Community Services District
L_{eq}	hourly noise equivalent
MBTA	Migratory Bird Treaty Act
MSHCP	Western Riverside County Multiple Species Habitat Conservation Plan
OHWM	Ordinary High-Water Mark
project	The District at Jurupa Valley Project
RCSD	Rubidoux Community Services District
RECON	RECON Environmental, Inc.
RWQCB	Regional Water Quality Control Board
SR-60	State Route 60
TNW	traditionally navigable waters
USACE	U.S. Army Corps of Engineers
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
WRCRCA	Western Riverside County Regional Conservation Authority

Executive Summary

The District at Jurupa Valley Project (project) proposes to develop the approximately 248.3-acre project area. The project area is located primarily on a previously developed site dominated by disturbed land, with a small area of disturbed riparian habitat along the Jurupa Ditch, a man-made irrigation canal. The project area was evaluated to determine the current condition of the biological resources present including an assessment of the potential for federal, state, and local sensitive species to occur. Additional survey effort for compliance with Western Riverside County Multiple Species Habitat Conservation Plan was also conducted. A western burrowing owl (*Athene cunicularia hypugaea*) habitat assessment in accordance with Step I of the Burrowing Owl Survey Instructions (Western Riverside County Regional Conservation Authority 2006) was conducted within the project site plus accessible land within 150 meters (500 feet). A focused survey for burrowing owl in accordance with Step II (Part A and Part B) was also conducted. A habitat assessment for three sensitive plants, Brand's star phacelia (*Phacelia stellaris*), San Diego ambrosia (*Ambrosia pumila*), and San Miguel savory (*Clinopodium chandleri*), and the Delhi Sands flower-loving fly (*Rhaphiomidas terminatus*) was also conducted to determine whether there was a potential for these species to be present. A subsequent more detailed habitat assessment for the Delhi Sands flower-loving fly was also conducted.

RECON Environmental, Inc. conducted a general biological survey, western burrowing owl habitat assessment, and jurisdictional assessment for the project on December 16 and 17, 2021. Additional assessments and surveys were conducted in June, July, and August 2022.

The project would impact the following three vegetation communities/land cover types: disturbed land, disturbed riparian, and developed land. Impacts to disturbed land and developed land would not be considered significant under California Environmental Quality Act based on lack of sensitive vegetative resources; however, to comply with the requirements of the Multiple Species Habitat Conservation Plan (MSHCP), a Local Development Mitigation Fee is required for the total acreage of project impacts. Impacts to the Jurupa Ditch, including the disturbed riparian vegetation, and an unnamed ephemeral channel may require permitting through the U.S. Army Corps of Engineers Los Angeles District (Clean Water Act Section 404), Regional Water Quality Control Board Santa Ana District (Clean Water Act Section 401 Water Quality Certification), and California Department of Fish and Wildlife Inland Deserts Region (California Fish and Game Code Section 1600 Lake or Streambed Alteration Agreement). A determination of the extent of jurisdiction will be made by each agency based on current regulations.

No sensitive plant species were observed in the project area, and none are expected to occur based on a review of federal, state, and local databases, level of previous development and current disturbance onsite, and the lack of suitable habitat (e.g., vegetation and soils). Therefore, no impacts are anticipated, and no mitigation would be required.

The habitat assessment for Brand's star phacelia, San Diego ambrosia, and San Miguel savory was completed concurrently with general biological surveys in compliance with MSHCP requirements. No suitable habitat for these species was identified within the project area based on the level of previous development and current disturbance on-site, and the lack of suitable habitat; therefore, no additional surveys are recommended.

Two sensitive wildlife species, Cooper's hawk (*Accipiter cooperii*), and monarch (*Danaus plexippus*) were incidentally detected in the survey area. Cooper's hawk has a moderate potential to nest on-site but neither overwintering or host plant for the monarch were identified on-site. Based on a review of federal, state, and local databases and evaluation of the biological resources on-site, the only other species with a moderate potential to occur is western burrowing owl, which has some potential to nest/occur within the survey area and be directly impacted. The habitat assessment for western burrowing owl was completed in accordance with Step I of the Burrowing Owl Survey Instructions (Western Riverside County Regional Conservation Authority 2006) and identified suitable habitat in the project area. Based on the results of the habitat assessment, focused surveys for burrows and burrowing owl in accordance with Step II-Part A and Step II-Part B were conducted in June and July 2022, and no burrowing owl were detected. In addition, the project area has the potential to support nesting migratory birds protected by the federal Migratory Bird Treaty Act and California Fish and Game Code Sections 3503 and 3503.5.

The habitat assessment for Delhi sands flower-loving fly was conducted concurrently with general biological surveys. Based on the level of current and historic disturbance on the site and the lack of any native vegetation typically associated with this species' habitat, no suitable habitat for this species was identified within the project area. However, the presence of mapped Delhi Sands soils indicated a need for an additional more in-depth assessment, which was subsequently conducted by qualified biologists in August and September 2022. This assessment confirmed that the site does not support suitable habitat for the fly, which is consistent with the results of a focused survey conducted on the site in 2004. Based on this, no additional surveys are recommended.

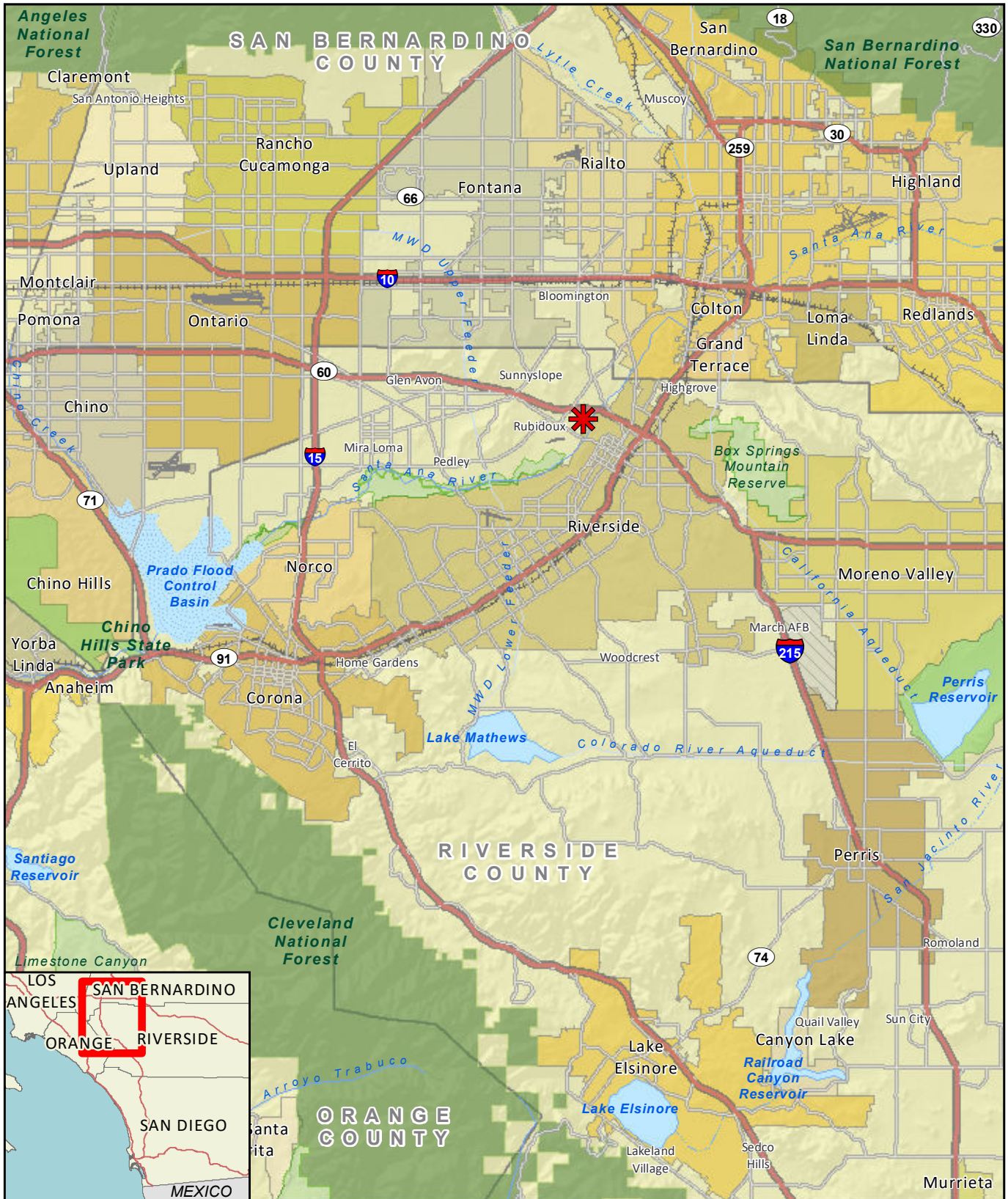
Given the presence of suitable burrowing owl habitat, pre-construction surveys must be conducted within 30 days of ground disturbance within the project area. To avoid potential direct impacts to nesting birds (including Cooper's hawk) a pre-construction nest survey would be required prior to the start of construction during the breeding season (February 1 to September 15). If nests are detected, an avoidance buffer of appropriate radius and biological monitoring would be required.

1.0 Introduction

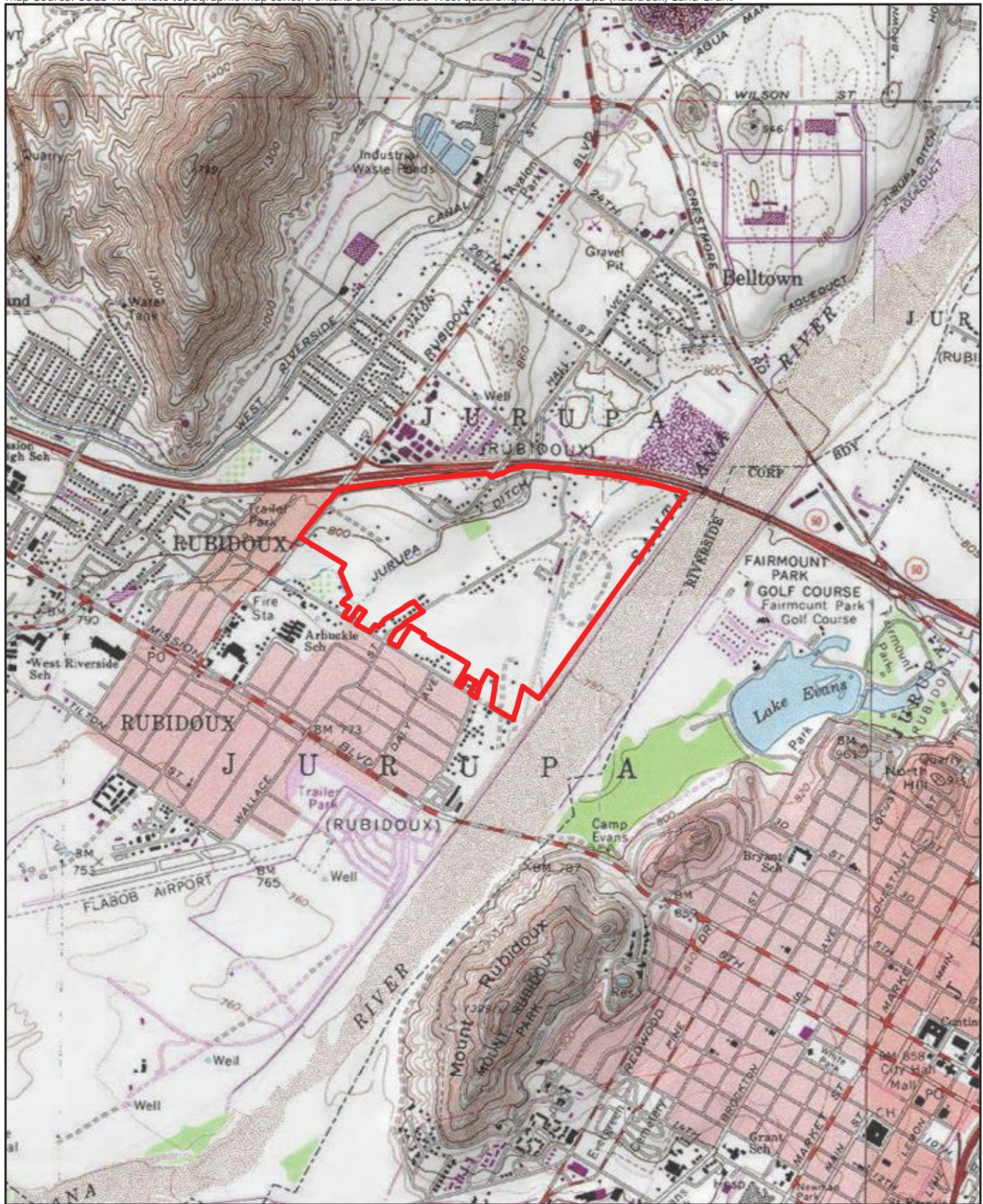
This report describes the results of the biological resource survey conducted for the approximately 248.3-acre The District at Jurupa Valley Project (project). This report provides the necessary biological data and background information required for environmental analysis according to guidelines set forth in the Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP; Western Riverside County Regional Conservation Authority [WRCRCA] 2003), and the California Environmental Quality Act (CEQA). This report also discusses the project's compliance with sections 6.1.2, 6.1.3, 6.1.4, and 6.3.2 of the MSHCP (WRCRCA 2003).

1.1 Project Location

The project is located within the city of Jurupa Valley of the county of Riverside, California (Figure 1). The project area is located within a portion of the Jurupa (Rubidoux) Land Grant area on the U.S. Geological Survey (USGS) 7.5-minute topographical maps Fontana and Riverside West, California quadrangles (Figure 2). The project lies to the south of State Route 60 (SR-60), north of 34th Street, east of Rubidoux Boulevard, and west of the Santa Ana River (Figure 3).



 Project Location



 Project Area

FIGURE 2
Project Location on USGS Map



 Project Area

FIGURE 3
Project Location on Aerial Photograph

The project is located at approximately 34.0 decimal degrees latitude and -117.39 decimal degrees longitude. The majority of the project area has been cleared and is devoid of significant vegetation. Areas that have the most vegetation are associated with the lower portion of the Jurupa Ditch and the plant species are comprised of predominantly non-native annual and perennial species.

The project is located within the Jurupa Plan Area of the MSHCP. A portion of Criteria Cell 187 and Subunit 1-Santa Ana River North is located on-site and continues off-site to the southeast along the Santa Ana River (WRCRCA 2003). The project area is also adjacent to Public/Quasi-Public Conserved Lands designated along the Santa Ana River.

1.2 Project Description

This project proposes to develop the area with a mix of commercial, retail, industrial, and residential properties with their associated infrastructure and utilities. A combination of retail and commercial developments is proposed in the northwestern portion of the project area and an approximately 1.5-million-square-foot industrial facility in the northeastern portion. The southern portion is proposed to become residential developments with a small associated park and recreation area and detention basin.

2.0 Survey Methodology

2.1 Literature Review

Prior to conducting field investigations, RECON Environmental, Inc. (RECON) conducted a review of the WRCRCA MSHCP Information Map (WRCRCA 2021) for information on required biological investigations for the project site. In addition, RECON performed a literature and database review for potentially occurring sensitive plant and animal species within ten miles of the project site. Databases reviewed include the California Department of Fish and Wildlife (CDFW) California Natural Diversity Database (CDFW 2022), the U.S. Fish and Wildlife Service (USFWS) All Species Occurrences Database (USFWS 2021), Consortium of California Herbaria (2022), and the California Native Plant Society (CNPS) Online database (CNPS 2021a). A 10-mile radius search area was used for each of the databases and the species returned were filtered based on sensitivity level (e.g., federally and state listed), known presence within a 1-mile radius, and presence of general habitat parameters (e.g., elevation range, presence of vegetation/habitat such as vernal pools, marsh, or riparian forest). In addition, an Information for Planning and Consultation resource list was generated for federally listed species' evaluation purposes.

2.2 General Biological Survey

RECON biologists Alexander Fromer and Jade Woll conducted a general biological survey and western burrowing owl habitat assessment on December 16, 2021, between 10:00 a.m. and 3:40 p.m. and on December 17, 2021 between 8:15 a.m. and 12:00 p.m. (Table 1). Weather conditions during the survey were mild and cool, with temperatures between 56 and 69 degrees Fahrenheit, wind

between zero and three miles per hour, and cloud cover decreasing from 20 percent to zero percent. The survey area totaled approximately 248.3 acres and included the entire project site.

The general biological survey was conducted on foot within all accessible portions of the survey area. The biologists mapped vegetation communities, recorded vegetation and habitat characteristics, and noted wildlife and plant species apparent at the time of the survey.

Nomenclature in this report follows the Jepson Online Herbarium (Jepson Flora Project 2021), CNPS (2021), and Brenzel (2001) for plant species, American Ornithological Society Checklist (Chesser et al. 2021) and Unitt (2004) for birds, American Society of Mammalogists (2021) for mammals; Crother et al. (2017) for amphibians and reptiles, and Evans (2008) for invertebrates.

Date	Survey Type	Surveyors	Beginning Conditions	Ending Conditions
12/16/21	General Survey; Aquatic Resources Evaluation; BUOW Step I Habitat Assessment a	A. Fromer, J. Sundberg, J. Wall	10:00 a.m.; 56°F; 0-2 mph; 15% cc	3:40 p.m.; 58°F; 0-1 mph; 20% cc
12/17/21	General Survey; Aquatic Resources Evaluation; BUOW Step I Habitat Assessment b	A. Fromer, J. Sundberg, J. Wall	8:15 a.m.; 56°F; 0-1 mph; 0% cc	12:00 p.m.; 69°F; 1-3 mph; 0% cc
6/28/22	Step II-Part A Burrow Survey and Step II-Part B Owl Survey #1a	A. Fromer, J. Woll, C. Poley	6:50 p.m.; 90°F; 2-4 mph; 0% cc	9:05 p.m.; 85°F; 0-1 mph; 0% cc
6/29/22	Step II-Part A Burrow Survey and Step II-Part B Owl Survey #1b	A. Fromer, J. Woll, C. Poley	4:40 a.m.; 65°F; 0-1 mph; 0% cc	7:40 a.m.; 76°F; 0-1 mph; 0% cc
7/5/22	Step II-Part B Owl Survey #2a	A. Fromer, J. Woll	6:45 p.m.; 83°F; 3-5 mph; 0% cc	8:55 p.m.; 76°F; 2-4 mph; 0% cc
7/6/22	Step II-Part B Owl Survey #2b	A. Fromer, J. Woll	4:45 a.m.; 64°F; 0-1 mph; 0% cc	7:40 a.m.; 64°F; 1-3 mph; <5% cc
7/6/22	Step II-Part B Owl Survey #2c	A. Fromer, J. Woll	6:05 p.m.; 86°F; 5-7 mph; 0% cc	9:00 p.m.; 81°F; 0-2 mph; 0% cc
7/12/22	Step II-Part B Owl Survey #3a	A. Fromer, J. Woll, C. Poley	4:50 a.m.; 64°F; 0-1 mph; 0% cc	7:45 a.m.; 66°F; 1-2 mph; 0% cc
7/12/22	Step II-Part B Owl Survey #3b	A. Fromer, J. Woll, C. Poley	6:05 p.m.; 86°F; 5-6 mph; <5% cc	9:00 p.m.; 74°F; 4-7 mph; <5% cc
7/13/22	Step II-Part B Owl Survey #4a	A. Fromer, J. Woll, C. Poley	4:50 a.m.; 63°F; 0-1 mph; <5% cc	7:45 a.m.; 69°F; 0-1 mph; <5% cc
7/13/22	Step II-Part B Owl Survey #4b	A. Fromer, J. Woll, C. Poley	6:30 p.m.; 90°F; 5-7 mph; <5% cc	8:55 p.m.; 76°F; 0-1 mph; 0% cc
8/19/22	DSFLF Habitat Assessment	T. McGill*	--	--
9/11/22	DSFLF Habitat Assessment	G. Bruyee*	--	--

°F = degrees Fahrenheit; mph = miles per hour; % = percent, cc = cloud cover; BUOW = burrowing owl; DSFLF = Delhi Sands flower-loving fly; *= ELMT Consulting, Inc. and Bruyee Biological Consulting

2.3 Western Burrowing Owl

2.3.1 Habitat Assessment

A western burrowing owl habitat assessment was conducted in accordance with Step I of the guidelines developed by the County of Riverside (survey guidelines; WRCRCA 2006) and was performed concurrently with the general biological survey (see Table 1).

As required by the survey guidelines, the survey area included in the habitat assessment included all areas identified as MSHCP western burrowing owl survey area within the impact footprint and within 150 meters (approximately 500 feet). The habitat assessment area was surveyed on foot and using binoculars to inspect areas on inaccessible private property. RECON biologists made notes of avian and mammal activity and evidence of owls, natural burrows, or manufactured structures suitable for western burrowing owl during the habitat assessment.

2.3.2 Focused Burrow and Burrowing Owl Surveys

A focused burrow survey was conducted concurrently with the first focused burrowing owl survey in accordance with Step II-Part A of the survey guidelines (see Table 1). Parallel transects were walked through all suitable habitat identified within the project area to locate and map suitable burrows. Areas within a 500-foot buffer of the project area that were inaccessible were surveyed using binoculars. Small-mammal burrows were present throughout the project area. The majority of these burrows are likely from California ground squirrel (*Spermophilus beechyi*), which was observed during the focused burrow survey and subsequent burrowing owl surveys.

Four focused burrowing owl surveys were conducted in accordance with Step II-Part B of the survey guidelines (see Table 1). All surveys were conducted between two hours before sunset and one hour after sunset and one hour before sunrise and two hours after sunrise. Parallel transects were walked through all suitable habitat identified within the project area and burrows were inspected for sign (e.g., pellets, whitewash, and/or feathers). Areas within a 500-foot buffer of the project area that were inaccessible were surveyed using binoculars.

2.4 Delhi Sands Flower-loving Fly Habitat Assessment

A Delhi sands flower-loving fly habitat assessment was conducted concurrently with general biological surveys. The assessment focused on the approximately 44 acres previously mapped as containing Delhi sands soils (U.S. Department of Agriculture 1971). RECON biologists searched for the presence of suitable open, sandy soil, noted the level of soil disturbance, and also reviewed historical aerial photography for past evidence of significant disturbance within the assessment area.

A subsequent habitat assessment was conducted by qualified biologists, including a USFWS permitted biologist, in August and September 2022 (see Table 1).

In addition, Larry Munsey International conducted a single-year focused survey of the area in 2004 and results indicated that the site did not support the species and that there was no longer any suitable habitat or associated plants after intensive agricultural use (Larry Munsey International 2004).

2.5 Narrow Endemic Plant Species Habitat Assessment

In compliance with the MSHCP, a focused habitat assessment for three potentially occurring narrow endemic plant species, Brand's star phacelia, San Diego ambrosia, and San Miguel savory, was also conducted during general biological surveys, focusing on the survey areas identified by the MSHCP. The entire project area was assessed for suitability for each individual species.

2.6 Jurisdictional Assessment

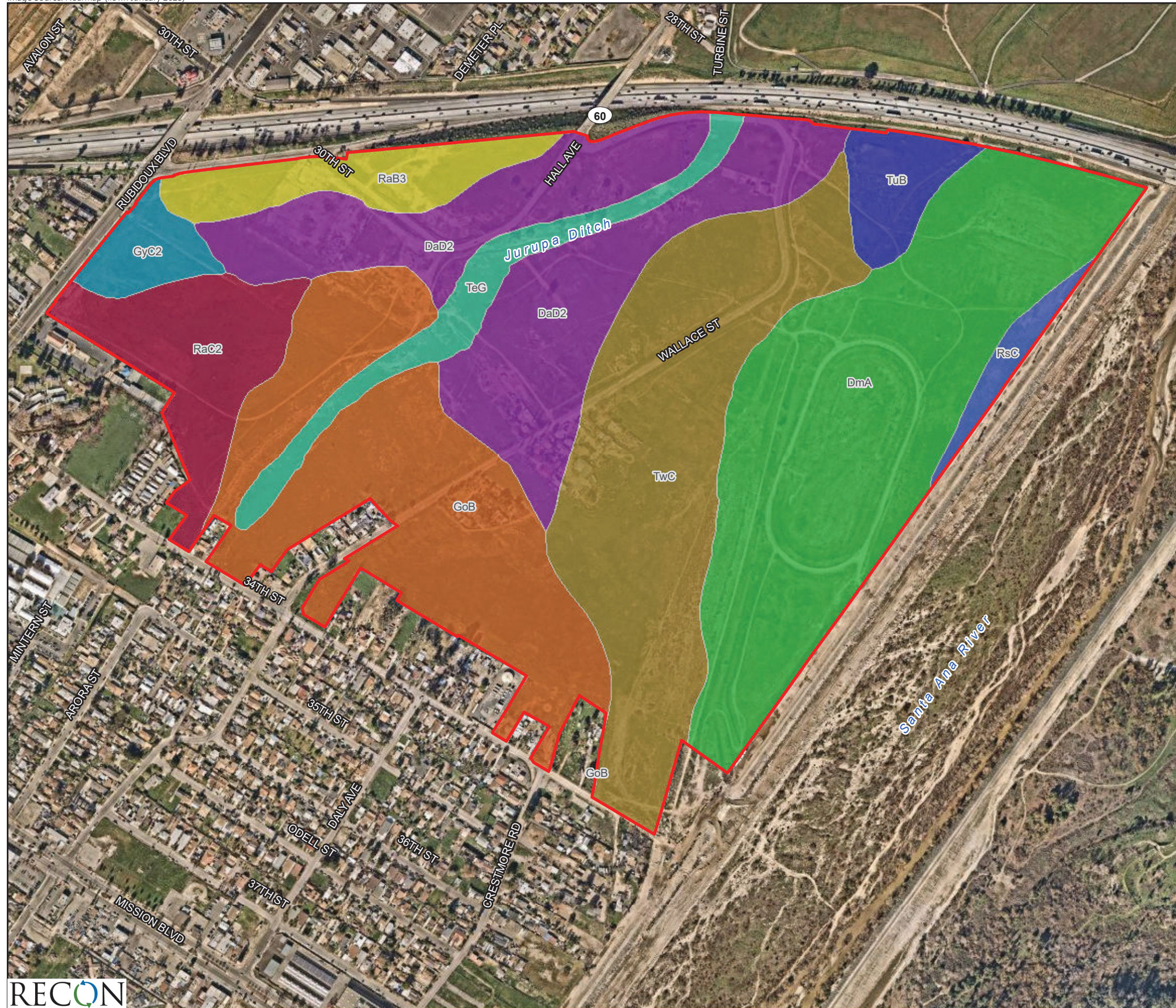
RECON biologist JR Sundberg conducted a jurisdictional waters/wetland assessment within the survey area that on December 17, 2021, concurrently with the general biological survey, according to the guidelines set forth by the U.S. Army Corps of Engineers (USACE; 1987 and 2008) and the updated datasheet (USACE 2010). The extent of potential wetlands and/or waters under the jurisdiction of USACE, Regional Water Quality Control Board (RWQCB), and/or CDFW is presented in Aquatic Resource Delineation Report for The District at Jurupa Valley Project Site (RECON 2023), analyzed in Section 4.4 below, and is based on the results of the delineation and on vegetation mapping. The CDFW jurisdictional determination, specifically, was based on the extent of wetland vegetation associated with the drainage.

3.0 Existing Conditions

3.1 Topography and Soils

The project site is relatively flat, with some slightly elevated flat areas in the northwestern portion that appear to be manufactured slopes. Elevations range from 840 feet above mean sea level in northern edge of the site along SR-60 to 780 feet above mean sea level southwestern portion of the site near the Jurupa Ditch.

A total of eight soil types are mapped within the survey area by the U.S. Department of Agriculture: Delhi fine sand, Dello loamy sand, Grangeville loamy fine sand, Greenfield sandy loam, Ramona sandy loam, Tujunga loamy sand and gravelly loamy sand, terrace escarpments, and riverwash (Figure 4; U.S. Department of Agriculture 1971). Three of these soil types appear on the hydric soils list when special conditions exist, Delhi fine sand, Dello loamy sand, and riverwash; however, none of these special conditions are present on-site and thus no hydric soils are considered to be present (see RECON 2023 for a more detailed discussion). Delhi fine sand soil series is identified as the soil type associated with the Delhi sands flower-loving fly.



- Project Area
- Soil Survey Geographic Database (SSURGO) Soil Type**
(Web Soil Survey, NRCS 2022)
- DaD2 | Delhi fine sand, 2 to 15 percent slopes, wind-eroded
- DmA | Dello loamy sand, poorly drained, 0 to 2 percent slopes
- GoB | Grangeville loamy fine sand, drained, 0 to 5 percent slopes
- GyC2 | Greenfield sandy loam, 2 to 8 percent slopes, eroded
- RaB3 | Ramona sandy loam, 0 to 5 percent slopes, severely eroded
- RaC2 | Ramona sandy loam, 5 to 8 percent slopes, eroded
- TuB | Tujunga loamy sand, 0 to 5 percent slopes
- TwC | Tujunga gravelly loamy sand, 0 to 8 percent slopes
- TeG | Terrace escarpments
- RsC | Riverwash



FIGURE 4
Existing Soils

3.2 Botanical Resources

Three vegetation communities/land cover types were mapped within the survey area: disturbed land, disturbed riparian, and developed land (Table 2 and Figure 5). Additionally, a total of 46 plant species were identified within the survey area, including 19 native (41 percent) and 27 (59 percent) non-native species (Attachment 1).

Disturbed land occurs throughout almost the entirety of the project area (Photographs 1 through 6). The majority of these areas appear to have been historically graded and/or developed and show signs of being recently mowed or disked. Currently, there is low overall vegetation cover consisting mostly of bare ground, non-native weeds, and scattered trees. Historic aerials indicate that the property has been subject to a variety of past land uses including livestock paddocks, horse racing, irrigated agriculture, residential, flood control, and dumping. Dominant plant species vary between areas of the disturbed land but include short-pod mustard (*Hirschfeldia incana*), tumbleweed (*Salsola tragus*), prickly lettuce (*Lactuca serriola*), telegraph weed (*Heterotheca grandiflora*), tocalote (*Centaurea melitensis*), and non-native grasses. Several medium to large trees can be found either individually or in small stands scattered throughout the project area. These trees are comprised of a mix of both native and non-native species such as Fremont cottonwood (*Populus fremontii* ssp. *fremontii*) and Athel (*Tamarix aphylla*).

A small strip of disturbed riparian vegetation occurs along the southern portion of the Jurupa Ditch (Photographs 7 and 8). This vegetation is primarily composed of non-native plant species such as giant reed (*Arundo donax*), and castor bean (*Ricinus communis*) with native species such as arroyo willow (*Salix laevigata*), and patches of desert wild grape (*Vitis girdiana*). This vegetation is managed along the Jurupa Ditch as evidenced by cut back shrubs and grubbing and would normally be dominated by native species without vegetation management.

Developed land (identified in the MSHCP as residential/urban/exotic) within the project area consists of existing paved roads and a private residence. Vegetation within the developed land consists of ornamental and exotic species associated with the residence.

Land Cover Types	Project Area Total
Disturbed land	235.1
Disturbed riparian	1.4
Developed land	11.8
TOTAL	248.3



- Project Area
- Burrowing Owl Survey Area
- Burrow
- Burrow with Some Raptor Sign
- Berm
- Vegetation Community/Land Cover**
- Disturbed Riparian
- Disturbed Habitat
- Urban/Developed



FIGURE 5
Existing Biological Resources



PHOTOGRAPH 1
View of Project Area, Looking Northeast



PHOTOGRAPH 2
View of Project Area, Looking East



PHOTOGRAPH 3
View of Project Area, Looking West



PHOTOGRAPH 4
View of Project Area, Looking Northeast



PHOTOGRAPH 5
View of Project Area, Looking East



PHOTOGRAPH 6
View of Project Area, Looking South



PHOTOGRAPH 7
View of the Jurupa Ditch, Looking Northeast



PHOTOGRAPH 8
View of the Jurupa Ditch, Looking South

3.3 Zoological Resources

A total of 36 wildlife species were identified within the survey area during the general survey and focused burrowing owl surveys (Attachment 2). The wildlife observed on-site are typical species found in developed sites and adjacent natural or naturalized habitats. Species commonly detected include red harvester ant (*Pogonomyrmex barbatus*), western side-blotched lizard (*Uta stansburiana elegans*), mourning dove (*Zenaida macroura*), common raven (*Corvus corax*), black phoebe (*Sayornis nigricans*), song sparrow (*Melospiza melodia*), California ground squirrel (*Otopermophilus beecheyi*), and coyote (*Canis latrans*).

4.0 Sensitive Biological Resources

4.1 Sensitivity Criteria

For purposes of this report, species will be considered sensitive if they are (1) covered species under the MSHCP; (2) listed or proposed to be listed by state or federal agencies as threatened or endangered; (3) on California Rare Plant Rank (CRPR) 1B (considered endangered throughout its range), CRPR 2 (considered endangered in California but more common elsewhere), CRPR 3 (more information about the plant's distribution and rarity needed), and CRPR 4 (plants of limited distribution) of the CNPS Inventory of Rare and Endangered Vascular Plants of California (2021); or (4) considered rare, endangered, or threatened by the California Natural Diversity Database (CDFW 2022, 2021a, 2021b, 2021c, 2021d). Vegetation community/land cover type sensitivity follows the MSHCP (WRCRCA 2003).

4.1.1 State Regulations

CEQA requires an environmental review for projects with potentially adverse impacts on the environment. Adverse environmental impacts are typically mitigated in accordance with state laws and regulations.

The California Endangered Species Act (ESA) is similar to the federal ESA in that it provides the legal framework for the listing and protection of species (and their habitats) that are identified as being endangered or threatened with extinction.

Under Section 3503 of the California Fish and Game Code (CFGC), it is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird, except as otherwise provided by this code or any regulation made pursuant thereto. Section 3503.5 of the CFGC prohibits take, possession, or destruction of any birds in the orders Falconiformes (raptors) or Strigiformes (owls) or of their nests and eggs.

CFGC (Sections 1600 through 1617) regulates project activities within wetlands and riparian habitats. The CDFW can issue a Streambed Alteration Agreement for projects affecting riparian and wetland habitats.

Project activities that fill or dredge within wetland Waters of the State and non-wetland Waters of the State, including isolated waters such as vernal pools and other waters showing lack of connectivity to a Traditional Navigable Waters, require a Water Quality Certification by the California

RWQCB under Section 401 of the Clean Water Act (CWA) and Section 13000 et seq. of the California Water Code under the Porter-Cologne Water Quality Control Act.

4.1.2 Federal Regulations

The Rivers and Harbors Act of 1899 and the CWA regulate project activities within non-marine navigable waters and/or waters of the U.S, including wetlands. Wetlands are defined by the CWA as:

. . . those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances, do support a prevalence of vegetation typically adapted for life in saturated soil conditions (Environmental Protection Agency [EPA], 40 Code of Federal Regulations [CFR] 230.3 and, 33 CFR 328.3).

Wetlands are delineated using three parameters, which include hydrophytic vegetation, hydric soils, and wetland hydrology. According to the USACE, indicators for all three parameters must be present to qualify an area as a wetland. The discharge of any pollutant from a point source into navigable waters is illegal unless a permit under the CWA's provisions is acquired. Permitting for projects that include both permanent and temporary dredging and filling in wetlands and waters of the U.S. is overseen by the USACE under Section 404 of the CWA. Projects can be permitted on an individual basis or be covered by one of several approved nationwide or regional general permits.

The federal ESA provides the legal framework for the listing and protection of species (and their habitats) that are identified as being endangered or threatened with extinction. Actions that jeopardize endangered or threatened species and the habitats upon which they rely are considered "take" under the ESA. Section 9(a) of the ESA defines "take" as "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to engage in any such conduct." The ESA is administered by the USFWS.

The federal Migratory Bird Treaty Act of 1918 (MBTA) was established to provide protection to the breeding activities of migratory birds throughout the U.S. The MBTA, which is enforced by USFWS, makes it unlawful "by any means or in any manner, to pursue, hunt, take, capture, [or] kill" any migratory bird, or attempt such actions, except as permitted by regulation. The take, possession, import, export, transport, sale, purchase, barter, or offering of these activities is prohibited, except under a valid permit or as permitted in the implementing regulations.

4.1.3 Western Riverside County MSHCP

The MSHCP is a comprehensive multi-jurisdictional habitat conservation plan focusing on the conservation of species and their associated habitats in western Riverside County. It is one of several large multi-jurisdictional habitat-planning efforts in southern California with the overall goal of maintaining biological and ecological diversity within a rapidly urbanizing region. The MSHCP allows the County of Riverside and its cities to better control local land use decisions and maintain a strong economic climate in the region while addressing the requirements of the federal ESA (WRCRCA 2003). The MSHCP plan area encompasses 1.26 million acres (1,966 square miles), including all unincorporated Riverside County land west of the crest of the San Jacinto Mountains to the Orange

County line, as well as the cities of Temecula, Murrieta, Lake Elsinore, Canyon Lake, Norco, Corona, Riverside, Moreno Valley, Banning, Beaumont, Calimesa, Perris, Hemet, Menifee, and San Jacinto.

The MSHCP serves as a habitat conservation plan pursuant to Section 10(a)(1)(B) of the federal ESA of 1973, as amended, as well as a Natural Community Conservation Plan under the Natural Community Conservation Planning Act of 2001. The jurisdictions participating in the MSHCP assemble and manage habitat within the coordinated MSHCP Criteria Area. In exchange for this preservation, the USFWS and CDFW have granted these jurisdictions "Take Authorization" for otherwise lawful actions, such as public and private development, that incidentally take or harm species or their habitat outside the MSHCP Criteria Area (WRCRCA 2003).

A total of 146 sensitive plant and wildlife species receive some level of coverage under the MSHCP. Of that total, the majority of these species have no additional survey/conservation requirements, and 16 plant species are classified as "narrow endemic species" based on their limited distributions in the region. These narrow endemics are sensitive biological resources; some are also federally- or state-listed as threatened or endangered. The habitat that supports a narrow endemic species is also considered a sensitive biological resource.

The project area is located within the Jurupa Area Plan of the MSHCP. A portion of Criteria Cell 187 and Subunit 1-Santa Ana River-North is located on-site and continues off-site to the southeast along the Santa Ana River (WRCRCA 2003). The project area is also adjacent to Public/Quasi-Public Conserved Lands designated along the Santa Ana River. The project area is also adjacent to Public/Quasi-Public Conserved Lands within the Santa Ana River to the southeast. In order to comply with the requirements of the MSHCP, a Local Development Mitigation Fee is required for the total acreage of project impacts.

In addition, portions of the project site and surrounding areas are located within a MSHCP western burrowing owl survey area, Delhi sands flower-loving fly survey area, Narrow Endemic Plant Species Survey Area for Brand's star phacelia, San Diego ambrosia, and San Miguel savory (WRCRCA 2003). As such, the project is required to comply with the western burrowing owl survey requirements identified in the MSHCP (WRCRCA 2003). As noted above, a habitat assessment in accordance with Step I of the Burrowing Owl Survey Instructions (WRCRCA 2006) have been completed. The results of those surveys are discussed in Section 4.3.2.

4.2 Sensitive Plants

No sensitive plant species were observed within the survey area during general biological surveys nor incidentally during other focused surveys conducted on-site. No sensitive plants are expected to have a more than a low potential of occurrence based on current and historic uses and disturbances on-site, the lack of native vegetation communities and other habitat requirements, and a review of various agency databases and repositories.

A focused habitat assessment was conducted for MSHCP Narrow Endemics Brand's star phacelia, San Diego ambrosia, and San Miguel savory and none of these species were observed during general surveys or the habitat assessments. No potentially suitable habitat was identified within the project area for any of these species based on lack of vegetation and habitat characteristics and level of current and historic disturbances on-site; therefore, none are expected to occur.

A number of other plant species are known from or have a potential to occur within a 10-mile radius around the site based on database searches. These were evaluated and a more detailed assessment for the potential for sensitive plant species to occur is presented in Attachment 3. The majority of these species were determined to be unlikely to occur with a few species noted to have a low potential to occur. Based on this assessment, no individual sensitive plant species are discussed further.

4.3 Sensitive Wildlife

Two sensitive wildlife species, Cooper's hawk (*Accipiter cooperii*) and monarch (*Danaus plexippus*), were incidentally observed within the survey area during the burrowing owl focused surveys. Cooper's hawk has a moderate potential to nest on-site but neither overwintering nor host plant for the monarch were identified on-site. Based on a review of federal, state, and local databases and evaluation of the biological resources on-site, the only species with greater than a moderate potential to occur is western burrowing owl, which has some potential to nest/occur within the survey area and be directly impacted.

A number of sensitive wildlife species are known from or have a potential to occur within a 10-mile radius around the site based on database searches. These were evaluated and a more detailed assessment for the potential for sensitive wildlife species to occur is presented in Attachment 4.

Sensitive species evaluated through a specific habitat assessment, observed, or with moderate or high potential to occur within the survey area are discussed in further detail below. Species with a low potential or that are unlikely to occur are addressed in more detail in Attachment 4.

4.3.1 Cooper's Hawk

Cooper's hawk is a CDFW watch list species, is protected by the CFGC and the MBTA, and an MSHCP covered species and has a moderate potential to nest within the trees found scattered throughout the disturbed land found within the project area. Additional, higher quality nesting habitat occurs in the riparian habitat within the Santa Ana River channel east of the project site. The disturbed lands within the survey area and in the surrounding land provide foraging opportunities for this species.

4.3.2 Western Burrowing Owl

The western burrowing owl is a CDFW species of special concern, is protected by the CFGC and the MBTA, and an MSHCP covered species. In conjunction with general biological surveys, a habitat assessment (Step I), focused burrow survey (Step II-Part A), and focused burrowing owl survey (Step II-Part B) was completed in accordance with the MSHCP survey guidelines (WRCRCA 2006). The western burrowing owl survey report detailing the results of the complete survey has been prepared and is summarized as a part of this document (RECON 2022).

During the habitat assessment, it was determined that all areas within the project area provide potentially suitable habitat for western burrowing owl due to the sparse and low-lying nature of the undeveloped areas on-site (Photographs 9 and 10). These areas include large expanses of flat ground with low to moderate herbaceous cover and little to no shrub cover and earthen berms and mounds throughout. In addition, a few areas within a 500-foot buffer of the project area provide potentially suitable habitat. These areas include disturbed habitat north of SR-60. The majority of the areas within the 500-foot buffer are either highly developed, within an actively maintained river channel,

or adjacent to SR-60 and did not provide suitable habitat for western burrowing owl. Small-mammal burrows (including those of ground squirrel) were observed within the project area (Photographs 11 and 12). These burrows average four to five inches in width and are large enough to be suitable for western burrowing owl. In addition, several cement culverts, debris piles, and other small man-made structures exist within the survey area that may be utilized by burrowing. No burrowing owls were observed during the habitat assessment, but potential burrows were detected a few showing sign of burrow use (e.g., whitewash, feathers, pellets, or bones) were observed.

Based on the results of the habitat assessment, a focused burrow survey of the survey guidelines was conducted, and a number of burrows were detected within the project area (see Figure 5). Based on the results of focused burrow surveys, focused burrowing owl surveys were conducted during the burrowing owl breeding season (March 1 to August 31) per the survey guidelines (WRCRCA 2006). See Table 1 for survey dates. No burrowing owl or evidence of active burrows were detected during protocol surveys. Results and survey details are presented under separate cover (RECON 2022).

Based on the presence of suitable habitat for western burrowing owl on-site, pre-construction surveys will be required and must be conducted within 30 days prior to ground disturbance per the survey guidelines (WRCRCA 2006).

4.3.3 Delhi Sand's Flower-loving Fly

The Delhi sands flower-loving fly is a USFWS endangered species and an MSHCP covered species. In conjunction with general biological surveys, a habitat assessment was completed for this species. While Delhi soils have been mapped within the project area, most of these areas have been heavily disturbed and would not be considered suitable habitat (see Figure 4).

The results of the focused habitat assessment are included as Attachment 5 (ELMT Consulting, Inc. 2023). The assessment is excerpted here:

A narrow band, approximately 22 acres on either side of the Jurupa Ditch has been designated as Delhi Sand soils. These 44 acres of Delhi Sand soils are surrounded by approximately 205 acres of loamy sand soils and sandy loam soils. The 140 years of agricultural uses of the project site (rotation of crops, disking of the soil, the creation and maintenance of the Jurupa Ditch for conveying water, and use of the land for horse corrals and pastureland) has thoroughly mixed and contaminated the clean Delhi Sands soils from within the central portion of the project. As a result, the project site no longer supports the clean, unconsolidated Delhi Sands soils needed to support a DSF [Delhi sands flower-loving fly] population. Most of the [Delhi Sand] soils are heavily compacted. Those few areas identified with unconsolidated soils supports soils that are highly contaminated with organics from 140 years of agricultural use. The 40-acre of Delhi Sand soils was rated as unsuitable DSF habitat with a habitat quality rating of 1.

Given the unsuitable rating of Delhi sand soils, the general lack of DSF sightings in this area of Jurupa Valley north of the Santa Ana River, the recognized adverse changes in soil chemistry of Delhi Sand soils in areas subjected to previous agriculture activities, it is highly unlikely that the site is occupied or that the site can become occupied in future. A focused protocol survey for DSF is not recommended for the site based on current conditions and the lack of unconsolidated clean Delhi series soils.



PHOTOGRAPH 9
View of Western Burrowing Owl Habitat, Looking East



PHOTOGRAPH 10
View of Western Burrowing Owl Habitat, Looking South



PHOTOGRAPH 11
View of Small Mammal Burrows, Looking North



PHOTOGRAPH 12
View of Small Mammal Burrows, Looking West

4.3.4 Monarch

The monarch is not currently state or federally listed; however, the federal status is being reviewed annually in the Candidate Notice of Review. This species is considered as a "candidate" for listing either as federally threatened or endangered until more information is available (USFWS 2020). One monarch was observed during western burrowing owl surveys in the vicinity of the Jurupa Ditch. While this species has a moderate potential to nectar within the project area, it is not expected to breed within the project area due to a lack of suitable overwintering habitat and absence of its host plant, milkweed (*Asclepias* sp.).

4.4 Jurisdictional Resources and Riparian/Riverine Areas

Sample soil pits were dug within potential wetland habitats such as the disturbed riparian, and area along the drainage ditches (RECON 2023). The soils at the sample points did not meet the hydric soil parameters, although one sample pit had redox features that began below the depth as per the sandy redox criteria and thus did not qualify. There were sample points in the disturbed riparian along Jurupa Ditch that met the hydrophytic vegetation parameter. When hydrology indicators were observed they consisted of secondary riverine indicators such as drift deposits. To qualify as wetlands according to the guidelines set forth by the USACE, all three parameters must be met, and there must be a significant nexus to traditionally navigable waters (TNW). All waters of the of the U.S. qualify as wetlands of the state. The RWQCB will also assert jurisdiction over isolated water, that is waters without significant nexus to a TNW. For CDFW riparian areas only the vegetation parameter must be met, and the vegetation must be associated with a stream channel. Aerial photography and topographic maps indicate that water flowing out of the project area has connectivity with a network of downstream channels, eventually emptying into the Santa Ana River. The location of aquatic resources identified within the project area are shown on Figure 6.

Non-wetland waters are defined by water in a typical year which is evidenced by indicators such as drift deposits, changes in sediment, changes in vegetation, and change in slope at the ordinary high-water mark (OHWM). USACE will take jurisdiction of non-wetland waters within the OHWM that have significant nexus to a TNW. RWQCB will also take jurisdiction over the same non-wetland water whether or not significant nexus exists. CDFW will assert jurisdiction over streambeds under CFGC 1602.

Two non-wetland water features were delineated within the project area (Table 3). The Jurupa Ditch is a man-made irrigation canal and is managed through the Jurupa Ditch Company (JDC), a California corporation that falls under California Corporations Code Section 14300, giving it the same status as a mutual water company. The JDC was formed in 1902 to "take, acquire, appropriate, buy, own, hold and lease water, water rights and privileges for the purposes of delivering water to the stockholders for irrigation and domestic use..." The JDC has a right to delivery of 300 inches of water (approximately 5000 acre-feet of water per year) at the "mouth of the ditch," which has been deemed to occur at the JDC intake structure upstream of the project area. That delivery is controlled by the JDC for ultimate delivery to shareholders that are located along the Jurupa Ditch.



- Project Area
- Delineation Sample Point
- OHWM Transect
- USACE -RWQCB / CDFW**
- Non-wetland Water / Streambed (Waters ID)
- CDFW**
- Riparian



FIGURE 6
Location of Aquatic Resources

Historically, the Jurupa Ditch has continued to supply water to its shareholders and to the Louis Rubidoux Nature Center. However, itinerant communities along the Jurupa Ditch have illegally accessed the Jurupa Ditch and water losses have been documented. The JDC has now received grant funds to improve delivery of water to its shareholders and the project scope includes putting as much of the Jurupa Ditch underground as possible. The grant funds must be used by 2026. As part of the infrastructure improvements planned by JDC, water will be supplied at Sunnyslope Creek, for use as habitat uptake or for aquatic resources (JDC, pers. comm. July 28, 2022).

Resource	Non-wetland Waters	Riparian (non-wetland)	Total
Jurupa Ditch	0.27	1.18	1.45
Eastern Drainage	2.83	--	2.83
TOTAL	3.10	1.18	4.28

The second non-wetland water is an ephemeral drainage course which enters the site from the north and under high flow conditions drains into the Santa Ana River located off-site to the east (eastern drainage). This channel is earthen at both the northern and southern segments and underground in pipes in the north-central segment. The drainage course has been channelized by berms along the southern segment.

The aquatic resource delineation is used to identify and map the extent of the wetland and non-wetland waters as defined by the USACE. The USACE would review the content of the Aquatic Resource Delineation Report (RECON 2023) and ultimately make a determination of federal jurisdiction for any waters of the U.S. that may be present in the project area. State agencies (i.e., RWQCB and CDFW) would also need to review the delineation report findings and make a determination of jurisdiction. These resources also meet the MSHCP definition of riparian/riverine habitat.

4.4.1 Potential Waters of the U.S. – USACE

The Jurupa Ditch appears to contain perennial flow based on the presence of algae, and sediment sorting. It flows out of the Review Area to the northwest and eventually into the Santa Ana River. As this aquatic feature is man-made and supplied by well water to serve downstream customers it may qualify for an exemption from USACE jurisdiction. The eastern drainage may be a tributary to the Santa Ana River and exhibits ephemeral water flow. This feature flows out of the Review Area south and eastward and into the Santa Ana River.

Up to a total of 3.10 acres (4,462 linear feet) of potentially non-wetland waters were identified within the project area. No areas were identified on the site that meet the three criteria for a wetland per the USACE guidelines (USACE 1987, 2008a).

4.4.2 Potential Waters of the State – CDFW

Approximately 1.18 acres of disturbed riparian habitat along Jurupa Ditch in the western portion of the survey area could be jurisdictional to CDFW under Section 1600-1617 of the CFGC. The assessment of the disturbed riparian habitat is based on the dominance of species typical of riparian habitats in southern California that are considered at least wetland facultative species on the National Wetland Plants List (USACE 2020). The remainder of the Jurupa Ditch and the storm drain channel may be a CDFW jurisdictional Water of the State for a total of up to 3.10 acres.

4.4.3 Potential Waters of the State – RWQCB

Approximately 1.18 acres of disturbed riparian along Jurupa Ditch would likely be considered a RWQCB wetland Water of the State. The remainder of the Jurupa Ditch and the storm drain channel may be a RWQCB jurisdictional non-wetland Water of the State for a total of 3.10 acres. However, the Jurupa Ditch, as an irrigation canal, is used and is being maintained for agricultural purposes and therefore may be exempt from Section 401 upon review by the RWQCB; however, a Water Discharge Requirements permit may still be required per the Porter-Cologne Act.

4.4.4 Riparian/Riverine Area – MSHCP

The MSHCP defines “riparian/riverine” habitat as “lands which contain habitat dominated by trees, shrubs, persistent emergents, or emergent mosses and lichens, which occur close to, or which depend upon soil moisture from a nearby fresh water source; or areas with freshwater flow during all or a portion of the year” in accordance with Section 6.1.2 of the MSHCP (WRCRCA 2003).

The 1.4-acre disturbed riparian habitat along the Jurupa Ditch would be considered a riparian/riverine resource because it contains riparian vegetation and is supported by persistent flows within a drainage channel (see Table 1). The channel flows from northeast to southwest, originating from a well north of the project area and entering the site via underground pipe. Open water emerges from the pipe and flows through a concrete v-ditch for several hundred feet, from which point it flows in an earthen bottomed channel until it continues off the western portion of the project site. The earthen bottom portion of the Jurupa Ditch supports disturbed riparian vegetation including both native and non-native species that appeared to have trimmed or mowed recently.

5.0 Project Impacts

Biological impacts from the proposed project are shown on Figure 5 and are analyzed below in accordance with the MSHCP and CEQA. Potentially significant impacts are identified for riparian vegetation/aquatic resources, nesting migratory birds, Cooper’s hawk and other tree-nesting raptors, and burrowing owl. These are discussed in more detail below.

5.1 Vegetation Communities

The project would cause permanent, direct impacts to the following three vegetation communities/land cover types: disturbed land, disturbed riparian, and developed land (Table 4; see Figure 5).

Land Cover Types	Existing within Survey Area
Disturbed Land	235.1
Disturbed Riparian	1.4
Developed Land	11.8
TOTAL	248.3

Per the MSHCP, a Local Development Mitigation Fee is required for the total acreage of project impacts. The disturbed riparian habitat along the Jurupa Ditch would be impacted. As discussed in Section 4.4.4, these areas would be considered riparian/riverine areas and impacts would be considered significant and require mitigation in accordance with the MSHCP and wetland regulatory agencies.

5.2 Sensitive Plant Species

No sensitive plant species were observed during the general surveys or incidentally during focused surveys conducted for burrowing owl, and none are expected to occur. Therefore, no significant impacts to sensitive plant species are anticipated and no mitigation would be required.

Indirect impacts to any sensitive plants that may be present in adjacent off-site areas (e.g., Santa Ana River) are addressed in Section 7.4 below, which addresses project compliance with MSHCP Section 6.1.4, which addresses requirements related to indirect impacts for projects adjacent to within or adjacent to a MSHCP Criteria Area, Criteria Cell, or Conservation Area. Implementation of these urban/wildlife interface and adjacency guidelines will either avoid or reduce any indirect impacts to less than significant.

5.3 Wildlife Species

The project may result in direct impacts to general wildlife, such as small mammals and reptiles with low mobility, during construction. However, most mammal species and birds would be able to move out of the way during grading to avoid being impacted. Potential impacts to low-mobility wildlife are considered less than significant as they would not reduce the populations of general wildlife to a less than self-sustaining level and, therefore, would not require mitigation.

Direct impacts to active nests of migratory birds and sensitive wildlife species are discussed below and indirect impacts to any sensitive wildlife that may be present in adjacent Santa Ana River are

addressed in Section 5.5 below. In addition, Section 7.4 addresses project compliance with MSHCP Section 6.1.4, including requirements related to indirect impacts for projects adjacent to within or adjacent to a MSHCP Criteria Area, Criteria Cell, or Conservation Area.

5.3.1 Nesting Migratory Birds

The project has potential to result in direct impacts to migratory or nesting birds protected by the MBTA and CFGC Section 3503 if vegetation removal and/or project grading occurs during the bird breeding season (February 1 to September 15). Direct impacts to nesting and migratory birds would be considered significant. Measures to avoid impacts to nesting migratory birds are described in Section 6.1.1.

5.3.2 Cooper's Hawk, White-tailed Kite, and Other Tree-Nesting Raptors

Several trees found scattered throughout the project area are large enough to potentially provide suitable nesting habitat for Cooper's hawk and other tree-nesting raptors, e.g., American kestrel (*Falco sparverius*), white-tailed kite (*Elanus leucurus*), great horned owl (*Bubo virginianus*), and red-tailed hawk (*Buteo jamaicensis*). These species are considered adequately covered by the MSHCP and no high-quality riparian habitat within the portions of the Criteria Cell existing within the survey area will be impacted. Indirect impacts would include loss of foraging habitat and potential noise impacts from construction activities as well after development. However, trees are to be installed as a part of the final landscaping plan for the project and the adjacent suitable nesting habitat within the Santa Ana River will not be impacted. Therefore, impacts to these species would be considered less than significant under CEQA and the MSHCP.

However, these species are protected by the MBTA and CFGC Section 3503.5, and direct impacts to nesting individuals would be significant and need to be avoided. Measures to avoid impacts to Cooper's hawk, white-tailed kite, great horned owl, and other raptors are described in Section 6.1.1. Burrowing owl is not considered a tree-nesting raptor and is discussed separately in the next section.

5.3.3 Western Burrowing Owl

The disturbed land within the project site provides suitable nesting and foraging habitat for western burrowing owl. Additionally, during the habitat assessment potentially suitable burrows were identified. As suitable habitat was identified, a focused burrow survey as well as burrowing owl surveys were conducted. No burrowing owls were detected, and no active burrows were identified (RECON 2022). Therefore, no significant impact to the species is anticipated; however, the presence of suitable habitat will require pre-construction surveys to be conducted to ensure avoidance of any individuals.

5.3.4 Monarch

While one adult monarch was observed, no suitable overwintering habitat or host plant for breeding was observed within the project area. As this species is not expected to breed or overwinter within the project area, no significant impacts to this species are anticipated to occur.

5.3.5 Wildlife Movement

As a highly disturbed parcel, the survey area supports little in terms of native cover or sensitive biological resources. The Jurupa Ditch does provide some open water and disturbed riparian vegetation; however, this is isolated and variable, given that this is a water delivery channel and subject to water control and maintenance. While the site is adjacent to the Santa Ana River and may serve as an extension of open space available to local wildlife for foraging, it is highly constrained as a wildlife movement corridor to any other habitat areas for the following reasons:

- The site is fenced by 6-foot chain link. While the fencing does have some periodic gaps, it largely serves as a barrier to movement for medium to large mammals.
- The site is bounded by residential development to the southeast and west and SR-60 along the northern border. The only viable paths north of the site and across the freeway are either through a single box culvert under SR-60 in the northeastern portion of the site or over the freeway along Hall Road, which is also fenced along both sides, or Rubidoux Road, a busy multi-lane road that is also separated from the site by chain link fencing.
- The land north of SR-60 is also fairly developed along both Rubidoux Road and along the west side of Hall Road. There is not a direct corridor of open space connecting the project site with the larger open space areas north and northwest of the site. The site immediately north of the project site is an inactive landfill and is currently undeveloped, with the exception of a solar development in the northwest corner of the site.
- The MSHCP evaluated preserve design within the plan area and did not identify any proposed linkages or constrained linkages that connects the Santa Ana River corridor linkage with the Jurupa Mountains (WRCRCA 2003). The MSHCP identifies the Jurupa Mountains as a non-contiguous habitat block, further indicating the isolation of the habitat from other open space areas and linkages and corridors.

Therefore, impacts to the project area would not substantially interfere with the movement of any native resident or migratory species or impact any wildlife movement corridors or nursery sites and impacts would be less than significant.

5.4 Jurisdictional Resources

The proposed project would impact all jurisdictional resources found within the project area. Details of these impacts per regulatory agency are discussed below.

5.4.1 Potential Waters of the U.S. – USACE

The project is anticipated to impact up to 3.10 acres (4,462 linear feet) of potential jurisdictional non-wetland waters of the U.S. However, the Jurupa Ditch is used and is being maintained for agricultural purposes and therefore may be exempt as a water of the state upon review by the USACE.

Waters of the U.S. under USACE jurisdiction are regulated under a no-net-loss policy, and all proposed permanent impacts to jurisdictional resources must be mitigated pursuant to regulatory agency requirements. A formal jurisdictional determination by the USACE would be required to confirm the extent of jurisdictional resources and associated impacts. If USACE does take jurisdiction over these resources, impacts would require a Clean Water Act Section 404 permit.

5.4.2 Potential Waters of the State – CDFW

The project is anticipated to impact up to 1.18 acres of potential CDFW jurisdictional wetlands and 3.10 acres (4,462 linear feet) of CDFW jurisdictional non-wetland Water of the State, for a potential total of 4.28 acres. These include lakes and stream channels and their associated vegetation.

Waters of the State under CDFW jurisdiction are regulated under a no-net-loss policy, and all proposed permanent impacts to jurisdictional resources must be mitigated pursuant to regulatory agency requirements. A formal jurisdictional determination by the CDFW would be required to confirm the extent of jurisdictional resources and associated impacts. If CDFW does take jurisdiction over these resources, impacts would require a Lake or Streambed Alteration Agreement (CFGC Section 1600–1617).

5.4.3 Potential Waters of the State – RWQCB

The project is anticipated to impact up to 1.18 acres of potential RWQCB wetland Water of the State and 3.10 acres (4,462 linear feet) of RWQCB non-wetland Water of the State, for a potential total of 4.28 acres. However, the Jurupa Ditch is used and is being maintained for agricultural purposes and therefore may be exempt as a water of the state upon review by the RWQCB.

Waters of the State under RWQCB jurisdiction are regulated under a no-net-loss policy, and all proposed permanent impacts to jurisdictional resources must be mitigated pursuant to regulatory agency requirements. A formal jurisdictional determination by the RWQCB would be required to confirm the extent of jurisdictional resources and associated impacts. If RWQCB does take jurisdiction over these resources, impacts would require a Section 401 Water Quality Certification in conjunction with the USACE 404 permit or a Waste Discharge Requirement permit pursuant to Porter-Cologne Act.

5.4.4 MSHCP-Riparian/Riverine Areas

The project would impact all MSHCP riparian/riverine areas, as the disturbed riparian along Jurupa Ditch would be considered a riparian/riverine area as defined in the MSHCP. Coordination with the wetland regulatory agencies has been initiated.

5.5 Indirect Impacts

Indirect impacts are secondary impacts that are caused as a result of a direct impact. For instance, fugitive dust from heavy equipment use may settle on nearby vegetation and interfere with photosynthetic processes and the construction equipment noise levels or lighting could interfere with reproductive behavior of sensitive bird species during their breeding seasons. Edge effects are another form of indirect impacts and include (but are not limited to) trampling, dumping, vehicular traffic, competition with invasive species, parasitism by brown-headed cowbirds, predation by domestic animals, noise, collecting, recreational activities, and other human intrusion.

5.5.1 Adjacent Sensitive Vegetation Communities and Sensitive Plants

Indirect impacts to adjacent sensitive vegetation communities, primarily within the adjacent Santa Ana River corridor, due to fugitive runoff (erosion) are not anticipated as best management practices (BMPs), such as silt fencing, straw wattle, and sandbags, would be installed around the perimeter of the grading limits. During construction indirect impacts from of fugitive dust would be prevented by watering of haul roads and areas actively being used by equipment.

Additional discussion regarding avoidance of indirect impacts specific to adjacent MSHCP open space lands is provided in Section 7.4. Implementation of these measures will reduce indirect impacts to adjacent vegetation and sensitive plants, if present, to less than significant.

5.5.2 Adjacent Sensitive Wildlife

Indirect impacts to any sensitive wildlife in the adjacent Santa Ana River corridor as a result of construction-related erosion, contaminated runoff, or generation and deposition of dust are anticipated to be avoided with adherence to proper BMPs during construction. No nighttime lighting is proposed during construction activities.

Based on the presence of riparian habitat in the Santa Ana River adjacent to and within 500-feet of the proposed project construction footprint and database records (CDFW 2021a and USFWS 2021), there is a potential for noise from construction activities to impact least Bell's vireo (*Vireo bellii pusillus*). Avoidance measures to avoid significant indirect impacts to least Bell's vireo and any other sensitive riparian birds are described in Section 6.1.2.

5.6 Local Policies/Ordinances

There are no relevant local ordinances specific to biological resources (i.e., tree ordinances) and thus the project would not result in a significant conflict. The City of Jurupa Valley (City) does have a General Plan with a Conservation and Open Space Element. A consistency analysis with the goals and policies that are specific to biological resources is included in Section 8.0.

6.0 Avoidance and Mitigation Measures

Mitigation is required for impacts that are considered significant under CEQA and the MSHCP (WRCRCA 2003), including impacts to jurisdictional resources and sensitive species. Avoidance measures are presented in Section 6.1, and mitigation for unavoidable impacts are discussed in Section 6.2.

6.1 Avoidance Measures

6.1.1 Nesting Migratory Birds and Raptors

To remain in compliance with the MBTA and CFGC Sections 3503 and 3503.5, no direct impacts shall occur to any nesting birds, including raptors, their eggs, chicks, or nests during the breeding season (February 1 to September 15). If vegetation removal activities must occur during this breeding season, a qualified biologist will conduct a pre-construction survey to determine the presence or absence of breeding migratory birds, including raptors within the impact footprint. If nests or breeding activities are located on the survey area, an avoidance buffer area would be required around the nesting site. The width of the buffer would be determined by a qualified biologist, and biological monitoring would be required during construction until the young have fledged. If no nesting birds are detected during the pre-construction survey, no additional measures would be required.

6.1.2 Adjacent Sensitive Riparian Birds

The following measures are recommended to avoid indirect impacts to adjacent sensitive riparian birds, specifically least Bell's vireo, that could be present in the riparian habitat located within 500 feet of the project site in the adjacent Santa Ana River.

- A. Between March 15 and September 15, no construction activities shall occur within any portion of the site where construction activities would result in noise levels exceeding 60 dB(A) L_{eq} (hourly noise equivalent of 60 A-weighted decibels [dB(A)] or less) at the edge of occupied least Bell's vireo habitat. Prior to the commencement of any construction activities during the breeding season, areas restricted from such activities shall be staked or fenced under the supervision of a qualified biologist; OR
- B. At least two weeks prior to the commencement of construction activities, under the direction of a qualified acoustician, noise attenuation measures (e.g., noise monitoring, installation of berms or walls) shall be implemented to ensure that noise levels resulting from construction activities will not exceed 60 dB(A) L_{eq} at the edge of habitat occupied by least Bell's vireo. Concurrent with the commencement of construction activities and the construction of necessary attenuation facilities, noise monitoring shall be conducted at the edge of the occupied habitat area to ensure that noise levels do not exceed 60 dB(A) L_{eq} . If the noise attenuation techniques implemented are determined to be inadequate by the qualified acoustician or biologist, then the associated construction activities shall cease until such time

that adequate noise attenuation is achieved or until the end of the breeding season (September 16).

Construction noise monitoring shall continue to be monitored at least twice weekly on varying days, or more frequently depending on the construction activity, to verify that noise levels at the edge of occupied habitat are maintained below 60 dB(A) L_{eq} or to the ambient noise level if it already exceeds 60 dB(A) L_{eq} . If not, other measures shall be implemented in consultation with the biologist and the City, as necessary, to reduce noise levels to below 60 dB(A) L_{eq} or to the ambient noise level if it already exceeds 60 dB(A) L_{eq} . Such measures may include, but are not limited to, limitations on the placement of construction equipment and the simultaneous use of equipment.

6.2 Mitigation Measures

Mitigation would be required for impacts that are considered significant pursuant to CEQA and based on applicable policies set forth in MSHCP Sections 6.1.2, 6.1.3, 6.1.4, and 6.3.2. The project would not result in impacts to sensitive upland vegetation communities, vernal pools, or narrow endemic plant species. The project is not located within or adjacent to an MSHCP Criteria Area or Conservation Area; however, a portion is located within a Criteria Cell. In addition, potential impacts to western burrowing owl would require additional surveys and proposed impacts to the Jurupa Ditch may require a permit and subsequent mitigation from the CDFW.

6.2.1 Western Burrowing Owl

A pre-construction survey would be required within 30 days prior to project implementation. If western burrowing owls are present, one of the following mitigation measures from the MSHCP (WRCRCA 2003) would also be required:

- a. If the site contains or is part of an area that supports less than 35 acres of suitable habitat, or the survey reveals that the site and surrounding area support fewer than three pairs of western burrowing owls, the on-site western burrowing owls will be passively or actively relocated following accepted protocols; or
- b. If the site, including adjacent areas, supports three or more pairs of western burrowing owls, supports greater than 35 acres of suitable habitat, and is non-contiguous with MSHCP Conservation Area lands, at least 90 percent of the area with long-term conservation value and western burrowing owl pairs will be conserved on-site.

6.2.2 Jurisdictional Resources and MSHCP-Riparian/Riverine Areas

As noted above, USACE, RWQCB, and CDFW need to make a determination on jurisdiction over Jurupa Ditch and the storm water channel in the southern portion of the site. In compliance with the no-net-loss policy, impacts to non-wetland waters would likely require mitigation at a minimum 1:1 ratio. The CDFW may require 3:1 ratio for impacts to disturbed riparian.

Mitigation for impacts to jurisdictional waters and MSHCP Riparian/Riverine areas can be achieved either through permittee responsible mitigation (e.g., habitat creation) or the purchase of credits from an approved mitigation bank.

7.0 MSHCP Consistency

This section demonstrates the compliance of the project with respect to biological aspects of the MSHCP. More specifically, the project was evaluated in respect to Protection of Species Associated with Riparian/Riverine Areas and Vernal Pools (MSHCP Section 6.1.2), Protection of Narrow Endemic Plant Species (MSHCP Section 6.1.3), Guidelines Pertaining to the Urban/Wildlands Interface MSHCP Section 6.1.4), and Additional Survey Needs and Procedures (MSHCP Section 6.3.2).

7.1 Protection of Species Associated with Riparian/Riverine Areas and Vernal Pools

As noted in Section 5.5, the project would impact riparian/riverine resources.

Typically, a Determination of Biologically Equivalent or Superior Preservation (DBESP), as addressed in MSHCP Section 6.1.2, would be required (WRCRCA 2003). However, during a pre-application meeting on August 10, 2022, to discuss the Habitat Evaluation and Acquisition Negotiation Strategy and Joint Project Review processes, representatives from the WRCRCA indicated that Joint Project Review was previously completed in 2005 and because this authorization has no expiration, no additional processing through the MSHCP would be required including preparation of a DBESP as long as the project development footprint was consistent (pers. comm. T. Campbell; Attachment 6). Wetland permits and mitigation for impacts to these resources would still be required as described in Sections 5 and 6 above.

7.2 Protection of Narrow Endemic Plant Species

Section 6.1.3 of the MSHCP addresses measures required to ensure protection of narrow endemic species. The project is located within a Narrow Endemic Plant Species Survey Area and as discussed in Section 5.2 and Attachment 3 of this report, no narrow endemic species have moderate or high potential to occur on site. Therefore, no narrow endemic species are expected to be impacted and the project would be in compliance with Section 6.1.3 of the MSHCP.

7.3 Conservation within Criteria Cells

Approximately 93.4 acres of the eastern portion of the project area falls within the northwestern half of Criterial Cell 187. MSHCP Table 3-7 addresses conservation criteria for the Jurupa Area Plan which includes the approximately 159.4-acre Criteria Cell 187. Conservation criteria for this cell focuses on Riversidean alluvial fan scrub habitat and agriculture along the Santa Ana River within the eastern portion of the cell. The majority of this cell's eastern portion falls outside of the project area. The portion within the survey area contains heavily disturbed lands and lacks either Riversidean alluvial

fan scrub or active agricultural lands. As the MSHCP specifies conserving 15 percent to 25 percent of this cell, focusing on land types not found within the project area, project impacts are not anticipated to reduce the conservation criteria for this cell below these thresholds. In addition, no impacts are anticipated to the Santa Ana River or its associated habitats, as those are located outside of the project area. Therefore, mitigation for impacts to Criteria Cells are not anticipated.

7.4 Guidelines Pertaining to the Urban/Wildland Interface

MSHCP Section 6.1.4 addresses requirements related to indirect impacts for projects adjacent to within or adjacent to a MSHCP Criteria Area, Criteria Cell, or Conservation Area. A portion of Criteria Cell 187 falls within the project area and the project area's eastern boundary is adjacent to Public/Quasi-Public Conservation Lands associated with the Santa Ana River channel, which is a noted core linkage and open space area. As such, the project would be required to be in compliance with the guidelines described in Section 6.1.4 of the MSHCP as described below.

Drainage

The project will incorporate measures to ensure that the quality and quantity of runoff into adjacent MSHCP Conservation Areas are not altered in an adverse way compared to existing conditions. Discharge of untreated surface runoff into MSHCP Conservation Areas will be avoided and a stormwater system will be designed to prevent the release of potentially harmful elements to biological resources to these areas.

Toxics

Any chemicals or bioproducts produced by the project that are potentially toxic or may adversely affect wildlife species, habitat, or water quality will be handled in such a way as to ensure these chemicals are not discharged into MSHCP Conservation Areas.

The project site was formerly designated Recognized Environmental Condition near the old racetrack along the eastern boundary where benzene, lead, and benzo(a)pyrene were discovered during soil testing. The following summarizes the issues of concern (AEI Consultants 2019):

- Limited Phase II subsurface investigation was completed July 15, 2022. Therefore, no remediation has begun at this time.
- A removal action work plan was recommended by the Department of Toxic Substances Control in 2008.
- The Phase I Environmental Site Assessment did not find documentation that it had been implemented. The Environmental Site Assessment recommends that appropriate action be implemented as set forth by the Department of Toxic Substances Control or any other applicable oversight agency.
- A limited Phase II subsurface investigation was completed in 2015; the concentrations of benzo(a)pyrene, lead, and perchloroethylene (PCE) exceed the current California environmental screening levels for residential properties.

Lighting

Night lighting will be directed away from MSHCP Conservation Areas, including the adjacent Santa Ana River corridor, with appropriate shielding being incorporated in project design. This also complies with City Municipal Code Section 9.145.050.(14), which requires that all site lighting be shielded to prevent glare and direct illumination on adjoining properties.

Noise

Appropriate noise attenuation strategies will be implemented for this project so that wildlife within the adjacent MSHCP Conservation Areas is not subject to noise that would exceed residential noise standards.

Invasives

Plants used in landscaping for this project will avoid those listed in Table 6-2 of the MSHCP. An appropriate plant palette will be created for this project taking into account the proximity of plantings to MSHCP Conservation Areas, other species considered in the planting plan, the resources being protected within the Santa Ana River and their sensitivity to invasion, and barriers to plant and seed dispersal into these areas.

Barriers

The project will incorporate appropriate barriers to minimize unauthorized public access, domestic animal predation, illegal trespassing or dumping in the adjacent MSHCP Conservation Areas.

Grading/Land Development

Manufactured slopes associated with project development will not extend into any MSHCP Conservation Areas.

7.5 Additional Survey Needs and Procedures

MSHCP Section 6.3.2 addresses survey requirements for covered plant and animal species in order to achieve coverage for these species (WRCRCA 2003). As noted in Section 4.1.3, the project site is not located within the MSHCP Additional Survey Areas for amphibians, mammals, or within any Special Linkage Areas but is within the survey area for western burrowing owl. Therefore, a western burrowing owl habitat assessment (Step I) and subsequent focused burrow (Step II-Part A) and owl surveys (Step II-Part B) were conducted in accordance with County of Riverside survey guidelines (WRCRCA 2006). While no western burrowing owl was detected during focused surveys, the survey guidelines require pre-construction surveys, given the presence of suitable habitat. The survey would be conducted within the impact area within 30 days prior to ground disturbance (WRCRCA 2006) and is detailed in Section 6.2.1 above.

8.0 General Plan Consistency

The Jurupa Valley General Plan (City of Jurupa Valley 2017) identifies ten conservation and open space (COS) goals in order for the City to be a good steward of Jurupa Valley's natural resources and protect and enhance open space. Project responses to the goals and policies specific to biological resources follow in italics. Goals that reference other resource components not relevant to biological resources are not addressed.

COS 1. Working to protect, preserve, and create the conditions that will promote the preservation of significant trees and other vegetation, particularly native California species.

COS 1.1 Habitat Conservation. Conserve key habitats, including existing wetlands and California native plant communities, with a focus on protecting and restoring the following endangered species habitats:

1. Conserve alluvial fan sage scrub associated with the Santa Ana River to support key populations of Santa Ana River woollystar (*Eriastrum densifolium sanctorum*).
2. Conserve clay soils to support key populations of many-stemmed liveforever plants (*Dudleya multicaulis*) known to occur along the Jurupa Valley portion of the Santa Ana River.
3. Conserve known populations of least Bell's vireo (*Vireo bellii pusillus*) and southwestern willow flycatcher (*Empidonax traillii extimus*) along the Santa Ana River.
4. Conserve large intact habitat areas consisting of coastal sage scrub, chaparral, and grasslands to support known locations of coastal California gnatcatcher (*Polioptila californica*).
5. Conserve grassland and coastal sage scrub supporting known populations of San Bernardino kangaroo rat (*Dipodomys merriami parvus*) in the Jurupa Mountains.
6. Conserve grasslands adjacent to sage scrub for foraging habitat for raptors.
7. Conserve riparian areas, including river basin, creeks, streams, vernal springs, seeps and other natural water features.

Response: The site has historically been disturbed and altered for agricultural, equestrian, commercial/industrial, and rural residential purposes. While those uses are no longer active, the site currently supports disturbed habitat as a result of ongoing weed and fire abatement maintenance, trespass, and illegal dumping activities and does not support native vegetation or habitat to support the endangered species listed in this policy. The Jurupa Ditch is an open water delivery channel that traverses the site and does support some disturbed riparian vegetation; however, the vegetation is dominated by non-native herbaceous species and is also subject to periodic maintenance as part of the agricultural and water delivery purpose of the channel, and would not provide suitable habitat for the least Bell's vireo or southwestern willow flycatcher. Raptors are currently able to forage over the site; however, as noted, neither sage scrub nor grassland habitat are available for conservation as noted in this policy.

COS 1.2 Protection of Significant Trees. Protect and preserve significant trees, as determined by the City Council upon the recommendation of the Planning Commission. Significant trees are

those trees that make substantial contributions to natural habitat or to the urban landscape due to their species, size, or rarity. In particular, California native trees should be protected.

COS 1.3 Other Significant Vegetation. Maintain and conserve superior examples of vegetation, including: agricultural wind screen plantings, street trees, stands of mature native and non-native trees, and other features of ecological, aesthetic, and conservation value.

Response: While there are a few scattered native trees on-site, none of the trees or vegetation would be categorized as significant resources requiring preservation, based on number, type, and density of the trees and development of the project site would not be in conflict with this goal. As noted above, the highly disturbed nature of the site precludes superior examples of any of the categories listed: agricultural wind screen plantings, street trees, stands of mature native and non-native trees, and other features of ecological, aesthetic, and conservation value.

COS 1.4 Soil Conservation and Landform Modification. Public and private development projects shall be designed to prevent soil erosion, minimize landform modifications to avoid habitat disturbance, and conserve and reuse onsite soils.

Response: The site has historically been disturbed and altered for agricultural, equestrian, commercial/industrial, and rural residential purposes and the site currently supports disturbed habitat as a result of ongoing weed and fire abatement maintenance, trespass, and illegal dumping activities and does not support native upland vegetation or grasslands. These activities have affected the original soils on-site. The project is separated from the adjacent Santa Ana River corridor by a berm, however, the project will be designed to prevent soil erosion into the adjacent open space along the river through the development of a stormwater basin to filter stormwater and implementation of Best Management Practices during construction.

COS 2. Seeking to achieve self-sustaining populations of the native birds, fish, and other wildlife and avoid actions that remove or damage habitat for native plants and animals.

COS 2.1 MSHCP Implementation. Implement provisions of the MSHCP when conducting review of development applications, General Plan amendments/zoning changes, transportation, or other infrastructure projects that are covered activities in the MSHCP.

Response: The project has been evaluated with respect to the MSHCP and the City's General Plan and complies with the relevant provisions as detailed in Sections 5.6 and 7.0 of this biological technical report.

COS 2.2 Wildlife Corridors. Identify and maintain a continuous wildlife corridor along the City's northern boundary through the Jurupa Mountains and along the Santa Ana River from the northern boundary to the City's western boundary. Condition development approvals to ensure that important corridors for wildlife movement and dispersal are protected and not interrupted by walls, fences, roadways or other obstructions. Features of particular importance to wildlife include riparian corridors, wetlands, streams, springs, and protected natural areas with cover and water. Linkages and corridors shall be provided to maintain connections between habitat areas.

Response: While the project site is adjacent to the Santa Ana River and may serve as an extension of open space available to local wildlife for foraging, it is highly constrained as a wildlife movement corridor for a number of reasons. This is discussed in more detail in Section 5.3.5 of this biological technical document. Furthermore, the project site is not identified as an area where habitat conservation is needed to support build-out of the Western Riverside County MSHCP habitat preserve system.

COS 2.3 Biological Reports. Require the preparation of biological reports to assess the impacts of development and provide mitigation for impacts to biological resources when reviewing discretionary development projects with the potential to affect adversely wildlife habitat.

Response: This biological technical report has been prepared which identifies impacts and mitigation to ensure the project would not adversely affect wildlife habitat.

COS 3. Working with the Jurupa Community Services District (JCSD), the Rubidoux Community Services District (RCSD), the Santa Ana Water Company, and other agencies and private companies to help meet Jurupa Valley's urban water needs without substantial harm to the natural environment or to agriculture, to help meet water needs including requiring conservation measures such as drought-tolerant landscaping and water-saving fixtures in new homes, and to:

1. Protect and maintain water quality in aquifers, the Santa Ana River, streams, and wetlands that help support beneficial uses, including domestic and commercial/industrial uses, agricultural uses, and wildlife habitat.
2. Protect and improve the quality of local water sources, including groundwater and the Santa Ana River.
3. Encourage JCSD and RCSD to retain and, where possible, expand the capacity of wells, aquifers, and other groundwater reserves.
4. Preserve natural floodways, floodplains, and wetlands, and avoid actions that adversely affect waterways or riparian areas, or that increase flood hazards to urban uses.

COS 3.1 Water Use Planning. Adopt and strive for the most efficient available water conservation practices in the City's operations and planning, and encourage community services districts and other agencies to do the same. "Most efficient available practices" means actions and equipment that use the least water for a desired outcome, considering available equipment, lifecycle costs, social and environmental side effects, and the regulations of other agencies.

COS 3.2 Multi-Use Consideration. Consider, in planning, land use decisions, and municipal operations, the effects of water supply on urban growth, wildlife habitat, agriculture, and stream flows, and seek to ensure continued water availability for these uses in planning for long-term water supplies. The City will encourage individuals, organizations, and other agencies to follow this policy.

COS 3.3 Water Quality. Employ the best available practices for pollution avoidance and control and encourage others to do the same. "Best available practices" means actions and equipment that result in the highest water quality, considering available equipment, life-cycle costs, social and environmental side effects, and the regulations of other agencies.

COS 3.4 Water Conservation Systems. Encourage the installation of water-conserving systems such as dry wells and graywater systems, where feasible, especially in new developments. The installation of cisterns or infiltrators shall also be encouraged to capture rainwater from roofs for irrigation in the dry season and to reduce runoff during heavy storms.

COS 3.5 Site Water Collection and Retention. Consider requiring design practices such as permeable parking bays and porous parking lots with bermed, landscaped storage areas for rainwater detention as a condition of development approval.

COS 3.6 Landscaping with California Native Plants. Encourage the use of California native plants for drought-resistant landscape planting.

Response: The Jurupa Ditch is a manufactured water conveyance channel that was created to transport water to customers of the JDC. This is a maintained channel subject to variable water flow. The associated riparian vegetation supports a high percentage of non-native weedy species. Since, the Jurupa Ditch is used and is being maintained for agricultural purposes it may be exempt from regulatory jurisdiction. A jurisdictional determination has been requested and permit applications submitted. The eastern drainage on-site is highly disturbed, unvegetated, and appears to be a low-quality resource. Mitigation for impacts to these resources detailed in Section 6.2.2, whether on-site or off-site will replace functions and values. The adjacent Santa Ana River is a higher quality water resource that is known as a significant habitat corridor. The project would not affect the adjacent river corridor as the project would be required to implement BMPS to treat and manage stormwater to ensure downstream water quality is not adversely affected. Additionally, development of the project site would remove existing conditions that attract dumping and trash. The project would involve installation of landscaping which would be drought tolerant and would allow for infiltration. In accordance with Section 6.77.110 of the City's Municipal Code, all landscaping in the project boundary is required to comply with and will be evaluated against the City's Model Water Efficient Landscaping Ordinance, including the appropriate use of native water saving plants.

Water Quality

COS 3.8 Wastewater Treatment. Encourage the use of innovative and creative techniques for wastewater treatment.

COS 3.9 Pollution Discharge. Minimize pollutant discharge into storm drainage systems and natural drainage and aquifers.

COS 3.10 Regional Cooperation. Support efforts to create additional water storage where needed, in cooperation with federal, state, community services districts, the Riverside County Flood Control District, and other water authorities. Additionally, support and/or engage in water banking in conjunction with these agencies where appropriate, as needed.

COS 3.11 Aquifer Protection. Require that aquifer water-recharge areas are preserved and protected.

COS 3.12 Drainage Systems in Development Projects. Require that developers and designers incorporate natural drainage systems into development projects where appropriate and feasible.

COS 3.13 Storm Water Retention. Retain storm water at or near the site of generation for percolation into the groundwater to conserve it for future uses and to mitigate adjacent flooding.

COS 3.14 Natural Channels. Collaborate with the Riverside County Flood Control District to promote natural approaches to managing streams and avoid lined, non-porous channels to the maximum extent possible where groundwater recharge is likely to occur.

COS 3.15 Water Retention Incentives. Consider granting incentives to landowners to preserve natural ground water recharge areas, through measures such as density averaging.

Response: The proposed project plans to underground the Jurupa Ditch, and the unnamed drainage would be converted into a storm drain with stormwater basin. The existing ditch is not a natural drainage; therefore, this improvement would not remove a natural drainage. In addition, the project's preliminary Water Quality Management Plan (WQMP), discussed in Section 4.9 Hydrology and Water Quality of the Draft Environmental Impact Report would be implemented. The WQMP would ensure that all stormwater and runoff from the project site is treated to protect both downstream water quality and underlying aquifers. The drainage and stormwater design emphasizes stormwater infiltration and retention and is designed to control runoff volumes and velocities to avoid downstream adverse effects.

Floodplain and Riparian Area Management

COS 3.16 Floodway Modification. Encourage other agencies to limit floodway modification or channelization only as a "last resort," and limit the alteration to:

1. That necessary for the protection of public health and safety, only after all other options are exhausted,
2. Essential public service projects where no other feasible construction method or alternative project location exists,
3. Projects where the primary function is improvement of fish and wildlife habitat, or
4. Private development entitlements shall be required to design floodplain and river edge treatments to simulate and ultimately regenerate natural terrain and riparian habitat, using techniques such as covering and re-planting over rip-rap embankments, and utilizing gentle contoured slopes that do not exceed 8:1 slope ratio.

COS 3.17 Environmental Mitigation. Encourage and, where possible, require that substantial modifications of a floodplain be designed to reduce adverse environmental effects to the maximum extent feasible, considering the following factors:

1. Stream scour
2. Erosion protection and sedimentation
3. Wildlife habitat and linkages
4. Groundwater recharge capability
5. Adjacent property

6. Designed to achieve a natural effect. Examples could include soft riparian bottoms, riparian corridors within the floodway, and gentle and modulating bank slopes, wide and shallow floodways, minimization of visible use of concrete, and landscaping with California native plants to the maximum extent possible. A site-specific hydrologic study may be required.

COS 3.18 Setbacks. Based upon site-specific study, all development shall be set back from the designated floodway boundary or top of bank, whichever is most appropriate, a distance adequate to address the following issues:

1. Public safety,
2. Erosion,
3. Riparian or wetland buffer,
4. Wildlife movement corridor or linkage, and
5. Slopes

COS 3.19 Trails. Consider designating floodway setbacks to accommodate greenways, trails, and recreation opportunities and allowing such uses within floodways, where appropriate.

COS 3.20 Riparian Area Preservation. Require development projects to preserve and enhance native riparian habitat and prevent obstruction of natural watercourses. Zoning incentives, such as transfer of development credits, should be used to the maximum extent possible.

COS 3.21 Ecotones. Identify and, to the maximum extent possible, conserve remaining upland habitat areas, or "ecotones" adjacent to wetland and riparian areas that are critical to the feeding, hibernation, or nesting of wildlife species.

Response: The proposed project plans to underground the Jurupa Ditch, and the unnamed drainage would be converted into a storm drain. The project would also convert the unnamed drainage into a storm drain; however, the drainage does not support quality native habitat and is of low value. While existing riparian and riverine corridors would not be retained on site, these resources do not currently support wildlife movement and dispersal beyond the project site as the site is fenced and bounded to the north by a large freeway within minimal crossing opportunities. Additionally, the quality of these features is low as they are subject to disturbance and are either unvegetated or do not support high quality native habitat. In addition, the project's preliminary WQMP, discussed in Section 4.9 Hydrology and Water Quality of the Draft Environmental Impact Report would be implemented which demonstrates stormwater and runoff from the project site would be treated to protect both downstream water quality and underlying aquifers. The drainage and stormwater design emphasizes stormwater infiltration and retention and is designed to control runoff volumes and velocities to avoid downstream adverse effects including flooding. The project would impact all upland areas; however, as noted, the site has historically been disturbed and altered for agricultural, equestrian, commercial/industrial, and rural residential purposes and the site currently only supports disturbed habitat as a result of ongoing weed and fire abatement maintenance, trespass, and illegal dumping activities and does not support native upland vegetation or grasslands. The project design includes several parks and a stormwater basin and landscaping will include trees as well as native and/or drought tolerant planting that will provide some habitat for general wildlife species.

COS 10. Minimizing light trespass and pollution caused by exterior light sources in public and private structures, new development, and public facilities to ensure safety, protection of the natural environment, and preservation of dark nighttime skies.

Response: As noted in Section 7.4, the project would ensure that night lighting will be directed away from the Santa Ana River open space area with appropriate shielding.

9.0 References Cited

AEI Consultants

- 2019 Phase I Environmental Site Assessment, Vacant Land, Jurupa Valley, Riverside County, California 92509.

American Ornithological Society

- 2021 Checklist of North and Middle American Birds. <http://checklist.aou.org/taxa>.

American Society of Mammalogists.

- 2021 Mammalian Species (online). <http://www.mammalsociety.org/publications/mammalian-species>. July.

Bradley, R. D., L. K. Ammerman, R. J. Baker, L. C. Bradley, J. A. Cook, R. C. Dowler, C. Jones, D. J. Schimmdly, F. B. Stangl, Jr., R. A. Van Den Bussche, and B. Wursig

- 2014 Revised Checklist of North American Mammals North of Mexico. *Occasional Papers, Museum of Texas Tech University* No. 327. October.

Brenzel, K. N. (editor)

- 2001 *Sunset Western Garden Book*. Sunset Publishing Corporation, Menlo Park, CA.

California Department of Fish and Wildlife (CDFW)

- 2022 Natural Diversity Data Base. RareFind Version 5.

2021a Special Vascular Plants, Bryophytes, and Lichens List. Natural Diversity Database. September.

2021b State and Federally Listed Endangered, Threatened, and Rare Plants of California. Natural Diversity Database. September.

2021c Special Animals List. California Natural Diversity Database. July.

2021d State and Federally Listed Endangered, Threatened, and Rare Animals of California. California Natural Diversity Database. Natural Resources Agency. July.

California Native Plant Society (CNPS)

- 2021 Rare Plant Program. Inventory of Rare and Endangered Plants of California (online edition, v8-03). Sacramento, CA. <http://www.rareplants.cnps.org>. Accessed October 2021 and November 2022.

Chesser, R. T., K. J. Burns, C. Cicero, J. L. Dunn, A. W. Kratter, I. J. Lovette, P. C. Rasmussen, J. V. Remsen, Jr., D. F. Stotz, B. M. Winger, and K. Winker

2021 Checklist of North American Birds (online). American Ornithological Society.
<http://checklist.aou.org/taxa>.

City of Jurupa Valley

2017 City of Jurupa Valley California 2017 General Plan. September.

Consortium of California Herbarium (CCH) 1 Portal

2022 Biodiversity data provided by the participants of the Consortium of California Herbaria (<https://ucjeps.berkeley.edu/consortium/>). Accessed November and December.

Crother, B. I., Ronald M. Bonett, Jeff Boundy, Frank T. Burbrink, Kevin de Queiroz, Darrel R. Frost, Richard Highton, John B. Iverson, Elizabeth L. Jockusch, Fred Kraus, Kenneth L. Krysko, Adam D. Leaché, Emily Moriarty Lemmon, Roy W. McDiarmid, Joseph R. Mendelson III, Peter A. Meylan, Tod W. Reeder, Sara Ruane, Michael E. Seidel

2017 Scientific and Standard English Names of Amphibians and Reptiles of North America North of Mexico, with Comments Regarding Confidence in Our Understanding. Eighth Edition. Society for the Study of Amphibians and Reptiles Herpetological Circular 43.

ELMT Consulting, Inc. (ELMT)

2023 The District at Jurupa Valley Delhi Sands Flower-loving Fly Habitat Suitability Assessment. June.

Evans, Arthur V.

2008 Field Guide to Insects and Spiders of North America. Sterling Publishing Company, New York.

Jepson Flora Project (eds.)

2021 Jepson eFlora, <http://ucjeps.berkeley.edu/IJM.html>. Accessed August 3, 2021 and November 2022.

Larry Munsey International

2004 Report of Year 2004 Focused Survey for Delhi Sands Flower-Loving Fly at Emerald Meadows Ranch Site Riverside County, California. October.

NatureServe

2021 NatureServe Explorer. www.natureserve.org.

RECON Environmental, Inc. (RECON)

2022 Burrowing Owl Focused Survey Results for The District at Jurupa Valley Project. September.

2023 Aquatic Resource Delineation Report for The District at Jurupa Valley Project Site. Prepared for EM Ranch Owner LLC. June.

U.S. Army Corps of Engineers (USACE)

- 1987 Corps of Engineers Wetlands Delineation Manual. Wetlands Research Program, Technical Report Y-87-1. Department of the Army, Washington, DC.
- 2008 Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region. Prepared by U.S. Army Engineer Research and Development Center. September.
- 2020 National Wetland Plant List, version 3.5. Prepared by U.S. Army Corps of Engineers Engineer Research and Development Center Cold Regions Research and Engineering Laboratory, Hanover, NH. <http://wetland-plants.usace.army.mil/>

U.S. Department of Agriculture (USDA)

- 1971 *Soil Survey, Western Riverside Area, California*. Edited by Arnold A. Knecht. Soil Conservation Service. November.

U.S. Fish and Wildlife Service (USFWS)

- 2020 Endangered and Threatened Wildlife and Plants; 12-Month Finding for the Monarch Butterfly. Federal Register vol. 85, No. 243:81813-81822, December 17.
- 2021 All Species Occurrences GIS Database. Carlsbad Fish and Wildlife Office. Downloaded October.

U.S. Geological Survey (USGS)

- 1979 Murrieta quadrangle 7.5-minute topographic map.

Unitt, P. A.

- 2004 *San Diego County Bird Atlas*. San Diego Natural History Museum, Ibis Publishing Company. San Diego, California. October.

Western Riverside County Regional Conservation Authority (WRCRCA)

- 2003 Final Western Riverside County Multiple Species Habitat Conservation Plan.
- 2006 Burrowing Owl Survey Instructions for the Western Riverside Multiple Species Habitat Conservation Plan Area.
- 2021 MSHCP Informational Map. Accessed from <https://www.wrc-rca.org/rcamaps/>. December.

ATTACHMENTS

ATTACHMENT 1
Plant Species Observed

**Attachment 1
Plant Species Observed**

Scientific Name	Common Name	Habitat	Origin
ADOXACEAE	ADOXA FAMILY		
<i>Sambucus nigra</i> ssp. <i>caerulea</i> [= <i>Sambucus mexicana</i>]	blue elderberry	DIS	N
ANACARDIACEAE	SUMAC OR CASHEW FAMILY		
<i>Schinus molle</i>	Peruvian pepper tree	DIS	I
<i>Schinus terebinthifolius</i>	Brazilian pepper tree	DIS	I
ARECACEAE	PALM FAMILY		
<i>Washingtonia robusta</i>	Mexican fan palm	DIS, DR	I
ASTERACEAE	SUNFLOWER FAMILY		
<i>Ambrosia acanthicarpa</i>	annual bur-sage	DIS	N
<i>Ambrosia psilostachya</i>	western ragweed	DIS, DR	N
<i>Artemisia californica</i>	California sagebrush	DIS	N
<i>Baccharis salicifolia</i> ssp. <i>salicifolia</i>	mule fat, seep-willow	DIS, DR	N
<i>Carduus pycnocephalus</i>	Italian thistle	DIS	I
<i>Centaurea melitensis</i>	toçalote, Maltese star-thistle	DIS	I
<i>Helianthus annuus</i>	western sunflower	DIS	N
<i>Heterotheca grandiflora</i>	telegraph weed	DIS	N
<i>Oncosiphon piluliferum</i>	stinknet, globe chamomile	DIS	I
<i>Pluchea sericea</i>	arrow-weed	DIS, DR	N
<i>Verbesina enceliodes</i>	golden crownbeard	DIS	I
BRASSICACEAE (CRUCIFERAE)	MUSTARD FAMILY		
<i>Brassica tournefortii</i>	Sahara mustard	DIS	I
<i>Hirschfeldia incana</i>	short-pod mustard	DIS	I
<i>Sisymbrium</i> sp.	rocket mustard	DIS	I
BORAGINACEAE	BORAGE FAMILY		
<i>Amsinckia</i> sp.	fiddleneck	DIS	N
<i>Heliotropium curassavicum</i> var. <i>oculatum</i>	seaside heliotrope, alkali heliotrope	DIS	N

**Attachment 1
Plant Species Observed**

Scientific Name	Common Name	Habitat	Origin
CHENOPODIACEAE	GOOSEFOOT FAMILY		
<i>Atriplex canescens</i>	four-wing saltbush, shad-scale	DIS	N
<i>Salsola tragus</i>	Russian thistle, tumbleweed	DIS	I
CYPERACEAE	SEDGE FAMILY		
<i>Cyperus eragrostis</i>	tall flatsedge	DR	N
EUPHORBIACEAE	SPURGE FAMILY		
<i>Croton californicus</i>	California croton	DIS	N
<i>Ricinus communis</i>	castor bean	DIS	I
FABACEAE (LEGUMINOSAE)	LEGUME FAMILY		
<i>Parkinsonia aculeata</i>	Mexican palo verde	DIS	I
LAMIACEAE	MINT FAMILY		
<i>Marrubium vulgare</i>	Horehound	DIS	I
MALVACEAE	MALLOW FAMILY		
<i>Malva neglecta</i>	common mallow, cheeses	DIS, DR	I
MYRTACEAE	MYRTLE FAMILY		
<i>Eucalyptus camaldulensis</i>	red gum, river red gum	DIS	I
POACEAE (GRAMINEAE)	GRASS FAMILY		
<i>Arundo donax</i>	giant reed	DIS, DR	I
<i>Cortaderia selloana</i>	pampas grass	DIS, DR	I
<i>Cynodon dactylon</i>	Bermuda grass	DIS, DR	I
<i>Bromus diandrus</i>	ripgut grass	DIS	I
<i>Bromus rubens</i> [= <i>Bromus madritensis</i> ssp. <i>rubens</i>]	red brome	DIS	I
<i>Echinochloa crus-galli</i>	cockspur grass	DR	I
<i>Hordeum murinum</i>	wall barley	DIS	I
<i>Paspalum distichum</i>	knot grass	DR	N
OLEACEAE	OLIVE FAMILY		
<i>Fraxinus uhdei</i>	shamel ash	DIS	I
ROSACEAE	ROSE FAMILY		
<i>Rubus ursinus</i>	California blackberry	DR	N

**Attachment 1
Plant Species Observed**

Scientific Name	Common Name	Habitat	Origin
SALICACEAE	WILLOW FAMILY		
<i>Populus fremontii</i> ssp. <i>fremontii</i>	Fremont cottonwood, alamo	DIS	N
<i>Salix laevigata</i>	red willow	DIS, DR	N
SOLANACEAE	NIGHTSHADE FAMILY		
<i>Datura wrightii</i>	western Jimson weed	DIS	N
<i>Nicotiana glauca</i>	tree tobacco	DIS, DR	I
TAMARICACEAE	TAMARISK FAMILY		
<i>Tamarix aphylla</i>	Athel	DIS	I
VITACEAE	GRAPE FAMILY		
<i>Vitis girdiana</i>	desert wild grape	DIS, DR	N
ZYGOPHYLLACEAE	CALTROP FAMILY		
<i>Tribulus terrestris</i>	puncture vine	DIS	I

Notes: Scientific and common names were primarily derived from Jepson eFlora (Jepson Flora Project 2020). In instances where common names were not provided in this resource, common names were obtained from Rebman and Simpson (2014). Additional common names were obtained from the USDA maintained database (USDA 2013) or the *Sunset Western Garden Book* (Brenzel 2001) for ornamental/horticultural plants. Common names denoted with * are from County of San Diego 2010.

HABITATS

DIS = Disturbed land
DR = Disturbed riparian

ORIGIN

N = Native to locality
I = Introduced species from outside locality

ATTACHMENT 2
Wildlife Species Observed

**Attachment 2
Wildlife Species Observed**

Scientific Name	Common Name	Occupied Habitat	On-Site Abundance/ Seasonality (Birds Only)	Evidence of Occurrence
INVERTEBRATES				
FORMICIDAE	ANTS			
<i>Pogonomyrmex barbatus</i>	red harvester ant	DIS		O
NYMPHALIDAE	BRUSH-FOOTED BUTTERFLIES			
<i>Danaus plexippus</i>	monarch	DIS		O
REPTILES				
PHRYNOSOMATIDAE	SPINY LIZARDS			
<i>Uta stansburiana elegans</i>	western side-blotched lizard	DIS		O
BIRDS				
PHALACROCORACIDAE	CORMORANTS			
<i>Nannopterum auritum</i> =[<i>Phalacrocorax auritus</i>]	double-crested cormorant	F	F / W	O
ARDEIDAE	HERONS & BITTERNS			
<i>Ardea alba</i>	great egret	F	F / W	O
ACCIPITRIDAE	HAWKS, KITES, & EAGLES			
<i>Accipiter cooperii</i>	Cooper's hawk	DIS	F / Y	O
<i>Buteo jamaicensis</i>	red-tailed hawk	DIS	C / Y	O
CHARADRIIDAE	LAPWINGS & PLOVERS			
<i>Charadrius vociferus</i>	killdeer	DIS	F / Y	O
COLUMBIDAE	PIGEONS & DOVES			
<i>Columba livia</i>	rock dove (I)	DIS	C / Y	O
<i>Streptopelia decaocto</i>	Eurasian collared-dove	DIS	C / Y	O
<i>Zenaida macroura</i>	mourning dove	DIS	C / Y	O
STRIGIDAE	TYPICAL OWLS			
<i>Bubo virginianus</i>	great horned owl	DIS	F / Y	O
APODIDAE	SWIFTS			
<i>Aeronautes saxatalis</i>	white-throated swift	DIS	C / Y	O
TYRANNIDAE	TYRANT FLYCATCHERS			
<i>Sayornis nigricans</i>	black phoebe	DIS	C / Y	O
<i>Sayornis saya</i>	Say's phoebe	DIS	C / W	O
<i>Tyrannus vociferans</i>	Cassin's kingbird	DIS	C / Y	O

Attachment 2
Wildlife Species Observed

Scientific Name	Common Name	Occupied Habitat	On-Site Abundance/ Seasonality (Birds Only)	Evidence of Occurrence
CORVIDAE	CROWS, JAYS, & MAGPIES			
<i>Aphelocoma californica</i>	California [=western] scrub-jay	DIS	F / Y	O
<i>Corvus brachyrhynchos</i>	American crow	DIS	C / Y	O
<i>Corvus corax</i>	common raven	DIS	C / Y	O
MIMIDAE	MOCKINGBIRDS & THRASHERS			
<i>Mimus polyglottos</i>	northern mockingbird	DIS	F / Y	O
STURNIDAE	STARLINGS & MYNAS			
<i>Sturnus vulgaris</i>	European starling	DIS	C / Y	O
HIRUNDINIDAE	SWALLOWS			
<i>Hirundo rustica</i>	barn swallow	DIS	F / S	O
<i>Petrochelidon pyrrhonota</i>	cliff swallow	DIS	F / S	O
<i>Stelgidopteryx serripennis</i>	northern rough-winged swallow	DIS	F / S	O
PARULIDAE	WOOD WARBLERS			
<i>Setophaga [=Dendroica] coronata</i>	yellow-rumped warbler	DIS	F / W	O
PASERELLIDAE	NEW WORLD PASSERINES			
<i>Melospiza melodia</i>	song sparrow	DIS	C / Y	O
<i>Melospiza [=Pipilo] crissalis</i>	California towhee	DIS	C / Y	O
<i>Zonotrichia leucophrys</i>	white-crowned sparrow	DIS	C / W	O
ICTERIDAE	BLACKBIRDS & NEW WORLD ORIOLES			
<i>Icterus bullockii</i>	Bullock's oriole	DIS	U / S	O
<i>Icterus cucullatus</i>	hooded oriole	DIS	U / S	O
FRINGILLIDAE	FINCHES			
<i>Haemorhous [=Carpodacus] mexicanus</i>	house finch	DIS	F / Y	O
MAMMALS				
LEPORIDAE	RABBITS & HARES			
<i>Sylvilagus audubonii</i>	desert cottontail	DIS		O
SCIURIDAE	SQUIRRELS & CHIPMUNKS			
<i>Otopermophilus [=Spermophilus] beecheyi</i>	California ground squirrel	DIS		O
CANIDAE	CANIDS			
<i>Canis latrans</i>	coyote	DIS		S

**Attachment 2
Wildlife Species Observed**

Scientific Name	Common Name	Occupied Habitat	On-Site Abundance/ Seasonality (Birds Only)	Evidence of Occurrence
<i>Canis familiaris</i>	domestic dog (I)	DIS		O
EQUIDAE	HORSES & ASSES			
<i>Equus caballus</i>	domestic horse or feral horse (I)	DIS		T

(I) = Introduced species

NOTE: Zoological nomenclature for invertebrates is in accordance with the NatureServe 2021 and Evans 2008; for fish with NatureServe 2021; for reptiles and amphibians with Crother et. al (2017); for birds with Chesser et al. 2021; for mammals with Bradley et al. (2014), American Society of Mammalogists 2021.

HABITATS

DIST = Disturbed land
F = Flying overhead

EVIDENCE OF OCCURRENCE

O = Observed
S = Scat
T = Track

ABUNDANCE

C = Common to abundant; almost always encountered in proper habitat, usually in moderate to large numbers
F = Fairly common; usually encountered in proper habitat, generally not in large numbers
U = Uncommon; occurs in small numbers or only locally

SEASONALITY (birds only)

S = Spring/summer migrant or breeder
W = Winter visitor; does not breed locally
Y = Year-round resident; probable breeder on-site or in vicinity

ATTACHMENT 3

Sensitive Plant Species Observed or with the Potential to Occur

Attachment 3

Sensitive Plant Species Observed or with the Potential to Occur

Common Name/ Scientific Name	Sensitivity Code & Status			Habitat Preference/ Requirements	Detected On-Site Observed/No	Potential to Occur On-Site (L/M/H/U)	Basis for Determination of Occurrence Potential
	State/ Federal Status	CNPS Rank	Western Riverside MSHCP				
ASTERACEAE SUNFLOWER FAMILY							
San Diego ambrosia <i>Ambrosia pumila</i>	-/FE	1B.1	NE	Perennial herb (rhizomatous); chaparral, coastal sage scrub, valley and foothill grasslands, creek beds, vernal pools, often in disturbed areas; blooms April–October; elevation less than 1,400 feet. Many occurrences extirpated in Riverside County.	No	U	A habitat assessment for this species was conducted per MSHCP and this species is unlikely to occur due to the frequent human disturbance and lack of native habitats. It tends to prefer finer textured soil than present in the project area.
singlewhorl burrobrush <i>Ambrosia [=Hymenoclea] monogyra</i>	-/-	2B.2		Perennial shrub; sandy, chaparral, Sonoran desert scrub; blooms August–November; elevation 30–1,650 feet.	No	U	This species is unlikely to occur due to the frequent human disturbance and lack of native habitats. As a perennial shrub, it would have been apparent at the time of survey.
smooth tarplant <i>Centromadia</i> [= <i>Hemizonia</i>] <i>pungens</i> ssp. <i>laevis</i>	-/-	1B.1	Covered	Annual herb; chenopod scrub, meadow and seeps, playas, riparian woodland, valley and foothill grasslands; alkaline soils; blooms April–September; elevation less than 2,100 feet. California endemic. Known from San Diego, Riverside, and San Bernardino counties.	No	U	This species is unlikely to occur due to the lack of alkali soil, natural seeps, and frequent human disturbance. Also, this species is primarily restricted to the alkali floodplains of the San Jacinto River, Mystic Lake, and Salt Creek.
paniculate tarplant <i>Deinandra [=Hemizonia] paniculata</i>	-/-	4.2	Covered	Annual herb; coastal scrub, valley and foothill grassland, vernal pools; blooms (March) April–November; elevation 80–3,100 feet.	No	L	This species has a low potential to occur due to the frequent human disturbance and lack of native habitats and native vegetation.

Attachment 3
Sensitive Plant Species Observed or with the Potential to Occur

Common Name/ <i>Scientific Name</i>	Sensitivity Code & Status			Habitat Preference/ Requirements	Detected On-Site Observed/No	Potential to Occur On-Site (L/M/H/U)	Basis for Determination of Occurrence Potential
	State/ Federal Status	CNPS Rank	Western Riverside MSHCP				
graceful tarplant <i>Holocarpha virgata</i> <i>ssp. elongata</i>	-/-	4.2	Covered	Annual herb; coastal scrub, cismontane woodland, valley and foothill grasslands, chaparral; blooms May–November; elevation 200–3,600 feet. California endemic. Known from Riverside, San Diego, and Orange counties Within the MSHCP Plan area, known occurrences are concentrated within the Santa Ana Mountains and foothills, within U.S. Forest Service lands and other protected areas such as Santa Rosa Plateau and San Mateo Wilderness Area.	No	L	This species has a low potential to occur due to the frequent human disturbance and lack of native habitats, and native vegetation. The historic agricultural use, and the continuing management for weed abatement reduce the likelihood that this species is present.
Coulter’s goldfields <i>Lasthenia glabrata ssp. coulteri</i>	-/-	1B.1	Covered	Annual herb; coastal salt marsh, vernal pools, playas; blooms February–June; elevation less than 4,000 feet.	No	U	This species is unlikely to occur due to the frequent human disturbance and lack of native habitats.
small-flowered microseris <i>Microseris douglasii ssp. platycarpha</i>	-/-	4.2	Covered	Annual herb; clay lenses on perennial grasslands, vernal pools, openings in coastal sage scrub; blooms March–May; elevation 50–3,500 feet.	No	U	This species is unlikely to occur due to the frequent human disturbance and lack of native habitats and soils. This species has not been observed within ten miles of the project area (CDFW 2022).

Attachment 3

Sensitive Plant Species Observed or with the Potential to Occur

Common Name/ <i>Scientific Name</i>	Sensitivity Code & Status			Habitat Preference/ Requirements	Detected On-Site Observed/No	Potential to Occur On-Site (L/M/H/U)	Basis for Determination of Occurrence Potential
	State/ Federal Status	CNPS Rank	Western Riverside MSHCP				
chaparral ragwort, <i>Senecio aphanactis</i>	-/-	2B.2	No	Annual herb; chaparral, cismontane woodland, coastal sage scrub; blooms January–May; elevation less than 2,700 feet.	No	U	This species is unlikely to occur due to the frequent human disturbance and lack of native habitats. This species has not been observed within ten miles of the project area (CDFW 2022).
San Bernardino aster <i>Symphyotrichum defoliatum</i>	-/-	1B.2	No	Perennial rhizomatous herb; near ditches, streams, springs; cismontane woodland, coastal scrub, lower montane coniferous forest, meadows and seeps, marshes and swamps, valley and foothill grasslands (vernally mesic); blooms July–December; elevation less than 7,000 feet. California endemic. Known from San Diego, Imperial, Riverside, Orange, Los Angeles, Kern, San Bernardino counties.	No	U	This species is unlikely to occur due to the frequent human disturbance and lack of native habitats. This species has not been observed within ten miles of the project area (CDFW 2022).

Attachment 3

Sensitive Plant Species Observed or with the Potential to Occur

Common Name/ <i>Scientific Name</i>	Sensitivity Code & Status			Habitat Preference/ Requirements	Detected On-Site Observed/No	Potential to Occur On-Site (L/M/H/U)	Basis for Determination of Occurrence Potential
	State/ Federal Status	CNPS Rank	Western Riverside MSHCP				
BERBERIDACEAE BARBERRY FAMILY							
Nevin's barberry <i>Berberis nevinii</i> [= <i>Mahonia nevinii</i>]	SE/FE	1B.1	Covered	Perennial evergreen shrub; chaparral, cismontane woodland, coastal sage scrub, riparian scrub; sandy or gravelly soils; blooms February–June; elevation 900–2,700 feet. California endemic. Known from San Diego, Riverside, Los Angeles, and San Bernardino counties.	No	U	This species is unlikely to occur due to the frequent human disturbance and lack of native habitats. As a perennial shrub, it would have been apparent at the time of survey.
BORAGINACEAE BORAGE FAMILY							
Palmer's grapplinghook <i>Harpagonella palmeri</i>	–/–	4.2	Covered	Annual herb; chaparral, coastal sage scrub, valley and foothill grasslands; clay soils; blooms March–May; elevation less than 3,200 feet.	No	U	This species is not expected to occur due to lack of suitable vegetative habitat and soils. This species has not been observed within ten miles of the project area (CDFW 2022).

Attachment 3

Sensitive Plant Species Observed or with the Potential to Occur

Common Name/ <i>Scientific Name</i>	Sensitivity Code & Status			Habitat Preference/ Requirements	Detected On-Site Observed/No	Potential to Occur On-Site (L/M/H/U)	Basis for Determination of Occurrence Potential
	State/ Federal Status	CNPS Rank	Western Riverside MSHCP				
Brand's star phacelia <i>Phacelia stellaris</i>	-/-	1B.1	NE	Annual herb; coastal scrub coastal dunes, sandy floodplains; openings in sparse native vegetation; blooms March–June; elevation less than 1,300 feet. Known from approximately 10 occurrences in San Diego, Riverside, San Bernardino, Los Angeles (presumed extirpated), and Orange counties. Additional populations occur in Baja California, Mexico. One location is currently known in Riverside County approximately one mile down river from the project site, past the end of the levee, presumed extant, and 1 historic location from 1908 was reported from approximately 0.7 mile east of the site.	No	U	A habitat assessment for this species was conducted per MSHCP. Although sandy soil is present in the project area, these areas lack native vegetation associated with this species. The area has been subject to historic agriculture and continuing weed abatement such as disking. The significant level of regular disturbance and non-native invasion limit the potential for this species to occur. This species is also susceptible to vehicle traffic and trampling. The levee construction altered the natural flood regime of the site and reduced the type of disturbance beneficial to this species.
BRASSICACEAE MUSTARD FAMILY							
Robinson's peppergrass <i>Lepidium virginicum</i> var. <i>robinsonii</i>	-/-	4.3	Covered	Annual herb; coastal sage scrub, chaparral; blooms January–July; elevation less than 2,900 feet.	No	U	This species occurs within two miles of the project area (CDFW 2022) but it unlikely to occur due to the frequent human disturbance and lack of coastal sage scrub or chaparral.

Attachment 3

Sensitive Plant Species Observed or with the Potential to Occur

Common Name/ <i>Scientific Name</i>	Sensitivity Code & Status			Habitat Preference/ Requirements	Detected On-Site Observed/No	Potential to Occur On-Site (L/M/H/U)	Basis for Determination of Occurrence Potential
	State/ Federal Status	CNPS Rank	Western Riverside MSHCP				
CARYOPHYLLACEAE PINK FAMILY							
marsh sandwort <i>Arenaria paludicola</i>	SE/FE	1B.1	No	Perennial herb; wet meadows, mesic dune swales; blooms May–September; elevation <900 feet. Last vouchered along the Santa Ana River in late 1800s.	No	U	This species is not expected to occur due to lack of persistently wet meadow habitat, and frequent human disturbance of the area. Only two known populations within the central coast of California. Only one reported occurrence in general vicinity of the project area is from 1899 and considered extirpated (CDFW 2022).
CONVOLVULACEAE MORNING-GLORY FAMILY							
small-flowered morning-glory <i>Convolvulus simulans</i>	–/–	4.2	Covered	Annual herb; openings in chaparral, coastal sage scrub, valley and foothill grasslands; clay substrate; blooms March–July; elevation less than 2,300 feet.	No	U	Occurs within two miles of the project area however the project area lacks clay soils suitable to support this species (CDFW 2022).
CRASSULACEAE STONECROP FAMILY							
many-stemmed dudleya <i>Dudleya multicaulis</i>	–/–	1B.2	NE	Perennial herb; chaparral, coastal sage scrub, grassland, mostly clay soils; blooms April–July; elevation to 2,600 feet.	No	U	This species is not expected to occur due to lack of suitable vegetative habitat and soils. This species has been observed within one to ten miles of the project area (CDFW 2022).

Attachment 3
Sensitive Plant Species Observed or with the Potential to Occur

Common Name/ <i>Scientific Name</i>	Sensitivity Code & Status			Habitat Preference/ Requirements	Detected On-Site Observed/No	Potential to Occur On-Site (L/M/H/U)	Basis for Determination of Occurrence Potential
	State/ Federal Status	CNPS Rank	Western Riverside MSHCP				
JUGLANDACEAE WALNUT FAMILY							
southern California black walnut <i>Juglans californica</i>	-/-	4.2	Covered	Perennial deciduous tree; chaparral, cismontane woodland, coastal sage scrub; blooms March–August; elevation less than 3,000 feet. California endemic. Known from San Diego, Riverside, Los Angeles, Orange, Santa Barbara, San Bernardino, and Ventura counties.	No	U	The lack of natural riparian or woodland habitat limits the potential for this species. In addition, this large perennial tree would have been apparent at the time of survey.
LAMIACEAE MINT FAMILY							
San Miguel savory <i>Clinopodium [=Satureja] chandleri</i>	-/-	1B.2	NE	Perennial shrub; chaparral, cismontane woodland, coastal sage scrub, riparian woodland, valley and foothill grasslands; blooms March–July; elevation less than 3,500 feet.	No	U	A habitat assessment for this species was conducted per MSHCP and the lack of natural riparian or woodland habitat limits the potential for this species. This species tends to prefer partial shade and finer soil texture than available on the project area.
LILIACEAE LILY FAMILY							
Plummer's mariposa lily <i>Calochortus plummerae</i>	-/-	4.2	Covered	Perennial herb (bulbiferous); chaparral, cismontane woodland, coastal scrub, lower montane coniferous forest, valley and foothill grassland; granitic, rocky; blooms May– July; elevation between 350 and 5,600 feet.	No	U	This species is not expected to occur due to lack of suitable vegetative habitat, such as chaparral, coastal scrub, and coniferous forest, and granitic soils. This species has been observed within one to ten miles of the project area (CDFW 2022).

Attachment 3
Sensitive Plant Species Observed or with the Potential to Occur

Common Name/ <i>Scientific Name</i>	Sensitivity Code & Status			Habitat Preference/ Requirements	Detected On-Site Observed/No	Potential to Occur On-Site (L/M/H/U)	Basis for Determination of Occurrence Potential
	State/ Federal Status	CNPS Rank	Western Riverside MSHCP				
intermediate mariposa lily <i>Calochortus weedii</i> var. <i>intermedius</i>	-/-	1B.2	Covered	Perennial herb (bulbiferous); chaparral, coastal scrub, valley and foothill grassland; calcareous; rocky; blooms May–July; elevation between 345 and 2,805 feet.	No	U	This species is not expected to occur due to lack of suitable vegetative habitat and soils. This species has not been observed within ten miles of the project area (CDFW 2022).
ocellated Humboldt lily <i>lilium humboldtii</i> ssp. <i>ocellatum</i>	-/-	4.2	Covered	Perennial herb (bulbiferous); cismontane woodland, coastal sage scrub, oak woodland, lower montane coniferous forest, riparian woodland; blooms March–August; elevation less than 6,000 feet. California endemic. Known in Riverside County primarily in the Agua Tibia and Santa Ana mountains and foothills.	No	U	This species is unlikely to occur due to lack of suitable vegetative habitat, including oak woodlands, natural riparian woodlands, and frequent human disturbance. The artificial nature of the Jurupa Ditch reduces the likelihood that this species would have naturally occurred on the project site and historic agriculture and continued maintenance of the Jurupa Ditch also likely preclude this species from establishing on-site. This species has not been observed within ten miles of the project area (CDFW 2022 and CCH 2022).
MALVACEA MALLOW FAMILY							
salt-spring checkerbloom <i>Sidalcea neomexicana</i>	-/-	2B.2	No	Chaparral, coastal scrub, lower montane coniferous forest, Mojavean desert scrub, playas.	No	U	This species is not expected to occur due to lack of suitable vegetative habitat and soils. This species has not been observed within ten miles of the project area (CDFW 2022).

Attachment 3

Sensitive Plant Species Observed or with the Potential to Occur

Common Name/ <i>Scientific Name</i>	Sensitivity Code & Status			Habitat Preference/ Requirements	Detected On-Site Observed/No	Potential to Occur On-Site (L/M/H/U)	Basis for Determination of Occurrence Potential
	State/ Federal Status	CNPS Rank	Western Riverside MSHCP				
NYCTAGINACEAE FOUR O'CLOCK FAMILY							
chaparral sand verbena <i>Abronia villosa</i> var. <i>aurita</i>	-/-	1B.1	Covered	Annual herb; sandy floodplains in inland, arid areas of coastal sage scrub and open chaparral; blooms January–September; elevation 300–5,300 feet.	No	L	This species has low potential to occur due to lack of suitable habitat. Although sandy soils are present in the project area, other habitat elements such as native scrub or chaparral are lacking, and the construction of the levee cut off the project area from the direct floodplain. The significant level of regular disturbance and non-native invasion also limit the potential for this species to occur.
OROBANCHACEAE BROOM-RAPE FAMILY							
salt marsh bird's-beak <i>Chloropyron maritimum</i> ssp. <i>maritimum</i> [= <i>Cordylanthus maritimus</i> ssp. <i>maritimus</i>]	SE/FE	1B.2	No	Annual herb (hemiparasitic); coastal dunes, coastal salt marshes and swamps; blooms May–October; elevation less than 100 feet.	No	U	This species is not expected to occur based on lack of salt marsh habitat or natural seasonally wet areas, and frequent disturbance are not favorable for this species to occur.

Attachment 3

Sensitive Plant Species Observed or with the Potential to Occur

Common Name/ <i>Scientific Name</i>	Sensitivity Code & Status			Habitat Preference/ Requirements	Detected On-Site Observed/No	Potential to Occur On-Site (L/M/H/U)	Basis for Determination of Occurrence Potential
	State/ Federal Status	CNPS Rank	Western Riverside MSHCP				
PAPAVERACEAE POPPY FAMILY							
Coulter's matilija poppy <i>Romneya coulteri</i>	-/-	4.2	Covered	Perennial shrub (rhizomatous); coastal sage scrub, chaparral, often in burn areas; blooms May–August; elevation less than 4,000 feet. California endemic. Known from San Diego, Riverside, Los Angeles, and Orange counties.	No	U	This species is not expected to occur due to lack of suitable vegetative habitat and soils. This perennial shrub would have been apparent at the time of survey and there are no CNNDDB records within ten miles of the project area (CDFW 2022) and only one historic (1940s) collection 10 miles to the southwest in an area that has been subsequently developed (CCH 2022).

Attachment 3

Sensitive Plant Species Observed or with the Potential to Occur

Common Name/ <i>Scientific Name</i>	Sensitivity Code & Status			Habitat Preference/ Requirements	Detected On-Site Observed/No	Potential to Occur On-Site (L/M/H/U)	Basis for Determination of Occurrence Potential
	State/ Federal Status	CNPS Rank	Western Riverside MSHCP				
POLEMONIACEAE PHLOX FAMILY							
Santa Ana River woolly star <i>Eriastrum densifolium</i> ssp. <i>sanctorum</i>	-/-	1B.1	Covered	Perennial subshrub; sandy soils; open washes and early successional alluvial fan scrub; above the annual flooding level where native alluvial scrub can persist; blooms May-September; elevation less than 1,500 feet. Non-native weed invasion limits this species' ability to establish and persist.	No	U	This species is unlikely to occur due to lack of suitable habitat. Although sandy soils are present in the project area, other habitat elements such as native alluvial fan scrub are lacking. This species is known east of the project area within the Santa Ana River floodplain. The construction of the levee cut off the project area from flood events preventing the deposition of alluvium needed for the establishment of the alluvial scrub habitat of this species. The significant level of regular disturbance and non-native invasion also limit the potential for this species to occur.

Attachment 3

Sensitive Plant Species Observed or with the Potential to Occur

Common Name/ <i>Scientific Name</i>	Sensitivity Code & Status			Habitat Preference/ Requirements	Detected On-Site Observed/No	Potential to Occur On-Site (L/M/H/U)	Basis for Determination of Occurrence Potential
	State/ Federal Status	CNPS Rank	Western Riverside MSHCP				
POLYGONACEAE BUCKWHEAT FAMILY							
Parry's spineflower <i>Chorizanthe parryi</i> var. <i>parryi</i>	-/-	1B.1	Covered	Annual herb; chaparral, cismontane woodland, coastal scrub, valley and foothill grassland; openings, rocky (sometimes), sandy (sometimes); blooms April-June; elevation between 900 and 4,000 feet.	No	U	This species is not expected to occur because the project area is below the elevational range for this species. Additionally, although sandy soils are present in the project area, other habitat elements such as chapparal, cismontane woodland, coastal scrub or grassland, are lacking.. Additionally, the significant level of regular disturbance and non-native invasion limit the potential for this species to occur.
long-spined spineflower <i>Chorizanthe polygonoides</i> var. <i>longispina</i>	-/-	1B.2	Covered	Annual herb; clay soils; openings in chaparral, coastal sage scrub, near vernal pools and montane meadows, April-July; elevation 100-5,000 feet.	No	U	This species is not expected to occur due to lack of suitable vegetative habitat and soils. This species has been observed within one to ten miles of the project area (CDFW 2022).

Attachment 3

Sensitive Plant Species Observed or with the Potential to Occur

Common Name/ <i>Scientific Name</i>	Sensitivity Code & Status			Habitat Preference/ Requirements	Detected On-Site Observed/No	Potential to Occur On-Site (L/M/H/U)	Basis for Determination of Occurrence Potential
	State/ Federal Status	CNPS Rank	Western Riverside MSHCP				
slender-horned spineflower <i>Dodecahema leptoceras</i>	FE/SE	1B.1	NE	Annual herb; chaparral, cismontane woodland, coastal sage scrub, alluvial fans, and sandy areas; late-successional alluvial fan scrub; mature native alluvial scrub in the 50-100 year flood return interval elevation. blooms April–June; elevation 600–2,500 feet. Non-native weed invasion limits this species' ability to establish and persist.	No	U	This species is unlikely to occur in the project area. Although sandy soils are present in the project area, there is a lack of other habitat elements such as alluvial fan scrub and the potential for natural river flooding. Historic agriculture and the construction of the levee would likely have removed any suitable habitat for this species historically, and the significant level of continuing regular disturbance and non-native invasion continue to limit the potential for this species to occur. Not reported within ten miles of the project area (CDFW 2022).
POACEAE GRASS FAMILY							
prairie wedge grass <i>Sphenopholis obtusata</i>	–/–	2B.2	Covered	Perennial herb; wet meadows, swamps, marshes; blooms April–July; elevation 700–9,000 feet.	No	U	No natural wet meadows or marshes are located within the project area. The significant level of regular disturbance and non-native invasion limit the potential for this species to occur in the artificially irrigated areas.

Attachment 3

Sensitive Plant Species Observed or with the Potential to Occur

Common Name/ <i>Scientific Name</i>	Sensitivity Code & Status			Habitat Preference/ Requirements	Detected On-Site Observed/No	Potential to Occur On-Site (L/M/H/U)	Basis for Determination of Occurrence Potential
	State/ Federal Status	CNPS Rank	Western Riverside MSHCP				
FEDERAL CANDIDATES AND LISTED PLANTS				STATE LISTED PLANTS			
FE = Federally listed endangered				SE = State listed endangered			
CALIFORNIA NATIVE PLANT SOCIETY (CNPS): CALIFORNIA RARE PLANT RANKS (CRPR)							
1B = Species rare, threatened, or endangered in California and elsewhere. These species are eligible for state listing.							
2B = Species rare, threatened, or endangered in California but more common elsewhere. These species are eligible for state listing.							
4 = A watch list of species of limited distribution. These species need to be monitored for changes in the status of their populations.							
.1 = Species seriously threatened in California (over 80% of occurrences threatened; high degree and immediacy of threat).							
.2 = Species fairly threatened in California (20-80% occurrences threatened; moderate degree and immediacy of threat).							
.3 = Species not very threatened in California (<20% of occurrences threatened; low degree and immediacy of threat or no current threats known).							
POTENTIAL TO OCCUR ON-SITE							
L = Low							
M = Medium							
H = High							
U = Unexpected							

ATTACHMENT 4

Sensitive Wildlife Species Occurring or with the Potential to Occur

Attachment 4
Sensitive Wildlife Species Occurring or with the Potential to Occur

Common Name/ <i>Scientific Name</i>	Listing Status	Habitat Preference/ Requirements	Detected On-Site?	Potential to Occur On-Site (Detected or L/M/H/U)	Basis for Determination of Occurrence Potential
INVERTEBRATES					
MYDIDAE MYDAS FLIES					
Delhi sands flower-loving fly <i>Rhaphiomidas terminatus abdominalis</i>	FE, MSHCP	Open sandy areas and dunes, specifically of the Delhi sands soil type	No	L	This species is not expected to occur due to lack of suitable habitat. While Delhi sands soils exist within the project area, it has been heavily disturbed and no suitable vegetation for this species exists within this area. This species has been observed within two miles of the project area (CDFW 2022).
DANAINAE MILKWEED BUTTERFLIES					
Monarch <i>Danaus plexippus</i>	FC	Wide variety of habitats, including urban areas. Host plant is milkweed (<i>Asclepias</i> sp.)	Yes	Detected	This species was detected during focused western burrowing owl surveys. While this species was detected, no host plant was observed onsite and the project area lacks suitable overwintering habitat. Therefore, this species is unlikely to breed within the project area.
FISHES					
CYPRINODONTIDAE PUPFISH					
Santa Ana sucker <i>Catostomus santaanae</i>	FT, SSC, MSHCP	Desert pools and streams.	No	U	This species is not expected to occur due to lack of suitable habitat. This species has been observed within the Santa Ana River adjacent to the project area (CDFW 2022).
SALMONIDAE SALMON & TROUT					
Southern steelhead, steelhead - south-central California coast Distinct Population Segments <i>Oncorhynchus mykiss irideus</i> pop 10	FE, SC	Freshwater streams and rivers.	No	U	This species is not expected to occur due to lack of suitable habitat. This species has been observed within one mile of the project area (CDFW 2022).

Attachment 4
Sensitive Wildlife Species Occurring or with the Potential to Occur

Common Name/ <i>Scientific Name</i>	Listing Status	Habitat Preference/ Requirements	Detected On-Site?	Potential to Occur On-Site (Detected or L/M/H/U)	Basis for Determination of Occurrence Potential
CYPRINIDAE MINNOWS & CARPS					
Arroyo chub <i>Gila orcutti</i>	SSC, MSHCP	Slow-moving or backwater sections of streams, mud, or sand substrate.	No	U	This species is not expected to occur due to lack of suitable habitat. This species has been observed within one mile of the project area (CDFW 2022).
AMPHIBIANS					
PELOBATIDAE SPADEFOOT TOADS					
Western spadefoot <i>Spea hammondi</i>	SSC, MSHCP	Vernal pools, floodplains, and alkali flats within areas of open vegetation.	No	U	This species is not expected to occur due to lack of suitable habitat. This species has been observed within four miles of the project area (CDFW 2022).
REPTILES					
ANNIELLIDAE LEGLESS LIZARDS					
Southern California legless lizard <i>Anniella stebbinsi</i>	SSC	Herbaceous layers with loose soil in coastal scrub, chaparral, and open riparian. Prefers dunes and sandy washes near moist soil.	No	U	This species is unlikely to occur due to the poor quality and lack of native habitat and high level of disturbance. This species has been observed within one mile of the project area (CDFW 2022).
GEKKONIDAE GECKOS					
San Diego banded gecko <i>Coleonyx variegatus abbotti</i>	SSC, MSHCP	Granite and rocky outcrops in coastal sage scrub and chaparral.	No	U	This species has not expected to occur due to lack of suitable habitat and high level of disturbance. This species has been observed within one to ten miles of the project area (CDFW 2022).
TEIIDAE WHIPTAIL LIZARDS					
Belding's orange-throated whiptail <i>Aspidoscelis hyperythra beldingi</i> [= <i>Cnemidophorus hyperythrus beldingi</i>]	WL, MSHCP	Chaparral, coastal sage scrub with coarse sandy soils and scattered brush.	No	L	This species has low potential to occur due to the poor quality and lack of native habitat and high level of disturbance. This species has been observed within one mile of the project area (CDFW 2022).

Attachment 4 Sensitive Wildlife Species Occurring or with the Potential to Occur					
Common Name/ <i>Scientific Name</i>	Listing Status	Habitat Preference/ Requirements	Detected On-Site?	Potential to Occur On-Site (Detected or L/M/H/U)	Basis for Determination of Occurrence Potential
Coastal whiptail <i>Aspidoscelis tigris stejnegeri</i>	SSC, MSHCP	Coastal sage scrub, desert scrub, Riversidean alluvial fan scrub, woodlands, grasslands, playas	No	L	This species has low potential to occur due to the poor quality and lack of native habitat and high level of disturbance. This species has been observed within one to ten miles of the project area (CDFW 2022).
PHRYNOSOMATIDAE SPINY LIZARDS					
Coast horned lizard <i>Phrynosoma blainvillii</i>	SSC, MSHCP	Chaparral, coastal sage scrub with fine, loose soil. Partially dependent on harvester ants for forage.	No	L	This species has low potential to occur due to the poor quality and lack of native habitat and high level of disturbance. This species has been observed within one to ten miles of the project area (CDFW 2022).
COLUBRIDAE COLUBRID SNAKES					
California glossy snake <i>Arizona elegans occidentalis</i>	SSC	Scrub and grassland habitats, often with loose or sandy soils.	No	L	This species has low potential to occur due to the poor quality and lack of native habitat and high level of disturbance. This species has been observed within one mile of the project area (CDFW 2022).
CROTALIDAE RATTLESNAKES					
Red diamond rattlesnake <i>Crotalus ruber</i>	SSC, MSHCP	Desert scrub and riparian, coastal sage scrub, open chaparral, grassland, and agricultural fields.	No	L	This species has low potential to occur due to the poor quality and lack of native habitat and high level of disturbance. This species has been observed within one mile of the project area (CDFW 2022).
BIRDS					
PHALACROCORACIDAE CORMORANTS					
Double-crested cormorant (rookery site) <i>Phalacrocorax auritus</i>	WL, MSHCP	Bays, lagoons, estuaries. Non-breeding year-round visitor.	Yes (flying overhead)	U	While this species was detected flying over the project area, no rookery is present, and no suitable breeding habitat exists within the project area.

Attachment 4

Sensitive Wildlife Species Occurring or with the Potential to Occur

Common Name/ <i>Scientific Name</i>	Listing Status	Habitat Preference/ Requirements	Detected On-Site?	Potential to Occur On-Site (Detected or L/M/H/U)	Basis for Determination of Occurrence Potential
ACCIPITRIDAE HAWKS, KITES, & EAGLES					
Cooper's hawk (nesting) <i>Accipiter cooperii</i>	WL, MSHCP	Mature forest, open woodlands, wood edges, river groves. Parks and residential areas.	No	M	This species was detected during focused burrowing owl surveys. This species has moderate potential to nest within the scattered large trees within the project area.
White-tailed kite (nesting) <i>Elanus leucurus</i>	CFP, MSHCP	Nest in riparian woodland, oaks, sycamores. Forage in open, grassy areas. Year-round resident.	No	L	This species has low potential to nest within the project site due to the lack of suitable nesting habitat. While foraging habitat does exist, few native trees occur within the project area and any nesting would occur off-site within the adjacent Santa Ana River.
RALLIDAE RAILS, GALLINULES, & COOTS					
California black rail <i>Laterallus jamaicensis coturniculus</i>	ST, CFP, MSHCP	Tidal marshes, grassy marshes. Resident populations extirpated.	No	U	This species is not expected to occur due to lack of suitable habitat. This species has been observed within two miles of the project area (CDFW 2022).
CUCULIDAE CUCKOOS & ROADRUNNERS					
Western yellow-billed cuckoo (breeding) <i>Coccyzus americanus occidentalis</i>	FT, SE, MSHCP	Riparian woodlands. Summer resident. Very localized breeding.	No	U	This species is not expected to occur due to lack of suitable habitat for either breeding or foraging. This species has been observed within two miles of the project area (CDFW 2022).

Attachment 4
Sensitive Wildlife Species Occurring or with the Potential to Occur

Common Name/ <i>Scientific Name</i>	Listing Status	Habitat Preference/ Requirements	Detected On-Site?	Potential to Occur On-Site (Detected or L/M/H/U)	Basis for Determination of Occurrence Potential
STRIGIDAE TYPICAL OWLS					
Burrowing owl (burrow sites) <i>Athene cunicularia</i>	SSC, MSHCP	Grassland, agricultural land, coastal dunes. Require rodent burrows. Declining resident.	No	M	This species has moderate potential to nest and forage within the survey area due to the presence of suitable habitat and potentially suitable burrows. This species has been observed within four miles of the project area (CDFW 2022).
TYRANNIDAE TYRANT FLYCATCHERS					
Southwestern willow flycatcher <i>Empidonax traillii extimus</i>	FE, SE, MSHCP	Nesting restricted to willow thickets. Also occupies other woodlands. Rare spring and fall migrant, rare summer resident. Extremely localized breeding.	No	U	This species is not expected to occur due to lack of suitable habitat. This species has been observed within four miles of the project area (CDFW 2022).
LANIIDAE SHRIKES					
Loggerhead shrike <i>Lanius ludovicianus</i>	SSC, MSHCP	Open foraging areas near scattered bushes and low trees.	No	L	This species is not expected to occur due to lack of suitable habitat. This species has been observed within one to ten miles of the project area (CDFW 2022).
VIREONIDAE VIREOS					
Least Bell's vireo (nesting) <i>Vireo bellii pusillus</i>	FE, SE, MSHCP	Willow riparian woodlands. Summer resident.	No	U	This species is not expected to occur within the project area due to lack of suitable habitat. While this species is known to occur adjacent to the project area within the Santa Ana River channel, lack of substantial tree or shrub cover precludes its use of the site for foraging or nesting.

Attachment 4
Sensitive Wildlife Species Occurring or with the Potential to Occur

Common Name/ <i>Scientific Name</i>	Listing Status	Habitat Preference/ Requirements	Detected On-Site?	Potential to Occur On-Site (Detected or L/M/H/U)	Basis for Determination of Occurrence Potential
POLIOPTILIDAE GNATCATCHERS					
Coastal California gnatcatcher <i>Polioptila californica californica</i>	FT, SSC, MSHCP	Coastal sage scrub, maritime succulent scrub. Resident.	No	U	This species is not expected to occur due to lack of suitable habitat. This species has been observed within two miles of the project area (CDFW 2022).
PASSERELLIDAE NEW WORLD PASSERINES					
Bell's sage sparrow <i>Artemisospiza [=Amphispiza] belli belli</i>	WL, MSHCP	Chaparral, coastal sage scrub. Localized resident.	No	U	This species is not expected to occur due to lack of suitable habitat. This species has been observed within ten miles of the project area (CDFW 2022).
ICTERIDAE BLACKBIRDS & CHATS					
Tricolored blackbird (colony) <i>Agelaius tricolor</i>	SSC, MSHCP	Freshwater marshes, agricultural areas, lakeshores, parks. Localized resident.	No	U	This species is not expected to occur due to lack of suitable habitat. This species has been observed within one mile of the project area (CDFW 2022).
MAMMALS					
MOLOSSIDAE FREE-TAILED BATS					
Western bonneted [=mastiff] bat <i>Eumops perotis</i>	SSC	Roosts mainly in cliff crevices at least 10 feet above ground. Occurs in coastal and desert scrub, riparian woodland, and pine forests. Forages on large moths and other flying insects.	No	U	This species is not expected to occur due to the lack of roosting habitat, poor quality of habitat, and high level of disturbance. This species has been observed within one to ten miles of the project area (CDFW 2022).

Attachment 4

Sensitive Wildlife Species Occurring or with the Potential to Occur

Common Name/ <i>Scientific Name</i>	Listing Status	Habitat Preference/ Requirements	Detected On-Site?	Potential to Occur On-Site (Detected or L/M/H/U)	Basis for Determination of Occurrence Potential
VESPERTILIONIDAE VESPER BATS					
Western yellow bat <i>Lasiurus xanthinus</i>	SSC	Active year-round. Roosts in the foliage of trees in arid habitats, particularly in native and exotic palm trees. Forage for a variety of flying insects over streams and ponds. Ranges from southern California and Arizona into western Mexico.	No	U	This species is not expected to occur due to the lack of roosting habitat, poor quality of habitat, and high level of disturbance. This species has been observed within one to ten miles of the project area (CDFW 2022).
LEPORIDAE RABBITS & HARES					
San Diego black-tailed jackrabbit <i>Lepus californicus bennettii</i>	SSC, MSHCP	Open areas of scrub, grasslands, agricultural fields.	No	L	This species has low potential to occur due to the poor quality of habitat and high level of disturbance. This species has been observed within three miles of the project area (CDFW 2022).
MURIDAE MICE & RATS					
San Diego desert woodrat <i>Neotoma lepida intermedia</i>	SSC, MSHCP	Coastal sage scrub and chaparral.	No	U	This species has not expected to occur due to the lack of vegetative cover/habitat and high level of disturbance. This species has been observed within ten miles of the project area (CDFW 2022).

Attachment 4

Sensitive Wildlife Species Occurring or with the Potential to Occur

Common Name/ <i>Scientific Name</i>	Listing Status	Habitat Preference/ Requirements	Detected On-Site?	Potential to Occur On-Site (Detected or L/M/H/U)	Basis for Determination of Occurrence Potential
Southern grasshopper mouse <i>Onychomys torridus ramona</i>	SSC	Alkali desert scrub and desert scrub preferred. Can also occur in succulent shrub, wash, and riparian areas; coastal sage scrub, mixed chaparral, sagebrush, low sage, and bitterbrush. Low to moderate shrub cover preferred.	No	L	This species has a low potential to occur due to the lack of vegetative cover/habitat and high level of disturbance. This species has been observed within ten miles of the project area (CDFW 2022).
HETEROMYIDAE POCKET MICE & KANGAROO RATS					
Northwestern San Diego pocket mouse <i>Chaetodipus fallax fallax</i>	SSC, MSHCP	San Diego County west of mountains in sparse, disturbed coastal sage scrub or grasslands with sandy soils.	No	L	This species has low potential to occur due to the poor quality of habitat and high level of disturbance. This species has been observed within ten miles of the project area (CDFW 2022).
Stephens' kangaroo rat <i>Dipodomys stephensi</i>	FE, ST, MSHCP	Grassland, open areas.	No	L	This species has low potential to occur due to the poor quality of habitat and high level of disturbance. This species has been observed within four miles of the project area (CDFW 2022).
San Bernardino Merriam's kangaroo rat <i>Dipodomys merriami parvus</i>	FE, SSC, MSHCP	Open scrub vegetation (coastal sage scrub, chaparral, & desert) in sandy loam substrates of alluvial fans and floodplains.	No	L	This species has low potential to occur due to the poor quality of habitat and high level of disturbance. This species has been observed within four miles of the project area (CDFW 2022).
Los Angeles little pocket mouse <i>Perognathus longimembris brevinasus</i>	SSC, MSHCP	Desert riparian, scrub, wash. Coastal scrub and sagebrush. Localized.	No	L	This species has low potential to occur due to the poor quality of habitat and high level of disturbance. This species has been observed within one mile of the project area (CDFW 2022).

Attachment 4

Sensitive Wildlife Species Occurring or with the Potential to Occur

Common Name/ <i>Scientific Name</i>	Listing Status	Habitat Preference/ Requirements	Detected On-Site?	Potential to Occur On-Site (Detected or L/M/H/U)	Basis for Determination of Occurrence Potential
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NOTE: Zoological nomenclature for invertebrates is in accordance with the NatureServe 2021 and Evans 2008; for fish with NatureServe 2021; for reptiles and amphibians with Crother et. al (2017); for birds with Chesser et al. 2021; for mammals with Bradley et al. (2014), American Society of Mammalogists 2021. Determination of the potential occurrence for listed, sensitive, or noteworthy species is based upon known ranges and habitat preferences for species follows Eriksen and Belk 1999, Evans 2008, Page et al. 2013, Jennings and Hayes 1994, Western Bat Working Group 2017, and Harvey et. al 2011. Listing status is based on California Department of Fish and Wildlife, Natural Diversity Database (CDFW) 2022 and the Western Riverside County Multiple Species Habitat Conservation Plan 2003.

STATUS CODES

Listed/Proposed

- FE = Listed as endangered by the federal government
- FT = Listed as threatened by the federal government
- FC = Federal candidate for listing (taxa for which the U.S. Fish and Wildlife Service has on file sufficient information on biological vulnerability and threat(s) to support proposals to list as endangered or threatened; development and publication of proposed rules for these taxa are anticipated)
- SE = Listed as endangered by the state of California
- ST = Listed as threatened by the state of California
- SC = State candidate for listing

Other

- SSC = California Department of Fish and Wildlife species of special concern
- WL = California Department of Fish and Wildlife watch list species
- MSHCP = Western Riverside County Multiple Species Habitat Conservation Program covered species

POTENTIAL TO OCCUR ON-SITE

- L = Low
- M = Moderate
- U = Unexpected

ATTACHMENT 5

The District at Jurupa Valley Delhi Sands Flower-loving Fly Habitat Suitability Assessment

THE DISTRICT AT JURUPA VALLEY

CITY OF JURUPA VALLEY, RIVERSIDE COUNTY, CALIFORNIA

Delhi Sands Flower-Loving Fly Habitat Suitability Assessment

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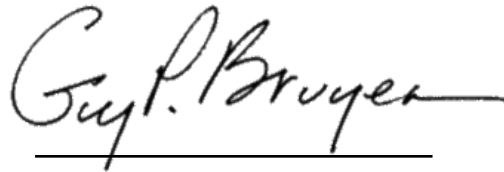
June 2023

THE DISTRICT AT JURUPA VALLEY

CITY OF JURUPA VALLEY, RIVERSIDE COUNTY, CALIFORNIA

Delhi Sands Flower-Loving Fly Habitat Suitability Assessment

The undersigned certify that the statements furnished in this report and exhibits present data and information required for this biological evaluation, and the facts, statements, and information presented is a complete and accurate account of the findings and conclusions to the best of our knowledge and beliefs.



Guy P. Bruyea
Permit No. TE-837439-8
Bruyea Biological Consulting



Thomas J. McGill, Ph.D.
Managing Director

June 2023

Executive Summary

This report contains the findings of a habitat suitability assessment conducted for the Delhi Sands flower-loving fly (*Rhaphiomidas terminatus abdominalis*) (DSF), a federally endangered species, for the proposed District at Jurupa Valley project located in the City of Jurupa Valley, Riverside County, California. The purpose of this assessment is to characterize existing site conditions and assess the quality of Delhi sand soils on the project site.

The habitat suitability assessment consisted of a visual and tactile inspection of all areas on the project site that contain mapped Delhi sand soils. Based on the United States Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) Soil Survey. Approximately 44 acres within the northern central portion of the of the 248.3-acre project site has been mapped as supporting Delhi sand soils. Since Delhi sand soils are wind deposited (aeolian), the boundaries established by the USDA are not exact and can change over time.

A narrow band, approximately 22 acres on either side of the Jurupa Ditch have been designated as Delhi Sand soils, totaling approximately 44-acres. These forty-four acres of Delhi Sand soils are surrounded by approximately 205 acres of loamy sand soils and sandy loam soils. The creation and maintenance of the Jurupa Ditch, an earthen channel, that has been conveying water from the Santa Ana River through the center of area of Delhi Sands for 140 years, combined with over 140 years of agricultural activities on either side of the channel has thoroughly mixed and contaminated the clean Delhi Sands soils that historically occurred within the central portion of the project. Agricultural activities have included extensive farming over the 140-year period, including continual disking of crops back into the soil, and the use of large tracts of land for horse pastures and corrals. This extended period of agricultural uses of the larger project site has thoroughly contaminated the relatively small acreage of Delhi Sand soils with other soils. As a result, the project site no longer supports the clean, unconsolidated Delhi Sands soils needed to support a DSF population. Most of the Delhi Sand soils found on site are heavily compacted or consolidated due to the abundance of silts, fines and clay in the soils. The 44-acres of Delhi Sand soils were rated as unsuitable DSF habitat with a habitat quality rating of 1.

Given the unsuitable rating of Delhi sand soils, the general lack of DSF sightings in this area of Jurupa Valley north of the Santa Ana River, the recognized adverse changes in soil chemistry of Delhi Sand soils in areas subjected to previous agriculture activities, it is highly unlikely that the site is occupied or that the site can become occupied in future. A focused protocol survey for DSF is not recommended for the site based on current conditions and the lack of unconsolidated clean Delhi series soils.

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APPENDIX

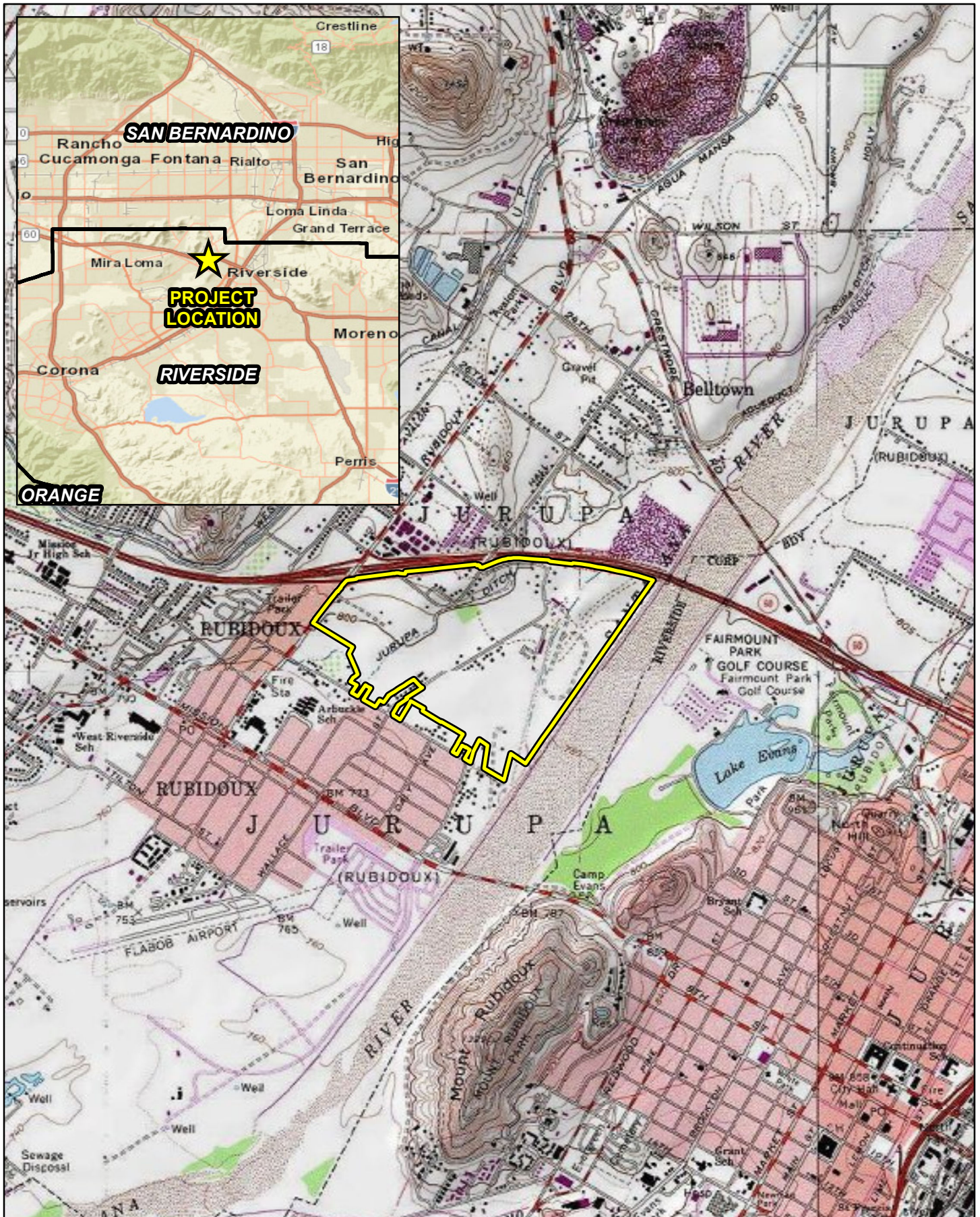
Appendix A	Site Photographs
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Section 1 Introduction

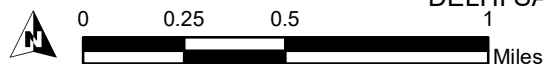
ELMT Consulting (ELMT) prepared this Delhi Sands Flower-Loving Fly (DSF) Habitat Suitability Assessment for the proposed District at Jurupa Valley project site (project site or site) located in the City of Jurupa Valley, Riverside County, California. ELMT biologist Thomas J. McGill, Ph.D. inventoried and evaluated the condition of the habitat on August 19, 2022. The assessment was conducted to determine if the mapped Delhi fine sand soils on the site support clean Delhi sand soils capable of providing suitable habitat for DSF.

1.1 PROJECT LOCATION

The approximately 248.3-acre project site is generally located south of State Route 60, north of the Santa Ana River, and west of Interstate 215 in the City of Jurupa Valley, Riverside County, California. Specifically, the project site is bound to the north by SR-60 Freeway, to the east by the Santa Ana River, to the south by 34th Street, and to the west by Rubidoux Blvd (Exhibit 1, *Site Vicinity*). The project site lies within an unsectioned portion of Township 2 south, Range 5 west of the U. S. Geological Survey (USGS) Fontana and Riverside West 7.5-minute quadrangles (Exhibit 2 Project Site).




FENNEMORE PROJECT SITE
 DELHI SANDS FLOWER-LOVING FLY SUITABILITY ASSESSMENT
Regional Vicinity



Source: USA Topographic Map, Riverside County



Legend

 Project Boundary



Source: ESRI Aerial Imagery, Riverside County

FENNEMORE PROJECT SITE
 DELHI SANDS FLOWER-LOVING FLY SUITABILITY ASSESSMENT

Project Site



Section 2 Background

It has been generally acknowledged that DSF occur in Delhi sand soils, particularly clean dune formations composed of Aeolian sands. Conversely, soils and sands deposited by fluvial processes from the surrounding alluvial fans do not support DSF. These alluvial soils are composed of coarse sands, cobble and gravel (Tujunga soils) or coarse sands, silts and clays (Cieneba soils). In this part of Riverside County, the separation of soil types has been lost due to the mixing and cross contamination from years of agricultural activities and other man-made disturbances.

Depending on the extent of mixing and contamination, many areas formally mapped as Delhi sand soils by the Natural Resources Conservation Service (NRCS) no longer have potential to support DSF populations. Conversely, some areas formally mapped as Cieneba soils may now be composed of Delhi sand soils and have potential to support DSF. Six DSF experts (Ken Osborne, Greg Ballmer, Rudy Mattoni, Karin Cleary-Rose, Alison Anderson and Tom McGill) used this criterion, the relative abundance of clean Delhi sand soils versus the amount of Cienba or other alluvial soils, to rate the suitability of the habitat to support DSF (Michael Brandman Associates, 2003). Soils high in gravel and alluvial materials, or high in fine materials such as silts and clays, were rated low, while soils that appear to be high in Aeolian deposited sands were rated high. This qualitative assessment of DSF habitat was further refined by considering the relative degree of soil compaction. Alluvial soils have a tendency to solidify to a hard surface pavement, while Aeolian soils are unconsolidated and easier to penetrate, providing good substrate for DSF.

Although it has been common to attribute the presence of the four common plant species California buckwheat (*Eriogonum fasciculatum*), California croton (*Croton californicus*), deerweed (*Acmispon glaber*), and telegraph weed (*Heterotheca grandiflora*) as indicators of habitat suitability, for the assessment, vegetation composition was not given much weight in making this habitat evaluation. These dominant plant species, and plant species composition of habitats, may not be directly relevant to larval development (due to likely predatory or parasitic habitat of DSF larvae) (Osborne, et al. 2003). The known immature life histories of the nine asiloid fly families, including that to which the DSF is classified, are primarily predatory and/or parasitic on other invertebrate species (mainly insects) and the presence or absence of plant species appears not to be relevant to the life history of these flies.

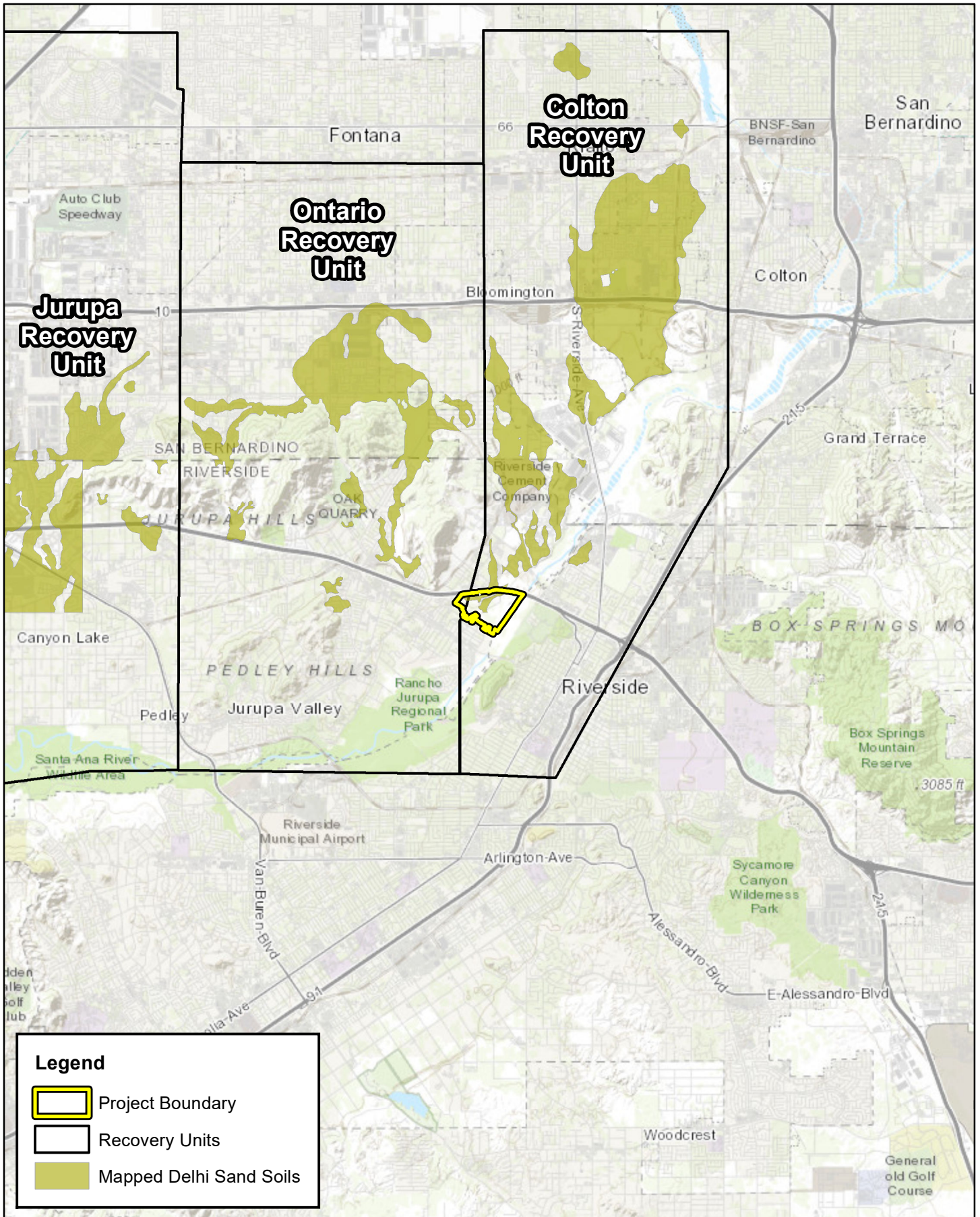
Land with suitable DSF habitat include those areas with open, undisturbed Delhi Series soils that have not been permanently altered by residential, commercial, or industrial development, or other human actions. Areas known to contain Delhi sand soils and/or to be occupied by DSF have been divided by USFWS into three recovery units (Colton, Jurupa, and Ontario Recovery Units (USFWS, 1997)). These recovery units are defined as large geographic areas based on geographic proximity, similarity of habitat, and potential genetic exchange. Within these three recovery units, are areas that have been previously protected by conservation easements:

- Colton: Eight sites have been permanently protected in the Colton recovery unit. In the USFWS five-year review of the DSF Recovery Plan (USFWS, 2008) the USFWS acknowledge that 8 sites had been identified as supporting DSF within the Colton Recovery Unit. These sites have

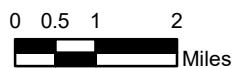
been permanently protected in the Colton Recovery Unit. Within the Colton Recovery unit, the Slover/Pepper population is partially protected through the establishment of a 7.5-acre Colton Transmission Facility Reserve at the eastern terminus of Santa Ana Ave in Colton and 150-acre Conservation Bank. There are about 160-acres of undeveloped DSF habitat contiguous with these conservation areas (USFWS, 2008).

- Jurupa: Approximately 21 ha (52-acres) of DSF habitat have been protected for this population along the Jurupa Hills. Approximately 12 ha (30-acres) are protected under a conservation easement within Riverside County (“I-15/Galena” Biological Opinion; FWS-WRIV-774). An additional 9 ha (22-acres) will be placed under a conservation easement and managed in San Bernardino County as a result of interagency consultation between the USFWS and the U. S. Army Corps of Engineers (Corps) (“Fontana Business Center” Biological Opinion; FWS-SB-1788.9), in accordance with section 7 of the Endangered Species Act.
- Ontario: In 2000, 4 ha (10-acres) of DSF habitat near the intersection of Greystone and Milliken Avenues in the City of Ontario, San Bernardino County, were acquired for conservation and an additional 1.2 ha (3-acres) of contiguous habitat was avoided, but not permanently conserved. At that time, these properties were surrounded by undeveloped land with some characteristics of DSF habitat, and the USFWS anticipated that a larger DSF reserve would be created that could sustain a robust DSF population. However, most of the surrounding property has subsequently been developed for commercial or industrial uses, and it is unlikely that the existing population can be sustained over the long term.

The majority of the project site is located within the Colton Recovery Unit, with a portion of the western end of the project site extending into the Ontario Recovery Unit (Exhibit 3, *DSF Recovery Units*).



FENNEMORE PROJECT SITE
 DELHI SANDS FLOWER-LOVING FLY SUITABILITY ASSESSMENT
DSF Recovery Units



Source: World Topographic Map, Riverside County

Section 3 Methodology

The criteria discussed in detail below were used to rate the relative abundance of clean Delhi sand soils verses Delhi Sand soils contaminated or mixed with Tujunga or other alluvial soils which preclude their suitability for supporting DSF. Soils high in gravel and alluvial materials or high in fine materials such as silts and clays, were rated low, while soils that appear to be high in Aeolian deposited sands were rated high. This qualitative assessment of DSF habitat was further refined by considering the relative degree of soil compaction. Alluvial soils have a tendency to solidify to a hard surface pavement, while Aeolian soils are friable or unconsolidated and easier to penetrate and provide good substrate for DSF.

3.1 SOIL

On-site and adjoining soils were researched prior to the field visit using the United States Department of Agricultural (USDA) Natural Resources Conservation Survey (NRCS) Soil Survey for San Bernardino County, California. In addition, a review of the local geological conditions and historical aerial photographs was conducted to assess the ecological changes the project site has undergone. In particular, the USDA NRCS was reviewed to determine the location of mapped Delhi sand soils on or within the immediate vicinity of the project site.

Approximately forty-four (44) acres within the northern central portion of the project site have been mapped as supporting Delhi Sand soils. The mapped Delhi Sand soils occurs in two 22-acre bands of Delhi Sands that are approximately 2,000 feet long by 500 feet wide, running from the northern central portion of the site towards the southwest corner. The two bands of Delhi Sand soils are separated by the Jurupa Ditch, a created earthen channel developed in 1880s to convey water from the Santa Ana River to agricultural fields, horse pastures and rural farms that occupied the project site. Soils associated with the channel were designated as Terrace escarpment. The surrounding portions of the project site to the northwest and southeast of the Jurupa Ditch are primarily loamy sand soils (Dello, Grangeville and Tujunga) or sandy loam soils (Greenfield and Ramona). In addition, Tujunga gravelly, loamy sand and riverwash soils are encountered as you approach the Santa Ana River (refer to Exhibit 4, *Soils*).

3.2 HABITAT SUITABILITY ASSESSMENT

The majority of the assessment was spent in the center portion of the site where Delhi series fine sands are documented by NRCS as being historically present. The habitat suitability assessment consisted of a visual and tactile inspection of all areas on the project site that contain Delhi sand soils. Since the southwest corner of the project site was mapped as supporting Delhi sand soils, the southwest corner of the site was evaluated for the quality or purity and for its potential to support DSF. Areas were assigned one or more ratings ranging between 1 and 5, with 5 being the best quality and most suitable habitat:












1. Soils dominated by heavy deposits of alluvial material including coarse sands and gravels with little or no Delhi sand soils and evidence of soil compaction. Developed areas, non-Delhi sands soils with high clay, silt, and/or gravel content. Delhi sands extensively and deeply covered by dumping of exotic soils, rubble, trash or organic debris. *Unsuitable*.

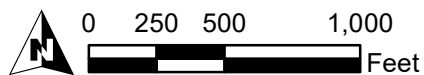
2. Delhi sand soils are present, but the soil characteristics include a predominance of alluvial materials (Tujunga Soils and Hilmar loamy sand), or predominance of other foreign contamination. Sever and frequent disturbance (such as maintenance yard or high use roadbed). *Very Low Quality*.
3. Although not clean, sufficient Delhi sand soils are present to prevent soil compaction. Moderately contaminated Delhi sands. Delhi sands with moderate to high disturbance (such as annual disking). Sufficient Delhi sands are present to prevent soil compaction (related to contamination by foreign soils). Some sandy soils exposed on the surface due to fossorial animal activity. *Low Quality*.
4. Abundant clean Delhi sand soils with little or no foreign soils (such as alluvial material, Tujunga soils or Hilmar loamy sand) present. Moderate abundance of exposed sands on the soil surface. Low vegetative cover. Evidence of moderate degree of fossorial animal activity by vertebrates and invertebrates. May represent high quality habitat with mild or superficial disturbance. *Moderate Quality*.
5. Sand dune habitat with clean Delhi sand soils. High abundance of exposed sands on the soil surface. Low vegetative cover. Evidence (soil surface often gives under foot) of high degree of fossorial animal activity by vertebrates and invertebrates. Sand associated plant and arthropod species may be abundant. *High Quality*.

It should be noted that habitat qualities often vary spatially within a site so that conditions on a site fall within a range of qualities. Further, overall habitat quality is affected by the connectivity of the site to other areas with suitable DSF habitat and the overall habitat value of the site.



Legend

- | | | |
|---|--|---|
|  Project Boundary |  Greenfield sandy loam, 2 to 8% slopes (GyC2) |  Terrace escarpments (TeG) |
|  Delhi fine sand, 2 to 15% slopes (DaD2) |  Ramona sandy loam, 0 to 5% slopes (RaB3) |  Tujunga loamy sand, 0 to 5% slopes (TuB) |
|  Dello loamy sand, 0 to 2% slopes (DmA) |  Ramona sandy loam, 5 to 8% slopes (RaC2) |  Tujunga gravelly loamy sand, 0 to 8% slopes (TwC) |
|  Grangeville loamy fine sand, 0 to 5% slopes (GoB) |  Riverwash (RsC) | |



Source: ESRI Aerial Imagery, Soil Survey Geographic Database, Riverside County

FENNEMORE PROJECT SITE
DELHI SANDS FLOWER-LOVING FLY SUITABILITY ASSESSMENT

Soils

Exhibit 4

Section 4 Results

4.1 EXISTING CONDITIONS

The Survey Site is an irregularly shaped parcel of partially fenced land that has been in agricultural use for 140 years for growing crops, horse corrals and pastures, commercial and storage facilities, rural residences. A centralized water delivery system, running from the northeast corner to the southwest corner still carries water from the Santa Ana River across the project site. The property is surrounded by residential, commercial, horse corrals and pasture lands, as well as fallow fields. The topography of most of the site is flat, rising abruptly in its northeastern one-quarter about 20-30 feet to another flat area. The Jurupa Ditch traverses the middle of the site from the northeast to southwest. Natural substrate of the site is diverse as seen on soil maps from the U.S. Department of Agriculture (USDA 1971) that show eight different soil types. It should be noted that there are several infill developed/residential parcels are located within the project boundary.

The organic content of some of the site substrate has been greatly increased above its natural condition by activities associated with 140 years of disking crops back into the soil and the 140 years of horse maintenance throughout the project site.

Where vegetation occurs on the site it consists principally either of (1) ruderal (weedy or invasive non-native species that are good colonizers of disturbed areas), (2) riparian species found on the bank of the Jurupa Ditch; or (3) species that have been planted for ornamental or practical (e.g., windrows) purposes. Common invasive non-species included short-podded mustard (*Hirschfeldia incana*), Russian thistle (*Salsola tragus*), castor bean (*Ricinus communis*), and ripgut grass (*Bromus diandrus*). Most of these invasive species are known to be deleterious to the suitability of habitat for the DSF. A riparian community occurs along the banks of the of the earthen portion of the Jurupa Ditch and supports several native and non-native plant species, including Arundo (*Arundo donax*), castor bean, wild grapes (*Vitica californica*) arroyo willow (*Salix lasiolepis*, encelia (*Encelia farinose*), Mexican fan palm (*Washingtonia robusta*), and tobacco tree (*Nicotiana glauca*). The most common planted species on the site are eucalyptus (*Eucalyptus* sp.) and cottonwood (*Populus fremontii*). Of the three plant species [telegraph weed, croton, and California buckwheat] commonly considered indicative of habitat suitable for the DSF, are absent from the project site due to routine disking and the alteration of the soils chemistry of the Delhi Sand soils.

4.2 HABITAT SUITABILITY ASSESSMENT

Dating back to the 1880s, the site has been occupied by active and fallow agricultural fields, horse corrals and pastures, commercial and storage facilities, and rural residences. As noted above, the majority of the project site does not support Delhi Sand Soils, approximately 44 acres of the 248.3 were designated as Delhi Sand soils. Except for the soils associated with the Santa Ana River and the Jurupa Ditch which supported riverwash soils and Terrace escarpment soils respectively, the soils occurring in northwest half and the southeast half of the project site, support loamy sand soils and sandy loam soils that all have a substantially higher clay content than Delhi Sands soils (Exhibit 5, *Soil Map*). The sandy loam and loamy sand soils have a silt and clay content between 45% and 60%. Delhi Sand soils is primarily fine sands, without silt and clay content between 0 to 5%.

A narrow band, approximately 22 acres on either side of the Jurupa Ditch has been designated as Delhi Sand soils. These forty-four acres of Delhi Sand soils are surrounded by approximately 205 acres of loamy sand soils and sandy loam soils. The 140 years of agricultural uses of the project site (rotation of crops, disking of

the soil, the creation and maintenance of the Jurupa Ditch for conveying water, and use of the land for horse corrals and pastureland) has thoroughly mixed and contaminated the clean Delhi Sands soils found within the central portion of the project. As a result, the project site no longer supports the clean, unconsolidated Delhi Sands soils needed to support a DSF population. Most of the soils are highly compacted. Those few areas identified with unconsolidated soils supports soils that are highly contaminated with organics from the 140 years of agricultural use of the site. The 40-acre of Delhi Sand soils was rated as unsuitable DSF habitat with a habitat quality rating of 1 (see Exhibit 5 *DSF Suitability Map*).

Given the unsuitable rating of Delhi sand soils, the general lack of DSF sightings in this area of Jurupa Valley north of the Santa Ana River, the recognized adverse changes in soil chemistry of Delhi Sand soils in areas subjected to previous agriculture activities, it is highly unlikely that the site is occupied or that the site can become occupied in future. A focused protocol survey for DSF is not recommended for the site based on current conditions and the lack of unconsolidated clean Delhi series soils.



Section 5 Conclusion and Recommendations

A narrow band, approximately 22 acres on either side of the Jurupa Ditch has been designated as Delhi Sand soils, totaling approximately 44 acres. These forty-four acres of Delhi Sand soils are surrounded by approximately 205 acres of loamy sand soils and sandy loam soils. The larger project site has been in agricultural production (rotation of crops, disking of the soils, conveyance of water in an earthen channel, and use of the land for horse corrals and pastureland) for 140 years. These agricultural uses have thoroughly mixed and contaminated the clean Delhi Sands soils found within the central portion of the project.

As a result, the project site no longer supports the clean, unconsolidated Delhi Sands soils needed to support a DSF population. The 40-acre of Delhi Sand soils within the central portion of the project site was rated as unsuitable DSF habitat with a habitat quality rating of 1.

Given the unsuitable rating of Delhi sand soils, the general lack of DSF sightings in this area of Jurupa Valley north of the Santa Ana River, the recognized adverse changes in soil chemistry of Delhi Sand soils in areas subjected to previously discussed agricultural activities, it is highly unlikely that the site is occupied or that the site can become occupied in future. A focused protocol survey for DSF is not recommended for the site based on current conditions and the lack of unconsolidated clean Delhi series soils.

Section 6 References

- Osborne, K.H. 2002a. Focused surveys for the Delhi Sand giant flower-loving fly (*Rhaphiomidas terminatus abdominalis*) on a 125-acre portion of the Fontana Business Center site. Submitted to USFWS October 15, 2002.
- Osborne, K.H. Greg Ballmer and Thomas McGill. 2003. Delhi Sands Flower-loving Fly Habitat Assessment for the Fontana Business Center.
- U.S. Department of Agriculture, Natural Resources Conservation Service. 2018. *Web Soil Survey*. Online at <http://websoilsurvey.nrcs.usda.gov/app/>.
- U.S. Fish and Wildlife Services. 1996. Habitat Conservation Plan in support of the issuance of a Section 10(a) permit for incidental take of the endangered Delhi Sands Flower-Loving Fly (*Rhaphiomidas terminatus abdominalis*) in connection with the completion of the Cantara residential project in the City of Colton, California.
- U.S. Fish and Wildlife Services. 1997. Final Recovery Plan for Delhi Sands Flower-Loving Fly (*Rhaphiomidas terminatus abdominalis*) U.S. Fish and Wildlife Services, Portland, Or. 51 pages.
- U.S. Fish and Wildlife Service. 2019. Recovery Plan Amendment for Delhi Sands Flower-Loving Fly (*Rhaphiomidas terminatus abdominalis*).
- U.S. Fish and Wildlife Services. 2008. Delhi Sands Flower-Loving Fly (*Rhaphiomidas terminatus abdominalis*) 5-Year Review: Summary and Evaluation. Carlsbad, California. March 2008.

Appendix A Site Photographs



Photograph 1: Looking southwest from the inside the northern boundary at the top of the Jurupa Ditch where water from the Santa Ana River is released from concrete channel into an earthen channel. Delhi Sand soils are mapped on either side for the channel extending out 200 yards on each side of the channel.



Photograph 2: Looking northwest across the earthen portion of the Jurupa Ditch. Note the heavy presence of clay soils along the banks. The Jurupa Ditch has been in existence for 140 years.



Photograph 3: Closeup of the riparian vegetation on the southern banks of the Jurupa Ditch downstream of the release point into the earthen portion. The majority of plant are exotic species such as Arundo and castor bean.



Photograph 4: The Delhi Sand soils on the south side of the Jurupa Ditch are heavily contaminated with clay from the surrounding soils and from infiltration of silts and fines from river water flowing through the middle of the soils over the last 140 years.



Photograph 5: Looking northeast at the northeastern corner of the site. The riparian habitat of Jurupa Ditch can be seen in the top left of the photo. The Delhi soils in the foreground are contaminated with silts and fines from the river water and clays from the surrounding soils in the left side of the photo.



Photograph 6: Looking east along the central access road from the western boundary of the site. Note the contamination of soils from gravel in the foreground. Surrounding sandy loam soils can be seen in the background, and the Jurupa Ditch and riparian habitat in the top right of the photo.



Photograph 7: Looking northeast along the northern banks of the Jurupa Ditch. Note the compaction of the Delhi Sand soils outside the riparian vegetation.



Photograph 8: Looking northwest from the northern banks of the Jurupa Ditch across the area designated Delhi Sands soils in the foreground. The soils are contaminated with silts and fines from infiltration from waters in the Jurupa Ditch, as well as the surrounding loamy soils, seen in the background.

ATTACHMENT 6

RCA JPR Review

RCA JPR REVIEW

Project Information

Date: 3/16/05

JPR #: 05 03 03 01

Permittee: County of Riverside

Site Acreage: 250 acres

Criteria Consistency Review

Data:

Applicable Core/Linkage: Proposed Noncontiguous Habitat Block 1

Area Plan: Jurupa

APN	Sub-Unit	Cell Group	Cell
178310001	SU1 - Santa Ana River North	Independent	187
178310002			
178310003			
178310004			
178310005			
178310006			
178310008			
178310021			
178310023			
178310026			
178310027			
178310028			
178310037			
178310042			
178290005			
178290009			
179270001			
179270014			
179270015			
179270016			
179310001			
179310004			
179310005			
179340001			
179340002			
179340005			

Comments:

- a. The project site is located entirely within Independent Cell 187. The MSHCP contemplated Conservation within this Cell contributing to the assembly of Existing Core A. Conservation within this Cell will focus on Riversidean alluvial fan sage scrub habitat and agricultural land along the Santa Ana River, ranging from 15%-25% of the Cell focusing in the eastern portion of the Cell.

RCA JPR REVIEW

- b. Information submitted with the application materials indicates that the project site is entirely disturbed and no native vegetation exists on the site. In addition, the materials document the presence of a levee that separates the property from the Santa Ana River, and concludes that the disturbed nature of the site and its disconnection from the Santa Ana River do not provide the resources being sought by the Criteria. In review of the application materials, it does not appear that development of the site as proposed would conflict with Reserve Assembly objectives for Existing Core A.

Other Plan Requirements

Data:

Section 6.1.2 – Riparian/Riverine/Vernal Pool Mapping Provided:

No, mapping was not provided. The biological information provided indicates that no areas meeting the definition of Riparian/Riverine or Vernal Pools are present on the site through reporting that no jurisdictional waters were identified.

Section 6.1.3 – Narrow Endemic Plant Species Surveys Provided:

The project application materials indicate that for all of the Narrow Endemic Plant species within Survey Area 7, no suitable habitat is present.

Section 6.3.2 – Additional Species Surveys Provided:

Three separate surveys for burrowing owl were conducted, a single owl was identified in two of the surveys.

Section 6.1.4 – Guidelines Pertaining to Urban/Wildland Interface:

Yes, information was provided in consideration of the project's location adjacent to the Santa Ana River.

Comments:

- a. Based on the information contained in the application materials, no areas meeting the definition of Riparian/Riverine or Vernal Pools exist on the site, and therefore, the project is in compliance with Section 6.1.2 of the MSHCP Plan.
- b. The project site is within the MSHCP NEPSSA habitat assessment/survey areas 7, which includes Brand's phacelia, San Diego ambrosia, and San Miguel savory. The application materials indicate that due to the disturbed nature of the site, no suitable habitat exists for these species. Therefore the project does not appear to require any additional information to demonstrate compliance with the survey requirements and measures identified in Section 6.1.3 of the MSHCP Plan.
- c. The project site is within the MSHCP survey area for burrowing owl. Focused surveys were conducted for this species, and in two separate surveys, a single owl was identified. However, no owls were

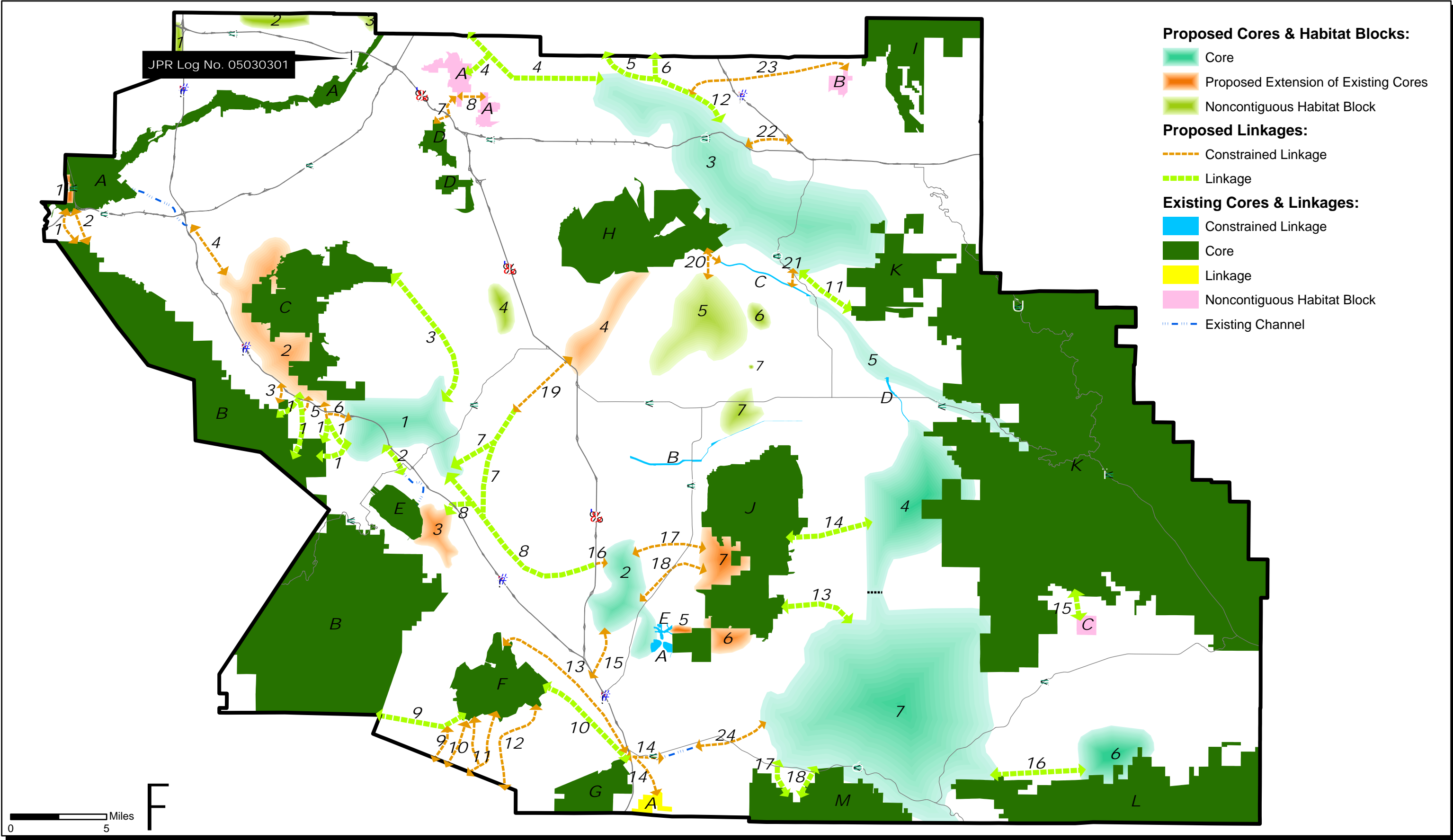
RCA JPR REVIEW

detected in a nesting survey. The biological resources report recommends additional surveys for burrowing owl. The Permittee should ensure that all relevant data are considered in determining compliance with the requirements and measures for this species identified in Section 6.3.2 of the Plan.

- d. To preserve the integrity of potential conservation that may occur adjacent to the site within Existing Core A, all of the measures identified in the application materials relative to controlling adverse indirect effects should be implemented. Implementation of those measures would provide adequate consideration of the guidelines contained in Section 6.1.4 related to controlling adverse effects for development adjacent to the MSHCP Conservation Area.

JPR Log No. 05030301

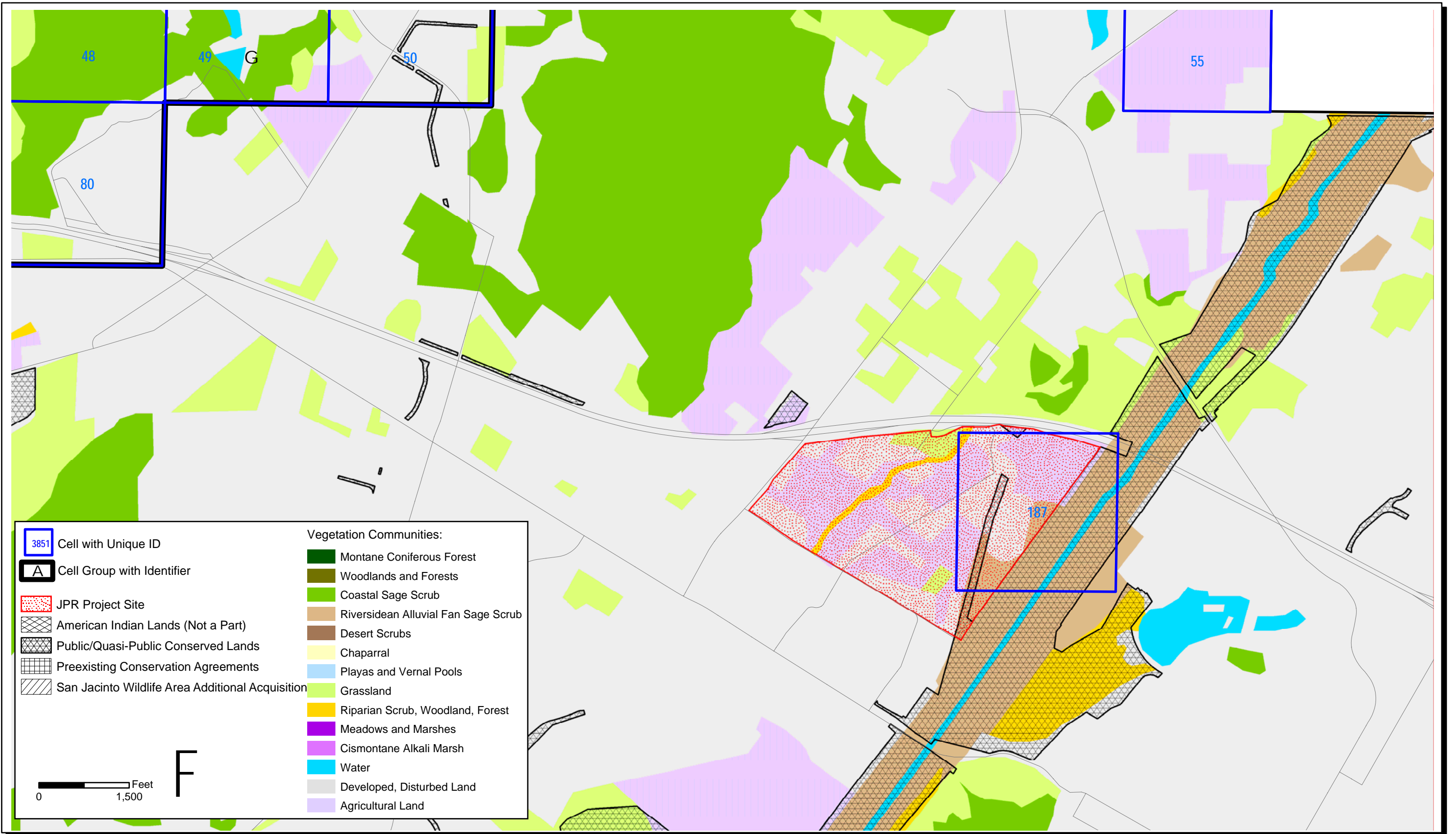
- Proposed Cores & Habitat Blocks:**
- Core
 - Proposed Extension of Existing Cores
 - Noncontiguous Habitat Block
- Proposed Linkages:**
- Constrained Linkage
 - Linkage
- Existing Cores & Linkages:**
- Constrained Linkage
 - Core
 - Linkage
 - Noncontiguous Habitat Block
 - Existing Channel



0 5 Miles

JPR Log No. 05030301
Vicinity Map with MSHCP Schematic Cores and Linkages

EXHIBIT
A



JPR Log No. 05030301
Criteria Area Cells with MSHCP Vegetation and Project Location

EXHIBIT
B