Biological Resources Technical Report

Rancho Diamante Project Site, City of Hemet, California
TTM 36841

DRAFT REPORT

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CADRE Environmental

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GLOSSARY

AMSL	Above Mean Sea Level
APN	Assessor's Parcel Number
BMP	Best Management Practices
CAPSA	Criteria Area Plant Survey Areas
CDFG	California Department of Fish and Game (CDFW effective Jan 1st 2013)
CDFW	California Department of Fish and Wildlife
CESA	California Endangered Species Act
CEQA	California Environmental Quality Act
CNDDB	California Natural Diversity Database
CNPS	California Native Plant Society
CRPR	California Rare Plant Ranking
CWA	Clean Water Act
DBESP	Determination of Biological Equivalent or Superior Preservation
EPA	Environmental Protection Agency
EPD	County of Riverside Environmental Programs Division
FESA	federal Endangered Species Act
GIS	Geographic Information System
GPS	Global Positioning System
GWR	Ground Water Recharge
HANS	Habitat Acquisition and Negotiation Strategy
HCP	Habitat Conservation Plan
JPR	Joint Public Review
LWRM	Limited Warm Freshwater Habitat
MBTA	Migratory Bird Treaty Act
MSHCP	Multiple Species Habitat Conservation Plan
NCCP	Natural Communities Conservation Plan
NEPSA	Narrow Endemic Plant Survey Areas
NPDES	National Pollutant Discharge Elimination System
NPPA	Native Plant Protection Act
OHWM	Ordinary High Water Mark
PCD	Page Ranch Planned Community Development
PQP	Public/Quasi-Public
QCB	Quino Checkerspot Butterfly
RCA	Western Riverside County Regional Conservation Authority
RCHCA	Riverside County Habitat Conservation Agency
RCIP	Riverside County Integrated Project
RWQCB	Regional Water Quality Control Board
SAA	Streambed Alteration Agreement
SKR	Stephens' Kangaroo Rat
SSC	California Species of Special Concern
SWRCB	State Water Resources Control Board
USACE	United States Army Corps of Engineers
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
WARM	Warm Freshwater Habitat
WDR	State Waste Discharge Requirements
WET	Wetland Habitat
WILD	Wild Habitat
WQE	Water Quality Enhancement

EXECUTIVE SUMMARY

The Rancho Diamante Project Site (245.07-acres onsite, 21.48-acres offsite) is located within the Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP) San Jacinto Valley Area Plan, south of Proposed Noncontiguous Habitat Block 7 and Constrained Linkage B (Hemet Channel). A 62.75-acre portion of the Project Site is located within Criteria Cell 4007 and 20.23-acre portion is located within Criteria Cell 3892 (SU4 Hemet Vernal Pool Areas East). No conservation within Criteria Cell 4007 or 3892 is proposed or identified by the MSHCP criteria for the region located within the Project Site.

The majority of the Project Site is characterized as flat highly disturbed active agricultural lands with elevations ranging from 1,495 feet above mean sea level (AMSL) and 1,507 feet AMSL. The Project Site is primarily characterized as agricultural lands (field croplands), seasonal depressions, Eucalyptus woodland, and disturbed/herbaceous wetland vegetation communities. A man-made urban-agricultural drainage ditch created along the southern boundary extends west to an existing infiltration basin. A total of fourteen (14) seasonal depressions (including the infiltration basin) have also been delineated within the Project Site (Helix Environmental Planning, Inc. 2018a). The majority of flat lowlands are currently being actively farmed (wheat production).

The Rancho Diamante Project Site is located within MHSCP narrow endemic plant, criteria area, and specific wildlife survey areas for eighteen (18) species. Based on the initial MSHCP review of predetermined Survey Areas and habitat assessment conducted by Cadre Environmental for target species, focused surveys were conducted for the following eighteen (18) species (Cadre Environmental 2017a, Helix Environmental Planning 2016, 2017).

- Riverside fairy shrimp (*Streptocephalus woottoni*)
- vernal pool fairy shrimp (*Branchinecta lynchi*)
- burrowing owl (*Athene cunicularia*)
- San Jacinto Valley crownscale (*Atriplex coronata* var. *notatior*)
- Davidson's saltscale (*Atriplex davidsonii*)
- Parish's brittlescale (*Atriplex parishii*)
- thread-leaved brodiaea (*Brodiaea filifolia*)
- smooth tarplant (*Centromadia pungens* subsp. *laevis*)
- round-leaved filaree (*Erodium macrophyllum*)
- Coulter's goldfields (*Lasthenia glabrata* subsp. *coulteri*)
- little mousetail (*Myosurus minimus* subsp. *apus*)
- mud nama (*Nama stenocarpum*)
- Munz's onion (*Allium munzii*)
- San Diego ambrosia (*Ambrosia pumila*
- many-stemmed dudleya (*Dudleya multicaulis*)
- spreading navarretia (*Navarretia fossalis*)
- California Orcutt grass (*Orcuttia californica*)
- Wright's trichocoronis (*Trichocoronis wrightii* var. *wrightii*)

No federal or state listed threatened or endangered plants or wildlife were documented within the Project Site.

No sensitive fairy shrimp were detected onsite during focused United States Fish and Wildlife Service protocol dry and wet season sampling conducted in 2016 and 2017 (Helix Environmental Planning, Inc. 2016, 2017).

One (1) MSHCP criteria area species, smooth tarplant (191 plants) was identified within the offsite Project Site boundary during the focused sensitive plant surveys conducted in 2015, 2016 and 2017 (Cadre Environmental 2017b).

No burrowing owls were detected within the Project Site during focused MSHCP surveys conducted in 2015 and 2017 (Cadre Environmental 2017c). Burrowing owl were detected within and adjacent to the Project Site during initial MSHCP focused surveys conducted in 2005 and 2006 by Michael Brandman Associates and CH2M Hill (Michael Brandman Associates 2006). Results of the initial burrowing owl surveys conducted during the 2005 and 2006 did not meet the MSHCP requirements of three (3) or more pairs for a site requiring onsite conservation.

Incidental MSHCP covered species documented during the initial habitat assessment and/or focused survey efforts include, white-tailed kite [SSC], loggerhead shrike, turkey vulture, California horned lark [SSC], coyote, and San Diego black-tailed jackrabbit [SSC].

Direct impacts to field croplands, Eucalyptus woodland, disturbed and developed habitats would not result in significant impacts. However, impacts to resources and habitats regulated by the California Department of Fish and Wildlife (CDFW) and MSHCP 6.1.2 would be considered a significant under the California Environmental Quality Act (CEQA). Impacts to all vegetation communities located within the Project Site will be mitigated to a level of less than significant by implementing Biological Mitigation Measures (BIO-MM1, BIO-MM5, and BIO-MM6)

(BIO-MM1) The project applicant shall pay MSHCP Local Development Mitigation fees as determined by the City of Hemet. Five categories of the fee are defined and include: Residential, density less than 8.0 dwelling units per acre $1,651 per dwelling unit; Residential, density between 8.1 and 14.0 dwelling units per acre $1.057 per dwelling unit; Residential, density greater than 14.1 dwelling units per acre $859 per dwelling unit; Commercial $5,620 per acre; and Industrial $5,620 per acre.

(BIO-MM2) The Project Site falls within the Stephens' kangaroo rat (SKR) fee area outlined in the Riverside County SKR Habitat Conservation Plan. County Ordinance 663.10 establishes the Riverside County SKR HCP Fee Assessment Area and sets mitigation fees. As such, a fee (paid to Riverside County) of $500 per acre is required.

(BIO-MM3) A 30-day burrowing owl preconstruction survey will be conducted immediately prior to the initiation of ground-disturbing construction to ensure protection for this species and compliance with the conservation goals as outlined in the MSHCP. The survey will be conducted in compliance with both MSHCP and CDFW guidelines

(MSHCP 2006, CDFW 2012). A report of the findings prepared by a qualified biologist shall be submitted to the City of Hemet prior to any permit or approval for ground disturbing activities.

(BIO-MM4) Mitigation for potential direct/indirect impacts to common and MSHCP covered sensitive bird and raptor species will require compliance with the federal Migratory Bird Treaty Act. Construction outside the nesting season (between September 16th and January 31st do not require pre-removal nesting bird surveys. If construction is proposed between February 1st and September 15th, a qualified biologist must conduct a nesting bird survey(s) no more than fourteen (14) days prior to initiation of grading to document the presence or absence of nesting birds within or directly adjacent (100 feet) to the Project Site.

(BIO-MM5) To meet the criteria of a biologically equivalent or superior alternative, the applicant will offset impacts to 1.52 acres of MSHCP Section 6.1.2 Riparian and Riverine resources as follows and prepare a MSHCP Determination of Biological Equivalent or Superior Preservation (DBESP). The project proposes to purchase 0.03 acre of establishment/re-establishment credits from the Riverpark Mitigation Bank, which is expected to begin selling credits by summer 2018. The project proposes to rehabilitate and enhance a minimum of 3.1 acres of onsite waters of the State, CDFW jurisdiction, and MSHCP Riparian/Riverine resources in the form of herbaceous wetland- and southern willow scrub-vegetated areas. The 3.1 acres will be contained within approximately 14.5 acres of on-site waters of the State, CDFW jurisdiction, and Riparian/Riverine resources that will be preserved. This element of the mitigation proposal will mitigate permanent and temporary impacts to CDFW jurisdiction and MSHCP Riparian/Riverine resources at a 3:1 ratio for wetland/riparian-vegetated streambed and 2:1 ratio for unvegetated streambed. This will also mitigate temporary impacts to isolated wetland waters of the State at a minimum 1:1 ratio. The project has also been designed to incorporate 19.2 acres of water quality features to compensate the loss of beneficial uses to non-jurisdictional features which have beneficial and additional uses of value (Ground Water Recharge (GWR), Warm Freshwater Habitat (WARM), Wetland Habitat (WET), and Water Quality Enhancement (WQE)) to the local area and watershed.

(BIO-MM6) Prior to issuance of a grading permit, the project applicant will obtain a, Clean Water Act (CWA) Section 404 permit, 1602 Streambed Alteration Agreement from CDFW and a WDR permit issued by the RWQCB pursuant to the California Water Code Section 13260.

(BIO-MM7) All MSHCP Urban/Wildlands Interface guidelines presented in Section 6.1.4 are intended to address indirect effects associated with locating commercial, mixed uses and residential developments in proximity to an MSHCP Conservation Area. Final project design will be developed to ensure best management practices are incorporated into the proposed project to address and minimize edge effects associated with the Urban/Wildlands Interface to Hemet Channel (PQP Conserved Land, MSHCP Constrained Linkage B) including the reestablishment and conveyance of seasonal clean water flows southwest of the Project Site (Salt Creek).

The temporary direct and/or indirect impacts of the project would not result in significant cumulative impacts (CEQA Section 15310) to environmental resources within the region of the Project Site. Cumulative impacts refer to incremental effects of an individual project when assessed with the effects of past, current, and proposed projects. Although the project would result in the permanent loss of 221.68 acres of primarily agricultural lands, the MSHCP was developed to address the comprehensive regional planning effort and anticipated growth in the City of Hemet.

Implementation of Mitigation Measures BIO-MM1 through BIO-MM7 would reduce all potential significant unavoidable impacts on biological resources to a level of less than significant and ensure compliance with all MSHCP conservation goals and guidelines.

INTRODUCTION

The following biological technical report describes a detailed assessment of potential sensitive natural resources located within and immediately adjacent to the Rancho Diamante (TTM 36841) Project Site. Specifically, the report has been prepared to support the California Environmental Quality Act (CEQA) and Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP) documentation and review process conducted by the City of Hemet, California. As discussed below, the assessment includes a thorough literature review, site reconnaissance characterizing baseline conditions (including floral and faunal and dominate vegetation communities), focused sensitive species surveys, impact analysis, and proposed mitigation measures.

PROJECT LOCATION/DESCRIPTION

The 245.07-acre Project Site, Assessor's Parcel Number (APNs) 465-100-016, 465-100-022, 465-110-020, 021, 022, 023, and 027, is located immediately west of Warren Road, south of the Hemet Channel and east of the San Diego Aqueduct in the City of Hemet, western Riverside County, California (U.S. Geological Survey (USGS) 7.5' series Winchester Quadrangle, east ½ of Section 24, Township 5 South, Range 2 West as shown in Figure 1, *Regional Location Map*. An offsite assessment area totaling 21.48 acres (portions of APNs 465-120-019, and 021, 465-130-016 and 017, 465-100-018, 031, 032, and 033) include the reach of Hemet Channel located immediately north of the Project Site, improvements proposed to Warren Road and a future offsite drainage channel extending south from the southwest corner of the Project Site to the Riverside County Flood Control feature located at Simpson Road.

Specifically, the Project Site is located within the Western Riverside County MSHCP San Jacinto Valley Area Plan, south of Proposed Noncontiguous Habitat Block 7 and Constrained Linkage B (Hemet Channel). A 62.75-acre portion of the Project Site is located within Criteria Cell 4007 and 20.23-acre portion is located within Criteria Cell 3892 (SU4 Hemet Vernal Pool Areas East), as shown in Figure 2, *Project Site Map* (RCA GIS Data Downloads 2018).

The majority of the Project Site is characterized as flat highly disturbed active agricultural lands with elevations ranging from 1,495 feet above mean sea level (AMSL) and 1,507 feet AMSL. The Project Site is primarily characterized as agricultural lands (field croplands), seasonal depressions, Eucalyptus woodland, and disturbed/herbaceous wetland vegetation communities. A man-made urban-agricultural drainage ditch created along the southern boundary extends west to an existing infiltration basin. A total of fourteen (14) seasonal depressions have also been delineated within the Project Site (Helix Environmental Planning, Inc. 2018a). The majority of flat lowlands are currently being actively farmed (wheat production).

Figure 1 - Regional Location Map

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Rancho Diamante - TTM 36841

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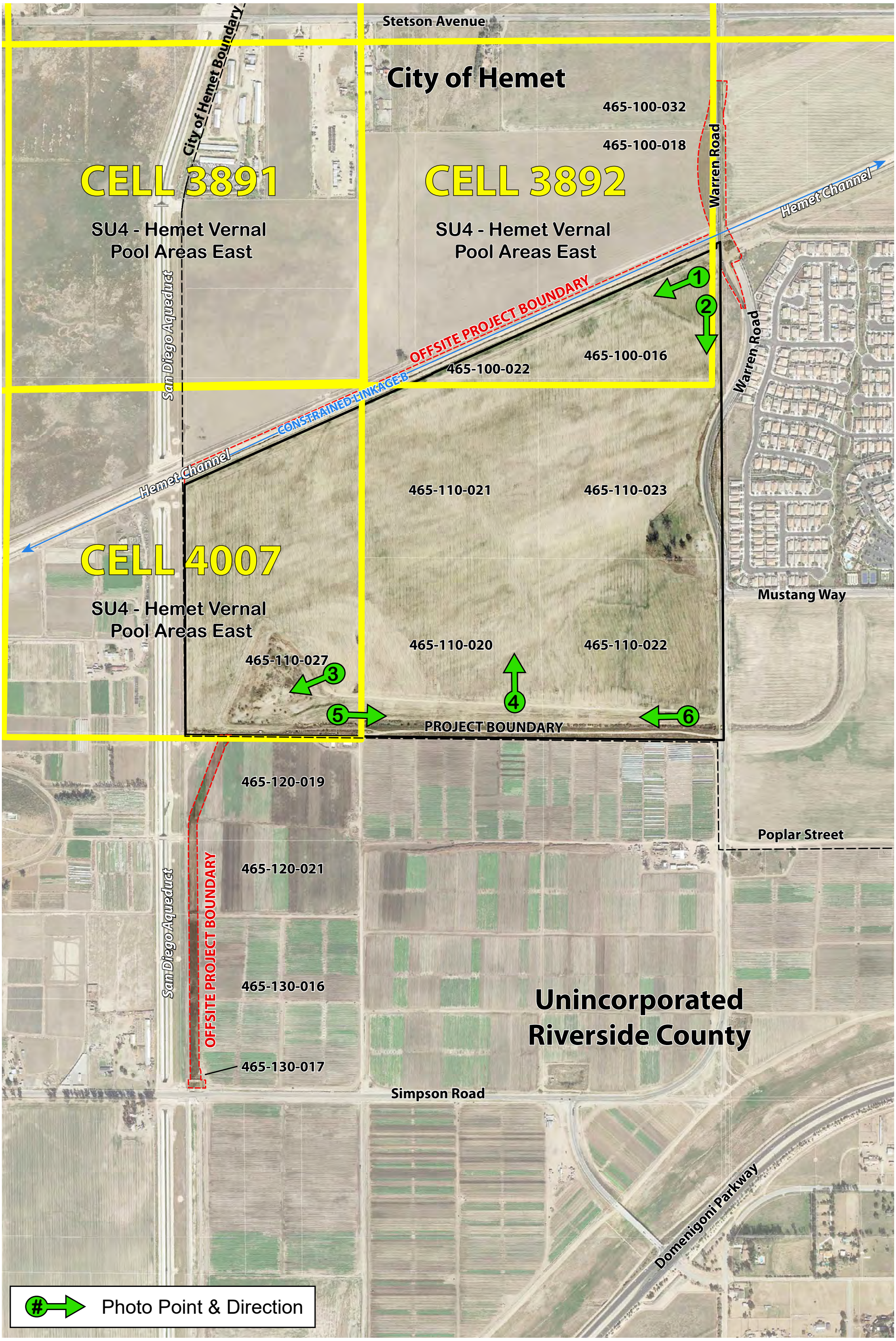
not to scale



APNs 465-100-016, 465-100-022, 465-110-020, 021, 022, 023, and 027. Offsite APNs Portions of 465-120-019, 021, 465-130-016, 017, 465-100-018, and 032.

Figure 2 - Project Site Map

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1 inch = 650 feet

The proposed Modified Project encompasses approximately 245 acres of the approximately 1,621-acre Page Ranch Planned Community Development (PCD). As stated by LSA Associates:

> "*The proposed Tentative Tract Map (TTM) No. 36841 (MAP 15-008) would subdivide the 245.07-acre project site into 588 single family residential lots, park and open space areas, and commercial development. The new community will contain a mix of residential lot sizes, with the smallest lot having a minimum of 5,000 square feet and the largest lot having a minimum of 7,000 square feet, with an average lot size of 6,200 square feet. Paseos are proposed for dispersed open space, pedestrian pathways, and the conveyance of drainage and other water quality benefits throughout the community. Drainage is conveyed to the north to the Hemet Channel or to the south to the existing channel serving TTM 31807 immediately south of the Hemet City limits.*
>
> *Proposed TTM No. 36841 establishes the locations of legal lots that would be ultimately sold to merchant home builders who will then subdivide the "for sale" residential lots. The proposed TTM replaces and expands previously approved TTM No. 35394 of the Approved Project and is being processed concurrently with the other two discretionary actions associated with the proposed Modified Project. Offsite improvements to be implemented under the proposed Modified Project include construction of water and reclaimed water pipelines, drainage conveyance features, and realignment of Warren Road including accommodations for future realignment of Stetson Avenue and its intersection with Warrren Road at the northeast corner of the project site. The offsite water pipelines will be located within the area of the new Warren Road construction north of new Stetson Avenue. The offsite reclaimed water pipelines will be located along the new Stetson Avenue alignment from California Street to the northwest corner of the Modified Project site. Offsite drainage improvements include a drainage channel outlet from the drainage basin in the southwest corner of the Project site extending southerly to the existing drainage channel at Simpson Road. Warren Road will be realigned north of its intersection with new Stetson Avenue, Hemet Channel, and the railroad tracks*." (LSA 2017)

PROJECT BACKGROUND

Interagency Meetings

The following outline summarizes interagency meetings held to present/discuss existing biological conditions, anticipated impacts to jurisdictional features, and mitigation approaches. Representative agencies/jurisdictions included the City of Hemet, Western Riverside County Regional Conservation Authority (RCA), California Department of Fish and Wildlife (CDFW), U.S Army Corps of Engineers (USACE), Santa Ana Regional Water Quality Control Board (RWQCB), and United States Fish and Wildlife Service (USFWS).

- April 2016, January 2017, June 2017 – City of Hemet Meetings,

- June 2016 – Western Riverside County RCA/Wildlife Agencies, USACE, CDFW, RWQCB Preapplication Meeting,

- November 2016 – site visit, Dr. Heather Pert and Ms. Kim Romich with CDFW, and Mr. Jim Thiede with the USFWS.

- March 2018 – Western Riverside County RCA, City of Hemet, Minor Amendment.

METHODOLOGY

LITERATURE REVIEW

Existing biological resource conditions within and adjacent to the Project Site were initially investigated through review of pertinent scientific literature. Federal register listings, protocols, and species data provided by the USFWS were reviewed in conjunction with anticipated federally listed species potentially occurring within the Project Site. The California Natural Diversity Database (CNDDB), a CDFW Natural Heritage Division species account database, was also reviewed for all pertinent information regarding the locations of known occurrences of sensitive species in the vicinity of the property. In addition, numerous regional floral and faunal field guides were utilized in the identification of species and suitable habitats. Combined, the sources reviewed provided an excellent baseline from which to inventory the biological resources potentially occurring in the area. Other sources of information included the review of unpublished biological resource letter reports and assessments. Other CDFW reports and publications consulted include the following:

- Special Animals (CDFW 2018b);
- State and Federally Listed Endangered and Threatened Animals of California (CDFW 2018c);
- Endangered, Threatened, and Rare Plants of California (CDFW 2018d); and
- Special Vascular Plants and Bryophytes List (CDFW 2018e).

FIELD SURVEYS

An initial reconnaissance survey of the Project Site was conducted by Ruben Ramirez, Cadre Environmental during the spring of 2015 in order to characterize and identify potential sensitive plant and wildlife habitats, and to establish the accuracy of the data identified in the literature search and previous surveys. Geologic and soil maps were examined to identify local soil types that may support sensitive taxa. Aerial photograph, topographic maps, and vegetation and rare plant maps prepared by previous studies in the region were used to determine community types and other physical features that may support sensitive plants/wildlife, uncommon taxa, or rare communities that occur within the Project Site.

The MSHCP has determined that all of the sensitive species potentially occurring within the Project Site have been adequately covered (MSHCP Table 2-2 Species Considered for Conservation Under the MSHCP Since 1999, 2004). However, additional surveys may be required for narrow endemic plant, criteria area, and specific wildlife species if suitable habitat is documented onsite and/or if the property is located within a predetermined "Survey Area" (MSHCP 2004). Based on the initial MSHCP review of predetermined Survey Areas and habitat assessments for target species, focused surveys were conducted for the following eighteen (18) species.

- Riverside fairy shrimp (*Streptocephalus woottoni*)
- vernal pool fairy shrimp (*Branchinecta lynchi*)
- burrowing owl (*Athene cunicularia*)
- San Jacinto Valley crownscale (*Atriplex coronata* var. *notatior*)
- Davidson's saltscale (*Atriplex davidsonii*)
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- Coulter's goldfields (*Lasthenia glabrata* subsp. *coulteri*)
- little mousetail (*Myosurus minimus* subsp. *apus*)
- mud nama (*Nama stenocarpum*)
- Munz's onion (*Allium munzii*)
- San Diego ambrosia (*Ambrosia pumila*
- many-stemmed dudleya (*Dudleya multicaulis*)
- spreading navarretia (*Navarretia fossalis*)
- California Orcutt grass (*Orcuttia californica*)
- Wright's trichocoronis (*Trichocoronis wrightii* var. *wrightii*)

Vegetation Communities/Habitat Classification Mapping

Natural community names and hierarchical structure follows the CDFW "List of California Terrestrial Natural Communities" and/or Holland (1986) classification systems, which have been refined and augmented where appropriate to better characterize the habitat types observed onsite when not addressed by the MSHCP classification system.

Floristic Plant Inventory

A general plant survey was conducted throughout the Project Site during the initial reconnaissance in a collective effort to identify all species occurring onsite.

All plants observed during the survey efforts were either identified in the field or collected and later identified using taxonomic keys. Plant taxonomy follows Hickman (1993). Scientific nomenclature and common names used in this report generally follow Roberts et al. (2004) or Baldwin et al. (2012) for updated taxonomy. Scientific names are included only at the first mention of a species; thereafter, common names alone are used.

Wildlife Resources Inventory

All animals identified during the reconnaissance survey by sight, call, tracks, scat, or other characteristic sign were recorded onto a 1:200 scale orthorectified color aerial photograph or documented using a global positioning system (GPS). In addition to species actually detected, expected use of the site by other wildlife was derived from the analysis of habitats on the site, combined with known habitat preferences of regionally occurring wildlife species.

Vertebrate taxonomy followed in this report is according to the Center for North American Herpetology (2018 for amphibians and reptiles), the American Ornithologists' Union (1988 and supplemental) for birds, and Baker et al. (2003) for mammals. Both common and scientific names are used during the first mention of a species; common names only are used in the remainder of the text.

Regional Connectivity/Wildlife Movement Corridors

The analysis of wildlife movement corridors associated with the Project Site and immediate vicinity is based on information compiled from literature, analysis of the aerial photograph and direct observations made in the field during the reconnaissance site visit.

A literature review was conducted that includes documents on island biogeography (studies of fragmented and isolated habitat "islands"), reports on wildlife home range sizes and migration patterns, and studies on wildlife dispersal. Wildlife movement studies conducted in southern California were also reviewed. Use of field-verified digital data, in conjunction with the Geographic Information System (GIS) database, allowed proper identification of regional vegetation communities and drainage features. This information was crucial to assessing the relationship of the Project Site to large open space areas in the immediate vicinity and was also evaluated in terms of connectivity and habitat linkages. Relative to corridor issues, the discussions in this report are intended to focus on wildlife movement associated within the Project Site and the immediate vicinity.

MSHCP Criteria Area and Narrow Endemic Plant Surveys

The Project Site occurs within a predetermined MSHCP Survey Area for fifteen (15) criteria area and narrow endemic plant species (RCA GIS Data Downloads 2018). According to the MSHCP guidelines, focused surveys are required during the appropriate flowering season to document the presence/absence of these species if suitable habitat is present and if the property is located within a predetermined Survey Area (MSHCP 2004). Potential habitat is present on the property for several species in agricultural field habitats, saline-alkali soils, seasonal depressions, and a constructed detention basin and channel with disturbed wetlands, unvegetated streambed, and riparian scrub. According to the MSHCP guidelines, focused surveys are required during the appropriate flowering season to identify and document the presence/absence of these species if suitable habitat is present and if the property is located within a predetermined Survey Area (MSHCP 2004). Habitat assessments and focused surveys were conducted for all fifteen (15) species which includes:

Criteria Area Plant Species:

- San Jacinto Valley Crownscale [Federal endangered, California Rare Plant Rank[1]-CRPR 1B.1];
- Davidson's saltscale [CRPR 1B.2];
- Parish's brittlescale [CRPR 1B.1];
- thread-leaved brodiaea [Federal threatened, State endangered, CRPR 1B.1];
- smooth tarplant [CRPR 1B.1];
- round-leaved filaree [CRPR 1B.1];
- Coulter's goldfields [CRPR 1B.1];
- little mousetail [CRPR 3.1]; and
- mud nama [CRPR 2.2].

Narrow Endemic Plant Species:

- Munz's onion [Federal endangered, State threatened, CRPR 1B.1];
- San Diego ambrosia [Federal endangered, CRPR 1B.1];
- many-stemmed dudleya [CRPR 1B.2];
- spreading navarretia [Federal threatened, CRPR 1B.1];
- California Orcutt grass [Federal/State endangered, CRPR 1B.1]; and
- Wright's trichocoronis [CRPR 2.1].

Initial MSHCP sensitive plant surveys were conducted within the eastern region of the Project Site in the spring of 2005 and 2006 by Michael Brandman Associates (MBA 2007c).

Updated focused surveys for MSHCP criteria area and narrow endemic plants were conducted for all suitable habitat areas within and immediately adjacent to the Sensitive Plant Survey Areas. Each focused survey was conducted on foot according to MSHCP protocols, USFWS, California Native Plant Society (CNPS), and CDFW survey guidelines. The updated project surveys were coordinated with the blooming periods of several reference populations to aid detection of rare plants in 2015, 2016, and 2017 (Cadre Environmental 2017c).

Many annual and geophyte (corm or bulb-forming) perennial plant species may fail to germinate, grow, and/or bloom during sub-optimal rainfall years. Accordingly, plant surveys conducted during adverse weather conditions may not accurately document the presence/absence of special-status annual or geophyte-species that occur on a site. Therefore, it is important to provide rainfall data for the time period when the focused surveys were conducted in order to show that the results of these surveys were not constrained by low precipitation for a region in any given year. Many annual, perennial, and geophyte (corm or bulb-forming) plant species may fail to germinate, grow, and/or bloom during sub-optimal rainfall years. Therefore, plant surveys conducted during

[1] In the spring of 2011, the California Native Plant Society (CNPS) officially changed the name “CNPS List” to “California Rare Plant Rank (CRPR)”, which is reflected in this report. However, the definitions of the ranks and the ranking system have not changed.

Criteria Area Plant Species:

- San Jacinto Valley Crownscale [Federal endangered, California Rare Plant Rank[1]-CRPR 1B.1];
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Updated focused surveys for MSHCP criteria area and narrow endemic plants were conducted for all suitable habitat areas within and immediately adjacent to the Sensitive Plant Survey Areas. Each focused survey was conducted on foot according to MSHCP protocols, USFWS, California Native Plant Society (CNPS), and CDFW survey guidelines. The updated project surveys were coordinated with the blooming periods of several reference populations to aid detection of rare plants in 2015, 2016, and 2017 (Cadre Environmental 2017c).

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adverse weather conditions may not accurately document the presence/absence of special-status species that potentially occur at a site. Accordingly, it is important to provide rainfall data for the time period when the focused surveys were conducted in order to show that the results of these surveys were not constrained by low precipitation for a region in any given year.

The rainfall totals for the City of Hemet recorded from 2013 through 2017 are shown in Table 1. The average rainfall total recorded for Hemet is 11.45 inches per season. Rainfall for the 2014-2015 season is 15.14 inches, the 2015-2016 season is 10.91 inches, and the 2016-2017 survey period is 18.24 inches; WeatherCurrents web site accessed on May 22, 2017.[2] Accordingly, the project survey results were not constrained by low seasonal rainfall.

Table 1.
Seasonal Rainfall Totals for Hemet (Average rainfall per season is 11.45 inches)

Rainfall Season (Measured July 1 – June 30)	Precipitation Total
2016 – 2017	18.24 inches*
2015 – 2016	10.91 inches
2014 – 2015	15.14 inches
2013 – 2014	5.22 inches

* total as of May 22, 2017

A site-specific survey program was developed to achieve the following goals: (1) characterize the vegetation; (2) prepare a detailed floristic compendium; (3) conduct focused surveys to document the distribution and abundance, or absence, of MSHCP Criteria Area or Narrow Endemic plant species at the site; and 4) prepare botanical resource maps showing the distribution of vegetation communities and the location of the MSHCP target species observed onsite. The project surveys also proposed to document other CNPS sensitive plants or species of local concern onsite, if present.

The methodology and focus of the survey program is consistent with the MSHCP guidelines, but also conforms to scientific and technical standards listed by USFWS (1996), CNPS (2001), and CDFW (2009) for sensitive plant species surveys. Field surveys were coordinated with the blooming periods of several reference populations in order to determine whether the target species were identifiable at the time of the survey, and therefore would aid detection onsite, if present. The surveys were conducted on-foot throughout the Project Site, including the offsite assessment areas.

Existing biological resources within and adjacent to the Project Site were initially investigated through a review of pertinent literature and online data. The California Natural Diversity Database (CNDDB 2015/2016/2017), CNPS (2015/2016/2017), the Consortium of California Herbaria (2015/2016/2017), and consultant reports were reviewed for information regarding the known locations of sensitive species in the

[2] WeatherCurrents: local weather history, Hemet, CA. Available: http://weathercurrents.com/hemet/ArchivePrecipitation.do. Accessed May 22, 2017.

vicinity of the property. In addition, soil and geologic data, local floras, and consultation with local experts were utilized in the identification of species, soils, or habitats that could support the target MSHCP sensitive plants within or adjacent to the Project Site. These and other references are listed below and in Literature Cited.

Prior to conducting fieldwork, a thorough archival review was conducted using the following baseline resources:

- California Native Plant Society 8th Inventory Online (2015/2016/2017);
- California Natural Diversity Data Base for the USGS 7.5' Winchester Quadrangle (CNDDB 2015/2016/2017);
- Consortium of California Herbaria (Consortium 2015/2016/2017);
- Soil Survey of Western Riverside Area (Knecht 1971; USDA-NRCS 2017);
- Vegetation Alliances of Western Riverside County, California (Klein and Evens 2005);
- Distribution of Vernal Pools in Southern California, the San Jacinto Valley and vernal alkali plains (Ferren et al. 1996a, b, c; RECON 1995; Bauder and McMilian 1998; Keeler-Wolf et al. 1998, and others);
- U.S. Fish and Wildlife Service proposed rules, reports, and comment letters (USFWS 1995, 1996, 1998, 2004, 2005, 2006, 2009, 2011, 2012, and others);
- Vascular Flora of Western Riverside County (Roberts et al. 2004);
- reports prepared by the Regional Conservation Authority, Western Riverside County (http://wrc-rca.org/document-library/);
- consultant reports, including previous studies conducted for the Project Site and the Hemet area (Bramlet 1993; Caltrans 2007; MBA 2007; CDFW 2016; NOP 2016; Helix 2006, 2017); and
- articles in botanical journals such as *Madroño*, *Aliso*, *Fremontia*, and *Crossosoma*.

Focused Survey Program Developed for MSHCP Target Plants

Floristic and focused plant surveys were conducted in order to identify all species observed on the Project Site. Additionally, program goals would also locate, census, and map the target MSHCP plants, and other CNPS or species of local concern, if present, occurring onsite. Aerial photographs were inspected to help identify habitats that could be easily overlooked in the field, such as vernally moist depressions and ephemeral pools. Other physical features such as clay soil inclusions, rock outcrops, and saline-alkali scalds, if present, were targeted in order to identify specific Criteria Area and Narrow Endemic rare plant habitats.

Field notes and site photographs were taken daily. These notes recorded the date, location, plant species observed, and general habitat characteristics of each area of the project and habitats examined that day. All plant species encountered during the field surveys were identified and recorded in the field notes, including any special-status plants occurring on the Project Site. Voucher specimens were collected to confirm identification of uncommon species. Surveys were performed in a manner consistent with the MSHCP and other applicable survey protocol requirements as outlined by USFWS (1996), CNPS (2001), and CDFW (2009).

Fieldwork was coordinated throughout the spring and summer blooming periods of local reference populations, site-specific habitat conditions, and vegetation-soil associations of the target species. Accordingly, fifteen (15) surveys were conducted onsite, including August 3rd and September 8th, 2015, and February 19th, March 1st, April 17th, 21st, 26th, and May 6th, 22nd, and June 15th, 2016, and March 7th, 16th, April 15th, 18th, and May 18th, 2017, which covered all suitable habitat areas within the Project Site. Also, several reference populations were visited in order to establish whether the target species were identifiable at the time of the survey. The location of the reference population and date of visit are provided, where appropriate, in the species discussions below.

All portions of the Project Site were surveyed on-foot by walking slowly and methodically across each habitat type, including the agricultural fields. A complete list of the plants observed can be found in Appendix A, Floral/Faunal Compendium. Scientific nomenclature and common names used in this report generally follow Roberts et al. (2004) and Baldwin et al. (2012), or Jepson Project eFlora (2017) for updated taxonomy.

MSHCP Burrowing Owl Surveys

In accordance with the MSHCP Burrowing Owl Survey Instructions (County of Riverside 2006), survey protocol consists of two steps, Step I – Habitat Assessment and Step II – Locating Burrows and Burrowing Owls. Step II is comprised of two parts, Part A: Focused Burrow Surveys and Part B: Focused Burrowing Owl Surveys.

Each step is briefly outlined below, followed by the methodology and results of each survey conducted within the Project Site. All updated habitat assessments and focused surveys were conducted by Ruben Ramirez, Cadre Environmental.

Surveys were conducted during weather that is conducive to observing owls outside their burrows and detecting burrowing owl sign. Surveys were not conducted during rain, high winds (> 20 mph), dense fog, or temperatures over 90 °F. None of the surveys were conducted within five (5) days of measurable precipitation.

In addition to the MSHCP guidelines, field notes were taken daily. These notes recorded the date, location, animal species observed, and general habitat characteristics of each area and habitat examined that day.

Step I – Habitat Assessment

Step 1 of the MSHCP habitat assessment for burrowing owl consists of a walking survey to determine if suitable habitat is present onsite. Cadre Environmental conducted the habitat assessment in July 2015 (Cadre Environmental 2017a). Upon arrival at the Project Site, and prior to initiating the assessment survey, Cadre Environmental used binoculars to scan all suitable habitats on and adjacent to the property, including perch locations, to ascertain owl presence.
All suitable areas of the Project Site were surveyed on foot by walking slowly and methodically while recording/mapping areas that may represent suitable owl habitat

onsite. Primary indicators of suitable burrowing owl habitat in western Riverside County include, but are not limited to, native and non-native grassland, interstitial grassland within shrub lands, shrub lands with low density shrub cover, golf courses, drainage ditches, earthen berms, unpaved airfields, pastureland, dairies, fallow fields, and agricultural use areas. Burrowing owls typically use burrows made by fossorial mammals, such as California ground squirrels (*Otospermophilus beecheyi*) or badgers (*Taxidea taxus*), but they often utilize man-made structures, such as earthen berms, cement culverts, cement, asphalt, rock, or wood debris piles, or openings beneath cement or asphalt pavement. Burrowing owls are often found within, under, or in close proximity to man-made structures.

According to the MSHCP guidelines, if suitable habitat is present the biologist should also walk the perimeter of the property, which consists of a 150-meter (approximately 500 feet) buffer zone around the Project Site boundary. If permission to access the buffer area cannot be obtained, the biologist shall not trespass, but visually inspect adjacent habitats with binoculars.

Results from the habitat assessment indicate that suitable foraging habitat and burrows were documented throughout the Project Site and adjacent habitats. Accordingly, if suitable habitat is documented onsite, both Step II surveys and the 30-day pre-construction surveys are required in order to comply with the MSHCP guidelines.

Step II – Locating Burrows and Burrowing Owls

A focused burrow survey that includes documentation of appropriately sized natural burrows or suitable man-made structures that may be utilized by burrowing owl was conducted as part of the MSHCP protocol, which is described below under Part A: Focused Burrow Survey. The MSHCP protocol indicated that no more than 100 acres should be surveyed per day/per biologist. Therefore, the Project Site was separated into three (3) burrowing owl survey areas, each totaling approximately 85+/- acres each.

Part A: Focused Burrow Survey

A systematic survey for burrows, including burrowing owl sign, was conducted by walking across all suitable habitats mapped within the Project Site on July 21st, 22nd, 23rd, and August 4th 2015. Pedestrian survey transects were spaced to allow 100% visual coverage of the ground surface. The distances between transect centerlines were no more than 20 meters (approximately 66 ft.) apart, and owing to the terrain, often much smaller. Transect routes were also adjusted to account for ridge lines and in general ground surface visibility.

All observations of suitable burrows or dens, natural or man-made, or sightings of burrowing owl, were recorded and mapped during the survey. As previously stated, burrows sufficiently sized to support burrowing owl were found scattered throughout the Project Site.

Since natural conditions that could potentially support burrowing owl were documented within the Burrowing Owl Survey Areas, then focused visual surveys were implemented

as prescribed in Part B: Focused Burrowing Owl Surveys of the MSHCP guidelines throughout the property and buffer habitat.

Part B: Focused Burrowing Owl Surveys

Based on the presence of suitable habitat documented onsite during the habitat assessment and previous observations of foraging adults within/adjacent to the project site and nests located north of the Project Site during 2005 and 2006 surveys (Michael Brandman Associates 2007), updated surveys were conducted by Cadre Environmental during the summer of 2015 and spring/summer of 2017.

Four (4) focused burrowing owl surveys were conducted throughout each of the three (3) designated surveys areas (in addition to the initial focused burrow survey – Step II, Part A) on July 21st, 22nd, 23rd, August 4th, 5th, 6th, 18th, 19th, 20th, 25th, 26th, and 28th 2015. Updated MSHCP burrowing owl surveys were also conducted throughout all three (3) designated survey areas on May 11th, 12th, 25th, 26th, June 8th, 9th, 22nd, 23rd, 27th, 28th, 29th, and 30th, 2017 from one hour before sunrise to two hours after sunrise. During visual surveys, all potentially suitable burrow or structure entrances were investigated for signs of owl occupation, such as feathers, tracks, or pellets, and carefully observed to determine if burrowing owls utilize these features, when present. All burrows are monitored at a short distance from the entrance, and at a location that would not interfere with potential owl behavior, when present. In addition to monitoring potential burrow locations, all suitable habitats in the Project Site were walked along transects averaging 20 meters (approximately 66 feet) between centerlines.

Fairy Shrimp Surveys

Protocol USFWS wet season surveys were conducted by Helix Environmental Planning, Inc. during the 2016-2017 seasons to determine the presence/absence of the federally endangered Riverside fairy shrimp and the federally threatened vernal pool fairy shrimp. As stated by Helix Environmental Planning, Inc.:

> "*HELIX permitted biologists Jason Kurnow, Amy Mattson, and W. Larry Sward (Permit TE778195-13) conducted the wet season survey in accordance with current USFWS protocol (USFWS 2015) to determine the presence/absence of vernal pool, Riverside, and San Diego fairy shrimp. The exception to protocol was that surveys were initiated later in the season after receiving written concurrence to do so from the USFWS in an e-mail dated February 2, 2017. Eleven site visits were conducted within the project site. The first site visit occurred on February 3, 2017. Subsequent visits occurred on February 10, 17, and 24, March 3, 10, 17, 34, and 31, and April 10 and 21, 2017. Ponding was observed in at least one basin through April 10, 2017. All basins were dry on April 21, 2017, a site visit to check for vernal pool indicator plants and the last visit for this report. Samples were taken in water-holding basins using fine mesh aquarium nets. When possible, fairy shrimp were identified in the field and immediately returned to their pool of origin. In some instances, fairy shrimp were collected and identified using the key in Eriksen and Belk (1999) with aid of a dissecting scope. When "take" of fairy shrimp*

occurred, no more than 20 specimens of each species from each feature, or less than 50 percent of the estimated subpopulation for each feature, were collected (whichever was the lesser amount). Care was taken to ensure that nets were cleaned after each basin was sampled. Basin depth, area, water temperature, air temperature, habitat condition, and species present were noted and recorded on USFWS vernal pool data sheets (Appendix A). Data sheets were not filled out when a basin was dry during a survey visit. Basins are generally unconstrained, and maximum surface area was roughly estimated by adding up to five meters to the largest measured dimensions for each basin, and then multiplying these numbers. Maximum depth was visually estimated, increasing up to an inch for most basins and six inches to the largest, man-made basin." (Helix Environmental Planning, Inc. 2017)

Protocol USFWS dry season surveys were conducted by Helix Environmental Planning Inc., during the 2016 seasons to determine the presence/absence of the federally endangered Riverside fairy shrimp and the federally threatened vernal pool fairy shrimp. As stated by Helix Environmental Planning, Inc.:

"*Based on a review of site topography, 14 sampling areas were identified and sampled by HELIX permitted biologist Jason Kurnow (Permit TE778195-12; Figure 4). The sampling area boundaries were preliminarily mapped based on topographic low spots and review of aerial imagery. Mr. Kurnow conducted the dry season fairy shrimp sampling in accordance with USFWS Listed Vernal Pool Branchiopods protocol (dated April 19, 1996)1. Soil was collected by Mr. Kurnow on October 2, 2015, which was subsequently analyzed for fairy shrimp cysts. Approximate depth, area, and habitat condition of each sampled area were noted and recorded on USFWS Vernal Pool Data Sheets. Following soil collection, the samples were processed and analyzed at the HELIX lab by Mr. Kurnow or under the supervision of Mr. Kurnow. Supervised individuals included HELIX biologists Talaya Rachels and Katie Bellon. Supervised individuals did not conduct any post-processing analysis. Soil samples were prepared by dissolving clumps of soil in water and sequentially sieving the material through 710-, 355-, and 212-µm pore size screens. The small size of these screens ensures that cysts from the target fairy shrimp species are retained. The portion of each sample retained in the screen was dispersed in a brine solution to separate organic from inorganic material. The organic fraction was decanted, dried, and examined under a microscope. Cysts were identified to genus based on their surface characteristics*. "(Helix Environmental Planning, Inc. 2017)

MSHCP Riparian/Riverine/Vernal Pool Resources

The Project Site was initially assessed to determine the presence/absence and extent of MSHCP riparian, riverine and vernal pool resources in accordance with the RCIP definition (Section 6.1.2, Volume I, Final MSHCP) in 2015 (Helix Environmental Planning, Inc. 2007d). As stated by Helix Environmental Planning, Inc.:

"*The MSHCP requires an assessment of project impacts on Riparian/Riverine Areas and Vernal Pools as part of California Environmental Quality Act (CEQA) review.*

Riparian/Riverine Areas are defined in MSHCP Section 6.1.2 as:

Riparian/riverine areas are lands that contain habitat dominated by trees, shrubs, persistent emergents, or emergent mosses and lichens, which occur close to or depend upon soil moisture from a nearby freshwater source; or areas with freshwater flow during all or a portion of the year.

Vernal Pools are defined in MSHCP Section 6.1.2 as:

Vernal pools are seasonal wetlands that occur in depression areas that have wetland indicators of all three parameters (soils, vegetation, and hydrology) during the wetter portion of the growing season but normally lack wetland indicators of hydrology and/or vegetation during the drier portion of the growing season. Obligate hydrophytes and facultative wetlands plant species are normally dominant during the wetter portion of the growing season, while upland species (annuals) may be dominant during the drier portion of the growing season. The determination that an area exhibits vernal pool characteristics and the definition of the watershed supporting vernal pool hydrology must be made on a case-by-case basis. Such determinations should consider the length of time the area exhibits upland and wetland characteristics and the manner in which the area fits into the overall ecological system as a wetland. Evidence concerning the persistence of an area's wetness can be obtained from its history, vegetation, soils, and drainage characteristics, uses to which it has been subjected, and weather and hydrologic records.

It should be noted that with the exception of wetlands created for the purpose of providing wetlands habitat or resulting from human actions to create open waters or from the alteration of natural stream courses, areas demonstrating characteristics as described above that are artificially created are not included in these definitions." (Helix Environmental Planning, Inc. 2017)

Additional site visits were conducted throughout the Project Site during various seasons in 2016 and 2017 in a collective effort to monitor onsite vegetation and hydrology to characterize potential MSHCP riparian, riverine, or vernal pool resources.

Jurisdictional Delineation

A formal jurisdictional delineation was conducted by Helix Environmental Planning in 2015 (Helix Environmental Planning 2018a). The delineation determined the boundaries or absence of potential wetland and non-wetland waters of the U.S. subject to the regulatory jurisdiction of the U.S. Army Corps of Engineers pursuant to Clean Water Act (CWA) Section 404; wetland and non-wetland waters of the State subject to the regulatory jurisdiction of the Regional Water Quality Control Board pursuant to CWA

Section 401 and State Porter-Cologne Water Quality Control Act (Porter-Cologne); streambed and riparian habitat subject to the regulatory jurisdiction of the CDFW pursuant Sections 1600 *et seq*. of the California Fish and Game Code (CFG Code); and Riparian/Riverine Areas and Vernal Pools defined in Section 6.1.2 of the Western Riverside County MSHCP. As stated by Helix Environmental Planning:

> "***Waters of the U.S. – USACE Jurisdiction***
>
> *Wetland waters of the U.S. conditions were determined using the three criteria (vegetation, hydrology, and soils) established for wetland delineations, as described within the Wetlands Delineation Manual (Environmental Laboratory 1987) and Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (USACE 2008). Seven sample points were established throughout the project site and evaluated to determine the presence of wetland conditions (Attachment A). Photographs were taken at each data point and at other locations throughout the site (Attachment B).*
>
> *Plants were identified according to The Jepson Manual: Higher Plants of California (Baldwin, et. al., 2012). Calflora (2016) was used to update scientific names and augment common names. Wetland affiliations of plant species follow The National Wetland Plant List (Lichvar et al. 2016). Soils information for the project site was taken from the Natural Resource Conservation Service (NRCS) website (2016). Soil samples were evaluated for hydric soil indicators (e.g., hydrogen sulfide [A4], sandy redox [S5], depleted matrix [F3], redox dark surface [F6], redox depressions [F8], and vernal pools [F9]). Soil chromas were identified according to Munsell's Soil Color Charts (Kollmorgen 1994).*
>
> *Sample points were inspected for wetland hydrology, including primary (e.g., surface water [A1], saturation [A3], water marks [non-riverine, B1], sediment deposits [non-riverine, B2], drift deposits [non-riverine, B3], surface soil cracks [B6], inundation visible on aerial imagery [B7], salt crust [B11], aquatic invertebrates [B13], hydrogen sulfide odor [C1], and oxidized rhizospheres along living roots [C3]) and secondary (e.g., water marks [riverine, B1], sediment deposits [riverine, B2], drift deposits [riverine, B3], drainage patterns in wetlands [B10], shallow aquitard [D3], and positive FAC neutral test [D5]) wetland hydrology indicators.*
>
> *Areas were determined to be non-wetland waters of the U.S. if there was evidence of regular surface flow (e.g., bed and bank) but the vegetation and/or soils criterion was not met. Jurisdictional limits for these areas were established by the ordinary high water mark (OHWM), which is defined in 33 CFR Section 329.11 as "that line on the shore established by the fluctuations of water and indicated by physical characteristics such as a clear, natural line impressed on the bank; shelving; changes in the character of the soil; destruction of terrestrial vegetation; the presence of litter or debris; or other appropriate means that consider the characteristics of the surrounding areas." The USACE has issued further*

guidance on the OHWM (Riley 2005; Lichvar and McColley 2008), which also has been used for this delineation.

The results presented here are consistent with relevant court decisions (i.e., Rapanos v. United States, Carabell v. United States, and Solid Waste Agency of Northern Cook County v. Corps), as outlined and applied by the USACE (USACE 2007; Grumbles and Woodley 2007); and USACE and Environmental Protection Agency (EPA; 2007); and EPA and USACE (2007). These publications explain that the EPA and USACE will assert jurisdiction over traditional navigable waters (TNW) and tributaries to TNWs that are a relatively permanent water body (RPW), which has year-round or continuous seasonal flow. For water bodies that are not RPWs, a significant nexus evaluation is used to determine if the non-RPW is jurisdictional.

The USACE reviews significant nexus and geographic isolation of waters and wetlands through the Approved Jurisdictional Determination (AJD) process. An AJD is being prepared by HELIX for request and processing with the USACE under a separate cover.

Waters of the State – RWQCB Jurisdiction

Wetland and non-wetland waters of the State addressed under CWA Section 401 were determined using the same methodologies and boundaries as those used for waters of the U.S. In the absence of waters of the U.S. and when CWA Sections 404 and 401 don't apply, waters of the State are regulated as isolated waters pursuant to Sections 13000 et seq. of the California Water Code (CWC) (the 1969 Porter-Cologne Water Quality Act).

The RWQCB is authorized to regulate any activity that would result in discharges of waste or fill material into waters of the State, including "isolated" waters and/or wetlands. Waters of the State include any surface or groundwater within the boundaries of the State (CWC Section 13050[e]). Porter-Cologne authorizes the State Water Resources Control Board (SWRCB) to adopt, review, and revise policies for waters of the State and directs the RWQCB to develop and implement regional Basin Plans that recognize and are designed to maintain the unique characteristics of each region about natural water quality, actual and potential beneficial uses, maintaining water quality, and addressing the water quality problems of that region (CWC Section 13050[j]).

CWC Section 13170 also authorizes the SWRCB to adopt water quality control plans on its own initiative. The Water Quality Control Plan for the Santa Ana Region (RWQCB Region 8.1995, as amended; RWQCB 2014a) is designed to preserve and enhance the quality of water resources. The purpose of the Water Quality Control Plan is to designate beneficial uses of surface waters and groundwater, designate water quality objectives for the reasonable protection of those uses and establish an implementation plan to achieve the objectives within RWQCB

Region 8. Designated beneficial uses of State waters that may be protected against degradation includes preservation and enhancement of fish, wildlife, designated biological habitats of special significance, and other aquatic resources or preserves.

Streambed and Riparian Habitat – CDFW Jurisdiction

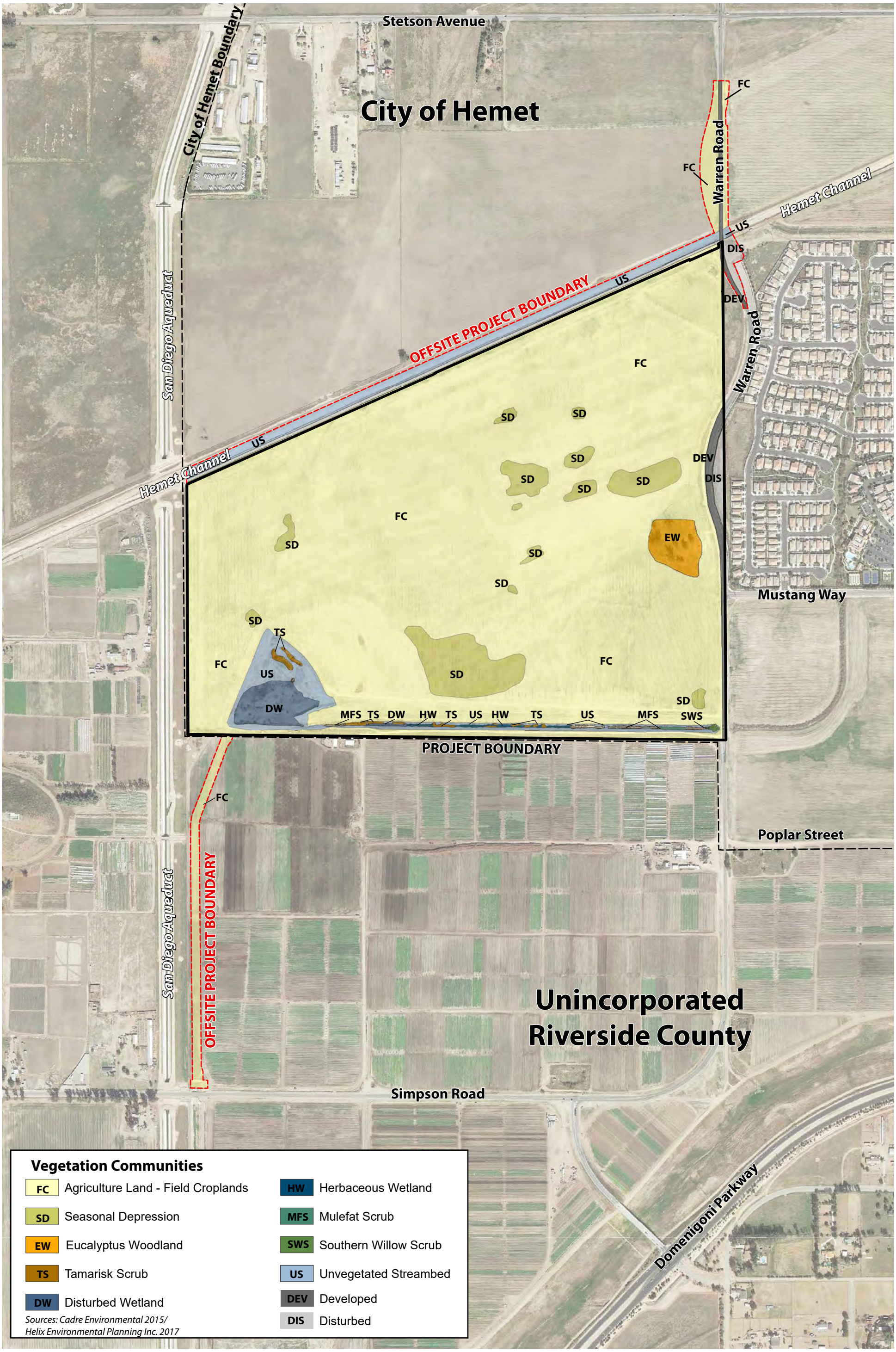
CDFW jurisdiction on the project site was determined based on the presence of riparian vegetation and regular surface flow within a definable streambed and bank. Streambeds were delineated based on the definition of streambed as "a body of water that flows at least periodically or intermittently through a bed or channel having banks and supporting fish or other aquatic life. This includes watercourses with surface or subsurface flow that supports riparian vegetation" (Title 14, Section 1.72). This definition allows for a wide variety of habitat types to be jurisdictional, including some that do not include wetland species (e.g., oak woodland and alluvial fan sage scrub). Jurisdictional limits were delineated by the top of bank or outer edge of any vegetated riparian habitat, which ever was greater. The CDFW publication on dryland watersheds (Vyverberg 2010) was also used as an aid to map streambeds." (Helix Environmental Planning, Inc. 2017)

Additional site visits were conducted throughout the Project Site during various seasons in 2016 and 2017 in a collective effort to monitor onsite vegetation and hydrology to characterize potential jurisdictional resources.

EXISTING ENVIRONMENTAL SETTING

SURROUNDING LAND USES/TOPOGRAPHY/SOILS

The majority of the Project Site is characterized as flat highly disturbed active agricultural lands with elevations ranging from 1,495 feet above mean sea level (AMSL) and 1,507 feet AMSL. The Project Site is primarily characterized as agricultural lands (field croplands), seasonal depressions, Eucalyptus woodland, and disturbed/herbaceous wetland vegetation communities. A man-made urban-agricultural drainage ditch created along southern boundary extends west to an existing infiltration basin. A total of fourteen (14) seasonal depressions have also been delineated within the Project Site (Helix Environmental Planning, Inc. 2018a). The majority of flat lowlands are currently being actively farmed (wheat production). Representative distribution and photographs of these habitat types are illustrated in Figure 3, *Vegetation Communities Map* and Figures 4-6, *Current Project Site Photographs*.



APNs 465-100-016, 465-100-022, 465-110-020, 021, 022, 023, and 027. Offsite APNs Portions of 465-120-019, 021, 465-130-016, 017, 465-100-018, and 032.

Figure 3 - Vegetation Communities Map

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PHOTOGRAPH 1 - Southwest view of project site from confluence of Hemet Channel and Warren Road. The majority of the project site is characterized as agriculture/field cropland.

PHOTOGRAPH 2 - Southward view from northeast region of project site toward exotic/*Eucalyptus woodland* vegetation community.

Refer to Figure 2 - Project Site Map for Photographic Key

Figure 4 - Current Project Site Photographs
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PHOTOGRAPH 3 - Southwest view of infiltration basin from agriculture field croplands located in southwest region of project site.

PHOTOGRAPH 4 - Northward view of agriculture field croplands from south-central region of project site.

Refer to Figure 2 - Project Site Map for Photographic Key

Figure 5 - Current Project Site Photographs

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PHOTOGRAPH 5 - Eastward view of constructed urban-agricultural drainage ditch located immediately north of southern project site boundary which extends to the basin.

PHOTOGRAPH 6 - Westward view of ditch dominated by disturbed wetland, herbaceous wetland, mule fat scrub, southern willow scrub, tamarisk and unvegetated streambed.

Refer to Figure 2 - Project Site Map for Photographic Key

Figure 6 - Current Project Site Photographs

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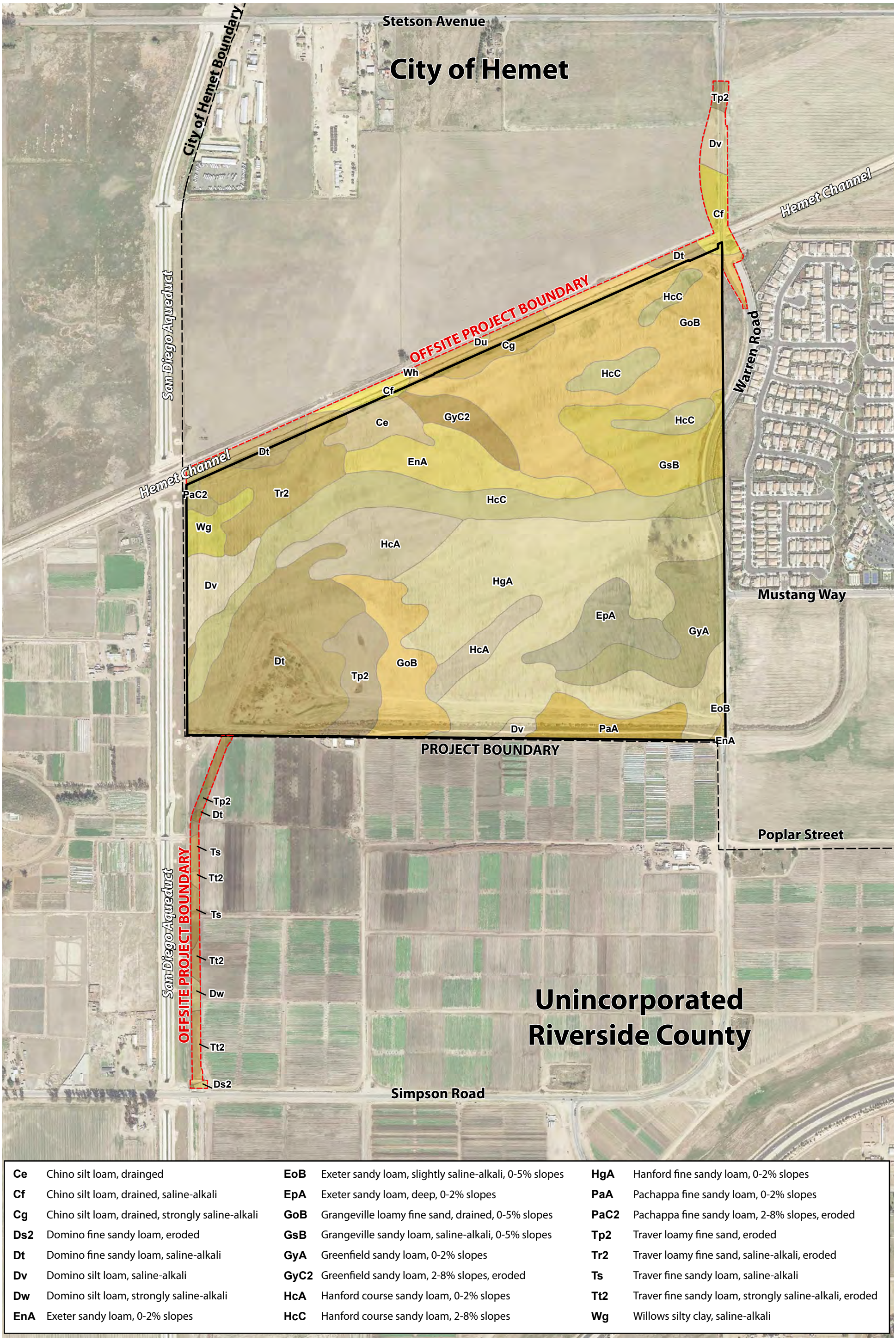
The Soil Survey of Western Riverside Area has the following soils mapped within the boundary of the Project Site as shown on Figure 7, *Soil Associations Map*:

- Ce – Chino silt loam, drained.
- Cf – Chino silt loam, drained, saline-alkali.
- Cg – Chino silt loam, drained, strongly saline-alkali.
- Ds2 – Domino fine sandy loam, eroded.
- Dt – Domino fine sandy loam, saline-alkali.
- **Dv – Domino silt loam, saline-alkali.**
- **Dw – Domino silt loam, strongly saline-alkali.**
- EnA – Exeter sandy loam, 0-2% slopes.
- EoB – Exeter sandy loam, slightly saline-alkali, 0-5% slopes.
- EpA – Exeter sandy loam, deep, 0-2% slopes.
- GoB – Grangeville loamy fine sand, drained, 0-4% slopes.
- GsB – Grangeville sandy loam, saline-alkali, 0-5% slopes.
- GyA – Greenfield sandy loam, 0-2% slopes.
- GyC2 – Greenfield sandy loam, 2-8% slopes, eroded.
- HcA – Hanford course sandy loam, 0-2% slopes.
- HcC – Hanford course sandy loam, 2-8% slopes.
- HgA – Hanford fine sandy loam, 0-2% slopes.
- PaA - Pachappa fine sandy loam, 0-2% slopes.
- PaC2 – Pachappa fine sandy loam, 2-8% slopes, eroded.
- **Tp2 – Traver loamy fine sand, eroded.**
- **Tr2 – Traver loamy fine sand, saline-alkali, eroded.**
- **Ts – Traver fine sandy loam, saline-alkali.**
- **Tt2 – Traver fine sandy loam, strongly saline-alkali, eroded.**
- **Wg – Willows silty clay, saline-alkali.**

Domino, Traver and Willows soil types (Bold) are classified as sensitive substrates considered important for the conservation of certain plant species and vernal pool resources in the region (MSHCP 2004). Soils mapped within the eastern two-thirds of the Project Site consist primarily of the Exeter, Hanford, Grangeville, and Greenfield soils, and the western portion of the property by the saline-alkali Domino and Traver soils.

The Domino series consist of moderately well drained to somewhat poorly drained saline-alkali soils that occur in basins and on alluvial fans. The Traver series are slightly to strongly saline soils, moderately well drained, and occur on valley plains and in basins (Knecht 1971). A small area of Willows soils is also mapped in the western portion of the property. The Willows series consists of very deep, poorly to very poorly drained sodic soils that formed in alluvium from mixed rock sources.

The Chino series are moderately alkaline and may be slightly to strongly saline-alkali. They have calcareous silt loam A horizons and calcareous silty clay loam C horizons. The Chino soils occur in basins and flood plains at elevations of near sea level to 3,100 feet. They formed in alluvium derived from granitic rocks.



Ce	Chino silt loam, drainged	**EoB**	Exeter sandy loam, slightly saline-alkali, 0-5% slopes	**HgA**	Hanford fine sandy loam, 0-2% slopes
Cf	Chino silt loam, drained, saline-alkali	**EpA**	Exeter sandy loam, deep, 0-2% slopes	**PaA**	Pachappa fine sandy loam, 0-2% slopes
Cg	Chino silt loam, drained, strongly saline-alkali	**GoB**	Grangeville loamy fine sand, drained, 0-5% slopes	**PaC2**	Pachappa fine sandy loam, 2-8% slopes, eroded
Ds2	Domino fine sandy loam, eroded	**GsB**	Grangeville sandy loam, saline-alkali, 0-5% slopes	**Tp2**	Traver loamy fine sand, eroded
Dt	Domino fine sandy loam, saline-alkali	**GyA**	Greenfield sandy loam, 0-2% slopes	**Tr2**	Traver loamy fine sand, saline-alkali, eroded
Dv	Domino silt loam, saline-alkali	**GyC2**	Greenfield sandy loam, 2-8% slopes, eroded	**Ts**	Traver fine sandy loam, saline-alkali
Dw	Domino silt loam, strongly saline-alkali	**HcA**	Hanford course sandy loam, 0-2% slopes	**Tt2**	Traver fine sandy loam, strongly saline-alkali, eroded
EnA	Exeter sandy loam, 0-2% slopes	**HcC**	Hanford course sandy loam, 2-8% slopes	**Wg**	Willows silty clay, saline-alkali

APNs 465-100-016, 465-100-022, 465-110-020, 021, 022, 023, and 027. Offsite APNs Portions of 465-120-019, 021, 465-130-016, 017, 465-100-018, and 032.

Figure 7 - Soil Associations Map

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N

1 inch = 650 feet

The Exeter series consists of moderately well drained soils that formed in alluvium mainly from granitic sources, which are moderately deep to a duripan. Exeter soils occur on alluvial fans and stream terraces and have a neutral pH.

The Grangeville series consists of very deep, somewhat poorly drained soils that formed in moderately coarse textured alluvium derived predominantly from granitic rock sources. Grangeville soils occur on alluvial fans and floodplains and have slightly to moderately alkaline soils; some are saline-alkali (i.e., the mapping unit GsB).

The Greenfield series consists of deep, well drained soils that formed in moderately coarse and coarse textured alluvium derived from granitic and mixed rock sources. Greenfield soils occur on alluvial fans and terraces and are slightly acid to neutral.

The Hanford series consists of very deep well drained soils that formed in moderately coarse textured alluvium derived predominantly from granite. Hanford soils are associated with stream bottoms, floodplains and alluvial fans, and are slightly acid to slightly alkaline.

The Pachappa series consists of well-drained soils developed from moderately coarse textured alluvium. They occur on gently sloping alluvial fans and flood plains with annual grass-herb vegetation. Characteristically, the Pachappa soils have slightly acid A1 horizons and neutral B2 horizons that overlie moderately alkaline, slightly calcareous B3 horizons and very slightly calcareous C horizons.

VEGETATION COMMUNITIES

Natural community names follow the CDFW "List of California Terrestrial Natural Communities" and/or Holland (1986) classification system, which have been refined and where appropriate to better characterize the habitat types onsite when not addressed by the MSHCP classification system. Acreage totals for vegetation communities documented onsite and offsite are listed in Table 2. *Vegetation Communities Acreages*.

Table 2.
Vegetation Communities Acreages

*Vegetation Type	Acreage (onsite)	Acres (offsite)	Acres (total)
Agriculture Land – Field Croplands	214.55	10.74	225.29
Seasonal Depressions	12.93	--	12.93
Unvegetated Streambed	6.57	6.61	13.18
Disturbed Wetland	3.42	--	3.42
Eucalyptus Woodland	2.94	--	2.94
Tamarisk Scrub	0.61	--	0.61
Mulefat Scrub	0.48	--	0.48
Herbaceous Wetland	0.31	--	0.31
Southern Willow Scrub	0.06	--	0.06
Disturbed	1.02	3.12	4.14
Developed	2.18	1.01	3.19
TOTALS	**245.07**	**21.48**	**266.55**

**Source: Cadre Environmental 2015, Helix Environmental Planning Inc., 2018a.*

Agricultural Land – Field Croplands:

Most of the property consists of active agricultural land – field croplands **(FC)**, which is routinely disked as part of dry-land farming practices. At the time of investigation, most of the property was nearly devoid of vegetation, consisting of sparse, scatted non-native plants such as field bindweed (*Convolvulus arvensis*), cheeseweed (*Malva parviflora*), Russian thistle (*Salsola australis*), heliotrope (*Heliotropium curassavicum*), and Bermuda grass (*Cynodon dactylon*). A few native and non-native forbs were seen along dirt roads that cross the site and along Warren Road, including bur clover (*Medicago polymorpha*), stink-net (*Oncosiphon piluliferum*), Russian thistle, telegraph weed (*Heterotheca grandiflora*), puncture vine (*Tribulus terrestris*), and serrate-leaved saltbush (*Atriplex suberecta*). A total of fourteen (14) Seasonal Depressions **(SD)** are scattered throughout the field croplands and are dominated by the same plant species as described above. One of the seasonal depressions is represented by an existing infiltration basin as described below.

Eucalyptus Woodland:

A few *Eucalyptus* gum trees (*Eucalyptus* sp.) **(EW)** grow in the central-eastern portion of the Project Site along Warren Road, which supports a sparse to dense understory of mostly exotic forbs and grasses. Non-native grasses and forbs observed include red brome (*Bromus madritensis* subsp. *rubens*), Russian thistle, field bindweed, Bermuda grass, hare barley (*Hordeum murinum* subsp. *leporinum*), burclover (*Medicago polymorpha*), and ripgut grass (*Bromus diandrus*). Mexican fan palm (*Washingtonia robusta*) is also planted on site.

Constructed Urban-Agricultural Drainage Ditch:

In 2007, an artificial ditch was constructed along the southern boundary of the Project Site to collect agricultural and expanding urban development runoff from adjacent properties. This constructed ditch now supports Disturbed Wetland **(DW),** Herbaceous Wetland **(HW),** Mulefat Scrub **(MFS),** Southern Willow Scrub **(SWS),** Tamarisk Scrub **(TS)** and Unvegetated Streambed **(US)** vegetation communities. The drainage ditch is dominated by facultative native and non-native species, including mule fat (*Baccharis salicifolia*), tamarisk (*Tamarix ramosissima*), and arroyo willow (*Salix lasiolepis*). Scattered Fremont cottonwood (*Populus fremontii*), Emory's baccharis (*Baccharis emoryi*), and black willow (*Salix gooddingii*) are also present. The understory vegetation is dominated by non-native forbs and grasses such as Spanish sunflower (*Pulicaria paludosa*), English plantain (*Plantago lanceolata*), tumbling pigweed (*Amaranthus albus*), curly dock (*Rumex crispus*), white sweet-clover (*Melilotus alba*), common purslane (*Portulaca oleracea*), rabbit-foot grass (*Polypogon monspeliensis*), and Bermuda grass. A few native forbs are also present within and along the outer edge of the ditch, including slender aster (*Aster subulatus* var. *ligulatus*), sand-bur (*Ambrosia acanthicarpa*), and western sunflower (*Helianthus annuus*).

The offsite reach of Hemet Channel located immediately north of the Project Site and generally devoid of vegetation was also mapped as Unvegetated Streambed **(US).**

Infiltration Basin:

An infiltration basin was also constructed in the southwestern portion of the Project Site to collect overflow runoff from the drainage ditch and adjacent farmlands. This shallow basin supports scattered clumps of tamarisk, and facultative weedy forb and grass species such as stink-net, heliotrope, Boccone's sand spurry (*Spergularia bocconei*), common knotweed (*Polygonum arenastrum*), prickly lettuce (*Lactuca serriola*), Bermuda grass, Spanish sunflower, and English plantain. Vegetation communities documented within this infiltration basin include Disturbed Wetland **(DW),** Unvegetated Streambed **(US),** Seasonal Depression **(SD),** and Tamarisk Scrub **(TS).**

Developed & Disturbed:

Regions of the Project Site mapped as Developed **(DEV)** and Disturbed **(DIS)** include the existing Warren Road alignment including adjacent habitats dominated by ruderal non-native species including Russian thistle, field bindweed, Bermuda grass, hare barley burclover and stink-net.

GENERAL PLANT & WILDLIFE SPECIES

General wildlife species documented onsite or within the vicinity during the site visits and/or during previous surveys include but are not limited to western fence lizard (*Sceloporus occidentalis*), side-blotched lizard (*Uta stansburiana*), turkey vulture (*Cathartes aura*), red-tailed hawk (*Buteo jamaicensis*), American kestrel (*Falco sparverius*), killdeer (*Charadrius vociferous*), rock dove (*Columba livia*), mourning dove (*Zenaida macroura*), great horned owl (*Bubo virginianus*), Anna's hummingbird (*Calypte anna*), black phoebe (*Sayornis nigricans*), Say's phoebe (*Sayornis saya*), Cassin's kingbird (*Tyrannus vociferans*), cliff swallow (*Petrochelidon pyrrhonota*), American crow (*Corvus brachyrhynchos*), European starling (*Sturnus vulgaris*), blue grosbeak (*Passerina caerulea*), lark sparrow (*Chondestes grammacus*), Brewer's blackbird (*Euphagus cyanocephalus*), western meadowlark (*Sturnella neglecta*), house finch (*Haemorhous mexicanus*), lesser goldfinch (*Spinus psaltria*) house sparrow (*Passer domesticus*), and California ground squirrel (*Otospermophilus beecheyi*).

A complete list of common plant and wildlife species documented onsite is included in Appendix A, Floral/Faunal Compendia.

JURISDICTIONAL RESOURCES

As stated by Helix Environmental Planning Inc.:

> **"***The project site is currently undeveloped except for a man-made drainage ditch and infiltration basin that terminate in the southwestern portion of the site. A review of historical aerial photographs (Google Earth 2017) shows the construction of these features starting between January and September 2006. They were built at the same time and receive treated runoff from a nearby residential development east of Warren Road. Both were constructed General land uses near the site include residential*

to the east, agriculture to the south and west, and agricultural and disked land to the east, west, and north.

Three channels exist near the project: the Hemet Channel is about 35 feet offsite along the northern property boundary; the San Diego Canal is approximately 150 to the west of the project; and Salt Creek is between 0.51 and 0.96 mile south of the site. Two of these features are shown on the National Wetland Inventory maps (NWI; USFWS 2017): Hemet Channel is mapped as riverine (R4SBA; riverine, intermittent, streambed, temporary flooded), the San Diego Canal is also mapped as riverine (R2UBHx: riverine, lower perennial, unconsolidated bottom, permanently flooded, excavated). While nearby Salt Creek overall is not shown as riverine, the NWI maps show a small freshwater pond (PUBK: Palustrine, unconsolidated bottom, artificially flooded), in the creek approximately 1.07 miles to the southwest. There are no features shown on the NWI maps for the site.

Hemet Channel and Salt Creek converge approximately 2.0 miles west of the project, and eventually flow into Canyon Lake. The San Diego Channel is an aqueduct constructed in the mid-1970s (NETR Online 2017) and flows south to Diamond Valley Lake, and then continues south and terminates at Lake Skinner.

The project is several feet higher than the Hemet Channel and a berm separates the two. There are four culverts in this berm, apparently constructed to service agricultural overflow from the site. The formal delineation confirmed that these culverts have been constructed wholly within uplands and in the man-made berm separating the Hemet Channel from the project site. The delineation found no evidence of water coalescing on site and flowing into these culverts. Drainage on the site follows a very shallow relief (0.25 percent) from northeast to southwest, across the site and away from the Hemet Channel. As such, there is no hydrologic connection of the site with the Hemet Channel.

The San Diego Canal is a man-made feature wholly constructed within uplands to convey water by The Metropolitan Water District of Southern California. The Canal is lined with concrete and is a completely closed system, with no receiving or discharging flows, aside from those conveyed for the sole purpose of water delivery to reservoirs. There is no hydrologic connection of the site with the San Diego Canal.

Salt Creek is located approximately 1.0 mile south and is separated from the project site by agricultural land. No drainage features are apparent within the agricultural lands to the immediately south of the site. Further to the south, an east-west trending roadside ditch occurs parallel with and immediate north of the west-bound lane for Simpson Road. This ditch discharges into a north-south trending man-made flood control channel that ultimately connects with Salt Creek. There is no hydrologic connection of the site with Salt Creek via the Simpson Road ditch or flood control

channel. As such, the site is geographically isolated from Salt Creek." (Helix Environmental Planning, Inc. 2017)

US Army Corp of Engineers Jurisdictional Resources

As depicted on Figure 8, *Jurisdictional Resources Map*, and tabulated in Table 3, *Jurisdictional Resource Acreages,* waters of the U.S. under the jurisdiction of the USACE adjacent to the northern Project Site boundary include non-wetlands in the form of the Hemet Channel totaling 1.77 acres (4,290 linear feet) (Helix Environmental Planning Inc., 2018a).

California Department of Fish and Wildlife Jurisdictional Resources

As depicted on Figure 8, *Jurisdictional Resources Map*, and tabulated in Table 3, *Jurisdictional Resource Acreages,* riparian habitat under the jurisdiction of the CDFW includes mulefat scrub, southern willow scrub, tamarisk scrub, and understory herbaceous and disturbed wetland that has established within the on-site man-made channel and basin. Unvegetated streambed within CDFW jurisdiction includes non-wetland and non-riparian streambed and bank associated with the Hemet Channel and portions of the on-site man-made channel and basin.

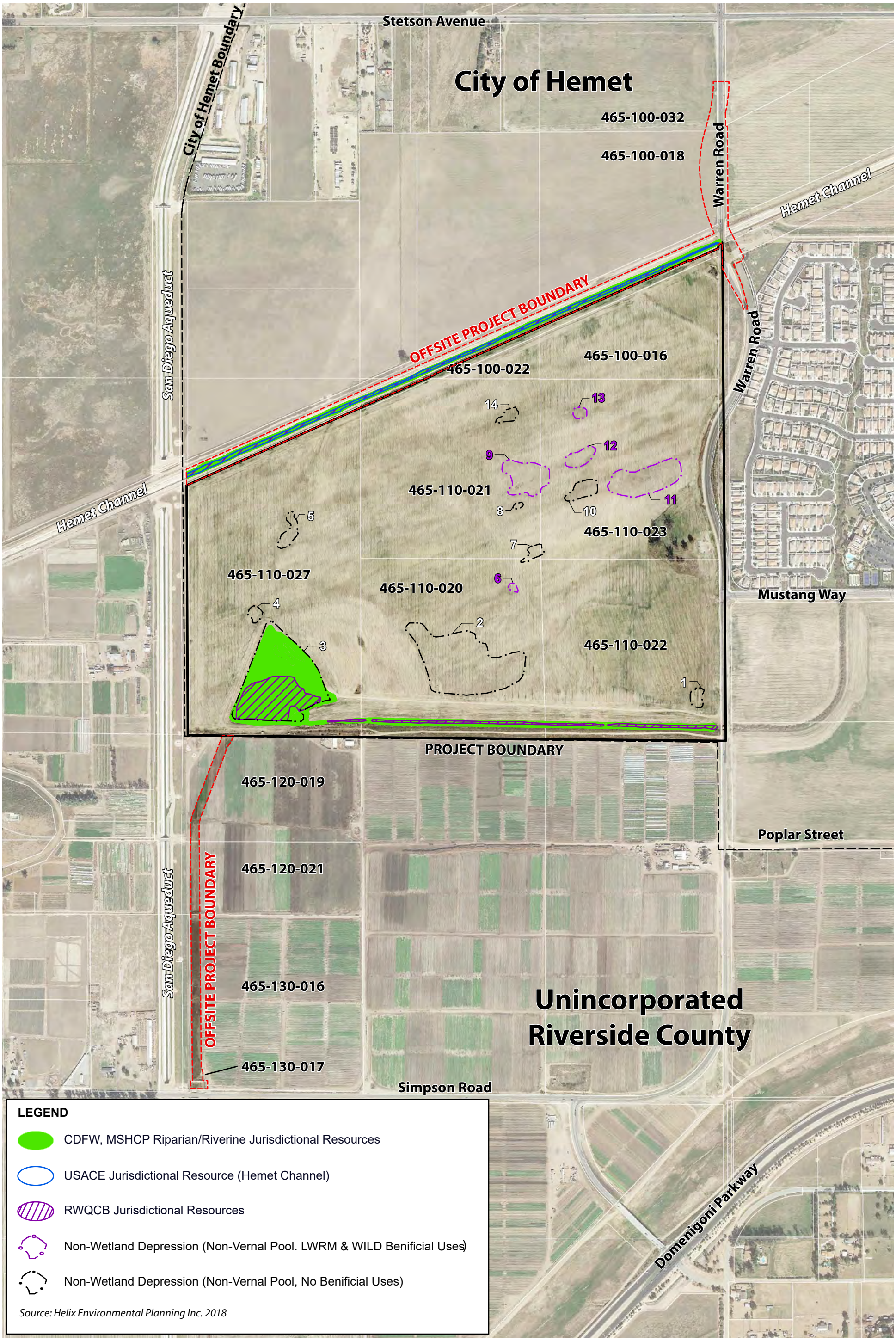
Regional Water Quality Control Board Jurisdictional Resources

As depicted on Figure 8, *Jurisdictional Resources Map*, and tabulated in Table 3, *Jurisdictional Resource Acreages,* waters of the State under the jurisdiction of the RWQCB include non-wetlands in the form of the Hemet Channel, which are also waters of the U.S., in addition to isolated wetlands and non-wetlands in the form of a man-made channel and basin features that were artificially created wholly within uplands for the purposes of conveying and detaining storm water for an adjacent project.

Non-Jurisdictional Features

As stated by Helix Environmental Planning Inc.:

> "*The project site supports 13 depression features that become temporarily inundated during high rainfall years, but not long enough to develop primary constituent elements of jurisdictional wetlands and waters. These features were surveyed over a three-year period, from 2015 through 2017, to monitor, sample, and determine the presence or absence of hydrophytic vegetation, including vernal pool indicator plant species; hydric soils; wetland hydrology; and wildlife dependency, including vernal pool branchiopods (fairy shrimp). The features were confirmed to become inundated and saturated, but not over sufficient timeframes to support a dominance of hydrophytic vegetation or vernal pool indicator plants, develop hydric soils, support multiple wetland hydrology criterion, or support significant or critical populations of wildlife, including fairy shrimp. Due to the absence of these primary constituent element of wetlands and waters, they are considered non-jurisdictional features.*



APNs 465-100-016, 465-100-022, 465-110-020, 021, 022, 023, and 027. Offsite APNs Portions of 465-120-019, 021, 465-130-016, 017, 465-100-018, and 032.

Figure 8 - Jurisdictional Resources Map

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N
1 inch = 650 feet

Table A-1 in Attachment A provides a summary of the vegetation, soils, hydrology, and wildlife uses associated with the non-jurisdictional features.

Vegetation

Dominance by hydrophytic vegetation was not observed within any of the non-jurisdictional features. Facultative Upland (FACU) plants typically occur in xeric or mesic non-wetland

habitats but may frequently occur in standing water or saturated soils. Upland (UPL) plants rarely occur in water or saturated soils. Feature 3 (non-jurisdictional portions) was the only feature exhibiting hydrophytic vegetation. Vegetation observed and reported within the remaining non-jurisdictional features included non-native grasses (Triticum aestivum [No Indicator Status], Bromus diandrus [No Indicator Status], Bromus madritensis [UPL], Avena fatua [No Indicator Status], Hordeum murinum [FACU]), salt heliotrope (Heliotropium curassavicum; FACU), Russian thistle (Salsola tragus,FACU), short-pod mustard (Hirschfeldia incana; No Indicator Status), and filaree (Erodium cicutarium [No Indicator Status]; E. botrys [FACU]).

The vegetation observed within the non-jurisdictional features is characteristic of disked dry-farmed agricultural areas and disturbed or ruderal habitats in uplands. Wheat and other non-native grasses are the dominant species throughout the site, which are UPL, FACU, or species without a wetland indicator status. Some of the features exhibited a higher percent cover by salt heliotrope, which is also a FACU species. No vernal pool indicator plant species were observed.

Based on field work and the data reviewed, none of the non-jurisdictional features support vegetation indicative of wetlands, vernal pools, or areas that remain inundated or saturated for sufficient periods of time to support water and wetland resources.

Soils

Geotechnical borings were conducted in several locations throughout the site (Leighton 2015). HELIX examined data from the boring samples where they overlap directly or approximately with the delineated features addressed in this report. Soil data were available for eight non-jurisdictional feature areas, including Features 1, 2, 3 (non-jurisdictional portions), 7, 11, 12, 13, and 14.

Data available for these soil borings indicate presence of silty sand, sandy silt, silt, and clayey sand in the upper two feet; sand, silty sand, sandy silt, and silt between 2 and 10 feet deep; silty sand, clayey sand, and sand between 10 and 15 feet; sand, silty sand, clayey sand, and silty clay between 15 and 20 feet; and sand and clayey sand between 20 and 25 feet.

In addition, soil information revealed the presence of fill soils that were imported because of grading for Salt Creek, a nearby flood control channel, old Warren road, and storm water basin. The artificial fill generally consists of approximately 2 to 7 feet of dark brown to red brown silty sands and sandy silts with scattered gravel/cobble.

None of the soil mapping units underlying the non-jurisdictional features were identified as being hydric soils. Some of the parent soil series have hydric soil affinities, but only when certain soil components are present. For example, the project site and Features 1 and 14 contain the Domino soil series, but the specific component type is Domino fine sandy loam, saline-alkali, and is not identified as being hydric. Domino silt loam, saline-alkali is identified as being hydric and is present as a small inclusion in the northwestern portion of the site; however, none of the jurisdictional features identified on the site occur in this area. Domino soil series are associated with certain rare plants in the local area, including with the Traver and Willows soil series. At the time of the delineation, soil pits were not dug within the ponding features because it was unknown whether the areas harbored sensitive plant or fairy shrimp species.

Based on the soils data, none of the non-jurisdictional features support soils indicative of wetlands, vernal pools, or areas that remain inundated or saturated for sufficient periods of time to support water and wetland resources.

Hydrology

HELIX assessed the hydrology indicators associated with the non-jurisdictional features on the site using field data collected in 2015 and 2016, previous studies from 2005, and available aerial imagery dating back to 1967. A site inspection was conducted on January 6, 2017.

Surface water, saturation, inundation visible on aerial imagery, and/or hydrology indicators were evident in years with significant rainfall for Features 1 (2011 and 2017), 2 (2011 and 2017), 3 (2011, 2016, and 2017), 4 (2011 and 2017), 5 (2011 and 2017), 6 (2011 and 2017), 7 (2003, 2005, 2011 and 2017), 8 (2011), 9 (2003, 2005, 2011 and 2017), 10 (2003, 2005, and 2011), 11 (2003, 2005, 2011, 2016 and 2017), 12 (2003, 2005, 2011, and 2017), 13 (2003, 2011, and 2017), and 14 (2011 and 2017).

Based on the data reviewed, some non-jurisdictional features become saturated and/or inundated infrequently and during good rainfall years, such as 2011 and 2017. The extent and duration of saturation and inundation during these years is unknown, but based on the vegetation and soils composition, and the very low density and species of fairy shrimp cysts found, the duration is expected to be short-lived and not long enough to promote wetland or season wetland conditions, such as that which would be associated with vernal pools. The areas subject to infrequent saturation and inundation are a result of their low-lying landscape position and location along the northeast-southwest trending

slope that defines the site. No evidence of a restrictive layer was found during soil boring, although some soils above 15 feet and below 20 feet have clayey sand components, and silty clay was encountered between 15 and 20 feet. This suggests water percolates throughout the site and flows beneath the surface, generally from northeast to southwest.

Beneficial Uses

Five of the 13 non-jurisdictional features were determined to support two beneficial uses: LWRM and WILD.

LWRM or Limited Warm Freshwater Habitat uses include waters that support warm water ecosystems which are severely limited in diversity and abundance as the result of concrete-lined watercourses and low, shallow dry weather flows which result in extreme temperature, pH, and/or dissolved oxygen conditions. Naturally reproducing finfish populations are not expected to occur in LWRM waters. The five features met this criterion due to the presence of the non-listed, common versatile fairy shrimp.

WILD or Wildlife Habitat uses include water that supports terrestrial ecosystems including, but not limited to, preservation and enhancement of terrestrial habitats, vegetation, wildlife (e.g., mammals, birds, reptiles, amphibians, invertebrates), or wildlife water and food sources. The five features met this criterion due to the presence of the non-listed, common versatile fairy shrimp." (Helix Environmental Planning, Inc. 2018a)

MSHCP Riparian/Riverine/Vernal Pool Resources

As depicted on Figure 8, *Jurisdictional Resources Map*, and tabulated in Table 3, *Jurisdictional Resource Acreages,* MSHCP Riparian/Riverine Section 6.1.2 regulated resource areas documented on the Project Site are the same as those reported for CDFW jurisdiction.

Table 3.
Jurisdictional Resource Acreages

JURISDICTIONAL RESOURCES	EXISTING Acres (Linear Feet)
USACE Jurisdiction	
Non-Wetland Waters (Hemet Channel)	1.77 (4,290)
TOTAL	**1.77 (4,290)**
RWQCB Jurisdiction	
Non-Wetland Waters (Hemet Channel)	1.77 (4,290)
Isolated Non-Wetland Waters (Man-made Channel)	0.11 (3,025)
Isolated Wetland Waters (Man-made Channel and Basin)	4.09 (377)
TOTAL	**10.46 (7,692)**
CDFW Jurisdiction & MSHCP Riparian/Riverine Areas	
Riparian Habitat	
Disturbed Wetland	3.42
Herbaceous Wetland	0.31
Mule Fat Scrub	0.39
Southern Willow Scrub	0.06
Tamarisk Scrub	0.61
Subtotal	4.87
Unvegetated Streambed	
Unvegetated Streambed	11.18
Subtotal	11.18
TOTAL	**16.05**

Source: Helix Environmental Planning, Inc 2018a.

SENSITIVE BIOLOGICAL RESOURCES

The following discussion describes the plant and wildlife species present, or potentially present within the property boundaries, that have been afforded special recognition by federal, state, or local resource conservation agencies and organizations, principally due to the species' declining or limited population sizes, usually resulting from habitat loss. Also discussed are habitats that are unique, of relatively limited distribution, or of particular value to wildlife. Protected sensitive species are classified by state and/or federal resource management agencies, or both, as threatened or endangered, under provisions of the state and federal endangered species act. Vulnerable or "at-risk" species that are proposed for listing as threatened or endangered (and thereby for protected status) are categorized administratively as "candidates" by the USFWS. CDFW uses various terminology and classifications to describe vulnerable species. There are additional sensitive species classifications applicable in California. These are described below.

Sensitive biological resources are habitats or individual species that have special recognition by federal, state, or local conservation agencies and organizations as endangered, threatened, or rare. The CDFW, USFWS, and special groups like the CNPS maintain watch lists of such resources. For the purpose of this assessment sources used to determine the sensitive status of biological resources are:

Plants: USFWS (2018), CDFW (2018d, 2018e), CNDDB (2018a), and CNPS (Skinner and Pavlik 1994).

Wildlife: California Wildlife Habitat Relationships Database System (CWHRDS 1991), USFWS (2018), CDFW (2018b, 2018c), CNDDB (2018a).

Habitats: CNDDB (2018a), CDFW (2018f).

FEDERAL PROTECTION AND CLASSIFICATIONS

The Federal Endangered Species Act of 1973 (FESA) defines an endangered species as "any species that is in danger of extinction throughout all or a significant portion of its range..." Threatened species are defined as "any species which is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range." Under provisions of Section 9(a)(1)(B) of the FESA it is unlawful to "take" any listed species. "Take" is defined as follows in Section 3(18) of the FESA: "...harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct." Further, the USFWS, through regulation, has interpreted the terms "harm" and "harass" to include certain types of habitat modification as forms of a "take." These interpretations, however, are generally considered and applied on a case-by-case basis and often vary from species to species. In a case where a property owner seeks permission from a federal agency for an action that could affect a federally listed plant and animal species, the property owner and agency are required to consult with USFWS. Section 9(a)(2)(b) of the FESA addresses the protections afforded to listed plants. Recently, the USFWS instituted changes in the listing status of former candidate species. Former C1 (candidate) species are now referred to simply as candidate species and represent the only candidates for listing. Former C2 species (for which the USFWS had insufficient evidence to warrant listing at this time) and C3 species (either extinct, no longer a valid taxon or more abundant than was formerly believed) are no longer considered as candidate species. Therefore, these species are no longer maintained in list form by the USFWS, nor are they formally protected. However, some USFWS field offices have issued memoranda stating that former C2 species are henceforth to be considered Federal Species of Concern. This term is employed in this document but carries no official protections. All references to federally protected species in this report (whether listed, proposed for listing or candidate) include the most current published status or candidate category to which each species has been assigned by USFWS.

For purposes of this assessment, the following acronyms are used for federal status species:

FE	Federal Endangered
FT	Federal Threatened
FPE	Federal Proposed Endangered
FPT	Federal Proposed Threatened
FC	Federal Candidate for Listing

The designation of critical habitat can also have a significant impact on the development of land designated as "*critical habitat*." The FESA prohibits federal agencies from taking any action that will "*adversely modify or destroy*" critical habitat (16 U.S.C. § 1536(a)(2)). This provision of the FESA applies to the issuance of permits by federal agencies. Before approving an action affecting critical habitat, the federal agency is required to consult with the USFWS who then issues a biological opinion evaluating whether the action will "*adversely modify"* critical habitat. Thus, the designation of critical habitat effectively gives the USFWS extensive regulatory control over the development of land designated as critical habitat.

The MBTA makes it unlawful to "*take*" any migratory bird or part, nest, or egg of such bird listed in wildlife protection treaties between the United States and Great Britain, the Republic of Mexico, Japan, and the Union of Soviet States. For purposes of the MBTA, "*take*" is defined as to pursue, hunt, capture, kill, or possess or attempt to do the same.

The Bald Eagle and Golden Eagle Protection Act explicitly protects the bald eagle and golden eagle and imposes its own prohibition on any taking of these species. As defined in this act, take means to pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, or molest or disturb. Current USFWS policy is not to refer the incidental take of bald eagles for prosecution under the Bald Eagle and Golden Eagle Protection Act (16 U.S.C. 668-668d).

STATE PROTECTION AND CLASSIFICATIONS

California's Endangered Species Act (CESA) defines an endangered species as "...a native species or subspecies of a bird, mammal, fish, amphibian, reptile, or plant which is in serious danger of becoming extinct throughout all, or a significant portion, of its range due to one or more causes, including loss of habitat, change in habitat, overexploitation, predation, competition, or disease." The State defines a threatened species as "...a native species or subspecies of a bird, mammal, fish, amphibian, reptile, or plant that, although not presently threatened with extinction, is likely to become an endangered species in the foreseeable future in the absence of the special protection and management efforts required by this chapter. Any animal determined by the commission as rare on or before January 1, 1985 is a threatened species." Candidate species are defined as "...a native species or subspecies of a bird, mammal, fish, amphibian, reptile, or plant that the commission has formally noticed as being under review by the department for addition to either the list of endangered species or the list of threatened species, or a species for which the commission has published a notice of proposed regulation to add the species to either list." Candidate species may be afforded temporary protection as though they were already listed as threatened or endangered at the discretion of the Fish and Game Commission. Unlike FESA, CESA does not include listing provisions for invertebrate species.

Article 3, Sections 2080 through 2085, of CESA addresses the taking of threatened or endangered species by stating "No person shall import into this state, export out of this state, or take, possess, purchase, or sell within this state, any species, or any part or product thereof, that the commission determines to be an endangered species or a threatened species, or attempt any of those acts, except as otherwise provided..." Under CESA, "take" is defined as "...hunt, pursue, catch, capture, or kill, or attempt to

hunt, pursue, catch, capture, or kill." Exceptions authorized by the state to allow "take" require "...permits or memorandums of understanding..." and can be authorized for "...endangered species, threatened species, or candidate species for scientific, educational, or management purposes." Sections 1901 and 1913 of the California Fish and Game Code provide that notification is required prior to disturbance.

Additionally, some sensitive mammals and birds are protected by the State as Fully Protected Mammals or Fully Protected Birds, as described in the California Fish and Game Code, Sections 4700 and 3511, respectively. SSC ("special" animals and plants) listings include special status species, including all state and federal protected and candidate taxa, Bureau of Land Management and US Forest Service sensitive species, species considered to be declining or rare by the CNPS or National Audubon Society, and a selection of species which are considered to be under population stress but are not formally proposed for listing. This list is primarily a working document for the CDFW's CNDDB project. Informally listed taxa are not protected per se but warrant consideration in the preparation of biotic assessments. For some species, the CNDDB is only concerned with specific portions of the life history, such as roosts, rookeries, or nest sites. For the purposes of this assessment, the following acronyms are used for State status species:

SE	State Endangered
ST	State Threatened
SCE	State Candidate Endangered
SCT	State Candidate Threatened
SFP	State Fully Protected
SP	State Protected
SR	State Rare
SSC	California Species of Special Concern
CWL	California Watch List

The CNPS is a private plant conservation organization dedicated to the monitoring and protection of sensitive species in the State. This organization has compiled an inventory comprised of the information focusing on geographic distribution and qualitative characterization of rare, threatened, or endangered vascular plant species of California (Tibor 2001). The list serves as the candidate list for listing as threatened and endangered by CDFW. The CNPS has developed five categories of rarity (CRPR):

CRPR 1A	Presumed extinct in California.
CRPR 1B	Rare, threatened, or endangered in California and elsewhere.
CRPR 2	Rare, threatened, or endangered in California, but more common elsewhere.
CRPR 3	Plants about which we need more information – a review list.
CRPR 4	Species of limited distribution in California (i.e., naturally rare in the wild), but whose existence does not appear to be susceptible to threat.

As stated by the CNPS:

> "*Threat Rank is an extension added onto the California Rare Plant Rank and designates the level of endangerment by a 1 to 3 ranking with 1 being the most endangered and 3 being the least endangered. A Threat Rank is present for all California Rare Plant Rank 1B's, 2's, 4's, and the majority of California Rare Plant Rank 3's. California Rare Plant Rank 4 plants are seldom assigned a Threat Rank of 0.1, as they generally have large enough populations to not have significant threats to their continued existence in California; however, certain conditions exist to make the plant a species of concern and hence be assigned a California Rare Plant Rank. In addition, all California Rare Plant Rank 1A (presumed extinct in California), and some California Rare Plant Rank 3 (need more information) plants, which lack threat information, do not have a Threat Rank extension." (CNPS 2010)*

0.1	Seriously threatened in California (over 80% of occurrences threatened / high degree and immediacy of threat)
0.2	Fairly threatened in California (20-80% occurrences threatened / moderate degree and immediacy of threat)
0.3	Not very threatened in California (<20% of occurrences threatened / low degree and immediacy of threat or no current threats known)

SENSITIVE HABITATS

As stated by CDFW:

> "*One purpose of the vegetation classification is to assist in determining the level of rarity and imperilment of vegetation types. Ranking of alliances according to their degree of imperilment (as measured by rarity, trends, and threats) follows NatureServe's Heritage Methodology, in which all alliances are listed with a G (global) and S (state) rank. For alliances with State ranks of S1-S3, all associations within them are also considered to be highly imperiled*" (CDFW 2012)

No sensitive or undisturbed native habitats listed by CDFW as sensitive were documented within the Project Site.

SENSITIVE PLANTS

One of the fifteen (15) MSHCP Criteria Area and Narrow Endemic plant species, smooth tarplant (a small population consisting of 191 individual plants), was detected during the focused survey program. The other fourteen (14) target MSHCP species were not detected during the survey program and/or are not expected to grow onsite due to a lack of detection.

The following discussion is presented in three parts:

I) MSHCP plants detected onsite;
II) MSHCP species that can be excluded from the Project Site based on the negative results of the 2015/2016/2017 focused surveys, and/or lack of suitable habitat onsite; and
III) additional special-status species found, if present, onsite.

I: Criteria Area or Narrow Endemic Plant Species Documented Onsite

Criteria Area Plants: One Criteria Area species, the smooth tarplant (*Centromadia pungens* subsp. *laevis*), was identified growing on the Project Site.

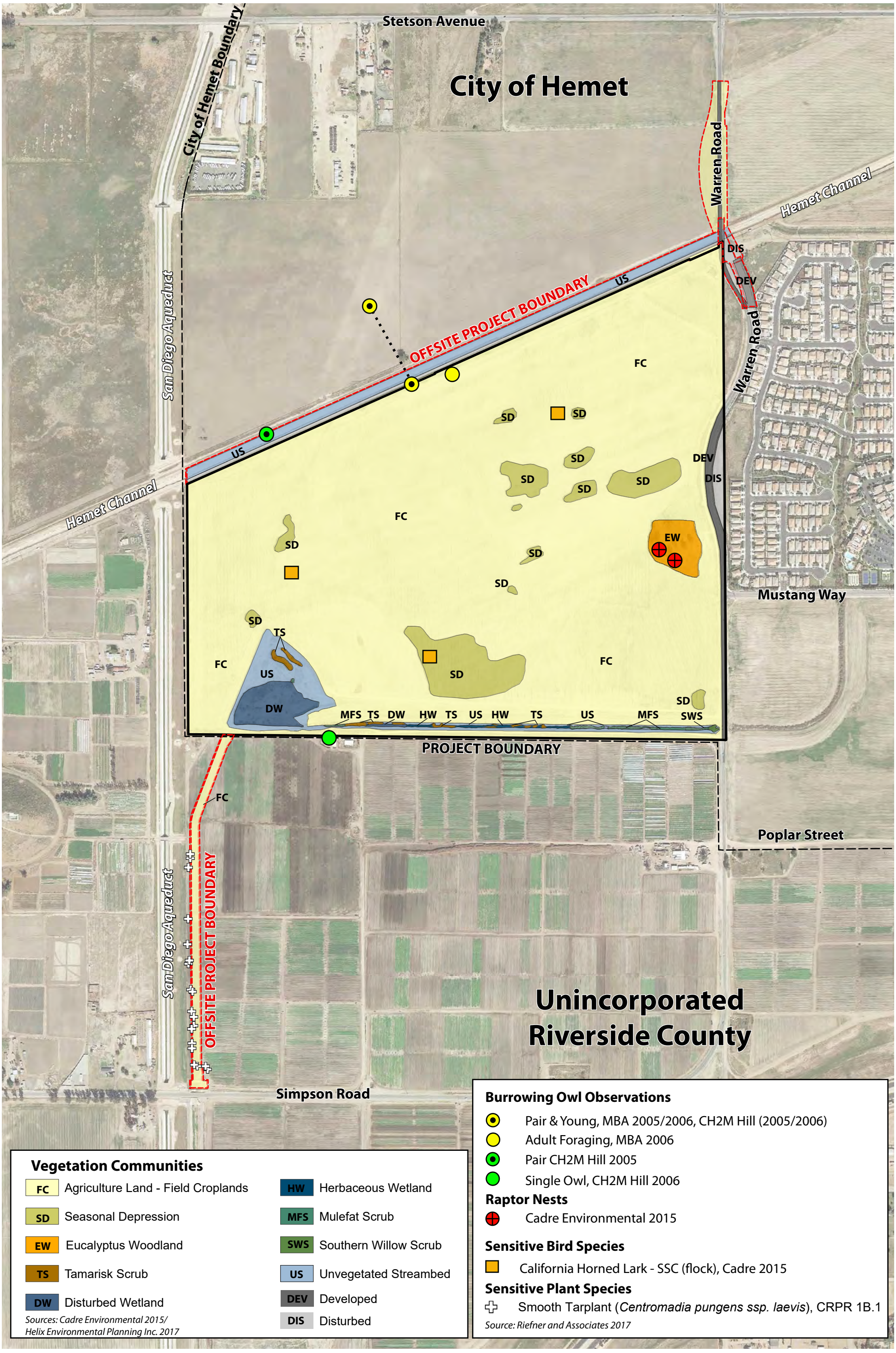
Smooth Tarplant (*Centromadia pungens* subsp. *laevis*) [CRPR 1B.1] – Smooth tarplant is an annual member of the sunflower family (Asteraceae) that occurs in vernal pools, alkali playas and scrub, alkali grasslands, riparian areas, and disturbed sites in alkaline soils. Smooth tarplant is tolerant of mild disturbance and is often found in agricultural lands or other disturbed mesic habitats. It blooms April to September. This species is easily detected when present, even in small numbers.

Smooth tarplant occurs from southwestern San Bernardino County, through western Riverside County to San Diego County. The largest numbers of populations occur in western Riverside County where this plant is widely scattered throughout the Perris Basin (Roberts 2004; CNDDB 2015/2016/2017). Within western Riverside County, substantial populations occur along the San Jacinto River floodplain, the Salt Creek watershed near Hemet, the Temecula-Murrieta area, and the Elsinore Valley. It is uncommon outside of western Riverside County.

Smooth tarplant reference populations were observed on August 3rd, 2015, along Devonshire Avenue at Warren Road in Hemet, and on April 17th, 2016, along Meyers Road, north of Devonshire Avenue in Hemet.

Smooth tarplant was recorded previously for the offsite assessment area, north of Simpson Road, during the SR 79 project surveys (Caltrans 2007). At Rancho Diamante, smooth tarplant was documented on disturbed saline-alkali soils from the same general area; the southwestern (offsite) portion of the Project Site (north of Simpson Road along the San Diego Aqueduct). The population totals 191 plants and the locations mapped for the property are depicted on Figure 9, *Sensitive Floral and Faunal Species Observation Map*. The Domino and Traver soils are mapped for this habitat area (Figure 7, *Soil Associations Map*).

Narrow Endemic Plants: No target MSHCP Narrow Endemic plants were found during the 2015/2016/2017 surveys and/or are not expected on the Project Site due to lack of detection.



APNs 465-100-016, 465-100-022, 465-110-020, 021, 022, 023, and 027. Offsite APNs Portions of 465-120-019, 021, 465-130-016, 017, 465-100-018, and 032.

Figure 9 - Sensitive Floral and Faunal Species Observation Map

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Rancho Diamante - TTM 36841

CADRE Environmental

N

1 inch = 650 feet

II: <u>Criteria Area and Narrow Endemic Plant Species Subject to Focused Surveys or Evaluated by Habitat Suitability Assessment and Not Found or Expected to Occur Onsite</u>

Criteria Area Plants: The smooth tarplant (*Centromadia pungens* subsp. *laevis*), was identified at Rancho Diamante. None of the other Criteria Area species, however, were detected during the 2015/2016/2017 project surveys and/or are not expected due to lack of suitable habitat onsite. Brief discussions follow.

San Jacinto Valley Crownscale (*Atriplex coronata* var. *notatior*) [Federal endangered, CRPR 1B.1] – The San Jacinto Valley crownscale is a California endemic. It is restricted to western Riverside County in the San Jacinto, Winchester, Perris, Menifee, and the Elsinore Valleys (Roberts et al. 2004; Consortium 2015/2016/2017).

The San Jacinto Valley crownscale grows primarily on floodplains that support alkali scrub, alkali playas, vernal pools, and occasionally alkali grasslands (Bramlet 1993). It grows in highly alkaline, silty-clay soils in association with the Traver-Domino-Willows soil associations, with the majority (approximately 80%) of the populations being associated with the Willows soil series (Bramlet 1993). Typically, in dry periods, these saline soils exhibit a white powdery surface (effloresce) of salts due to the evaporation of water (USFWS 2012). San Jacinto Valley crownscale occurs primarily in the San Jacinto River, Mystic Lake, and Salt Creek drainages.

Atriplex coronata var. *notatior* is declining throughout its range due to habitat destruction and fragmentation from urban and agricultural development, pipeline construction, alteration of hydrology and floodplain dynamics, channelization, off-road vehicle activity, trampling by cattle and sheep, weed abatement, fire suppression practices, including discing, and competition from non-native plants (Bramlet 1993; USFWS 1998, 2012).

The Domino-Traver-Willows soils are mapped for the property. A reference population was observed on April 16, 2016, in the Lovell Unit, San Jacinto Wildlife Area (Bramlet 2016) to establish whether or not the species germinated, bloomed, and/or was identifiable during the focused survey program.

The San Jacinto Valley crownscale was not observed at Rancho Diamante during the focused surveys conducted in 2015/2016/2017, nor was it recorded by the SR 79 surveys from the offsite assessment area (Caltrans 2007). It is not expected due to lack of detection.

Davidson's Saltbush (*Atriplex davidsonii*) [CRPR 1B.2] – Davidson's saltscale is a decumbent to ascending annual, sparsely scaly, which blooms April to October. Note: plants from Hemet may represent an undescribed taxon related to *A. coulteri*.[3] Also, see the revised treatment for *A. serenana* var. *davidsonii*.[4] In western Riverside County, Davidson's saltscale is found mostly along the San Jacinto River and west of

[3] Elizabeth H. Zacharias. 2017. Atriplex coulteri, Jepson Flora Project (eds.). *Jepson eFlora*, http://ucjeps.berkeley.edu/cgi-bin/get_IJM.pl?tid=15202, accessed on March 01, 2017.
[4] Elizabeth H. Zacharias. 2017. Atriplex serenana var. davidsonii, Jepson Flora Project (eds.). *Jepson eFlora*, http://ucjeps.berkeley.edu/cgi-bin/get_IJM.pl?tid=55035, accessed on March 01, 2017.

Hemet in the Upper Salt Creek area in alkali grasslands, margins of alkali playas or alkali vernal pools, or alkali vernal plains (Consortium 2015/2016/2017).

Potential suitable saline-alkali soils and seasonal depressions are found onsite. A reference population was observed on April 16, 2016, in the Lovell Unit, San Jacinto Wildlife Area (Bramlet 2016) to establish whether or not the species was identifiable during the focused survey program.

Davidson's saltscale was not observed onsite during the focused surveys conducted in 2015/2016/2017, nor was it recorded by the SR 79 surveys from the Project Site (Caltrans 2007). It is not expected due to lack of detection.

Parish's Brittlescale (*Atriplex parishii*) [CRPR 1B] – Parish's brittlescale is a small prostrate to decumbent annual, white scaly, that is often less than eight inches in length. It blooms May to October. This species occurs on alkali or saline flats, alkali meadows, and in or along the margins of vernal pools or playa depressions. Historically, its distribution in southern California includes Ventura County (Channel Islands), Los Angeles County east to Cushenbury Springs at the north base of the San Bernardino Mountains, and south to Orange and Riverside counties, Ramona in San Diego County, and south into Baja California, Mexico (CNDDB 2015/2016/2017; Consortium 2015/2016/2017). The majority of the historic locations for Parish's brittlescale are considered to be extirpated.

In western Riverside County, this species is found in alkali habitats on the Domino-Traver-Willows soils in the San Jacinto River floodplain and Upper Salt Creek near the cities of Hemet and Winchester. Parish's brittlescale was observed in 1993 in the Upper Salt Creek watershed near Hemet, a location that is now preserved in the MWD Upper Salt Creek Reserve (CNDDB 2015/2016/2017). Two other occurrences have been discovered, 1996 near Winchester, and in 2001 near Ramona in San Diego County (Consortium 2015/2016/2017). The Winchester occurrence, which may no longer be extant, has not been observed in recent years.

Suitable alkali soils and habitat are present onsite for Parish's brittlescale. A reference population was detected in bloom in the Upper Salt Creek Reserve on April 11, 2015.[5] Parish's brittlescale was not observed onsite during the focused surveys conducted in 2015/2016/2017, nor was it recorded by the SR 79 surveys from the Project Site (Caltrans 2007). It is not expected due to lack of detection.

Thread-Leaved Brodiaea (*Brodiaea filifolia*) [State endangered, Federal threatened, CRPR 1B.1] **–**Thread-leaved brodiaea is a geophyte, which produces leaves and flower stalks that sprout from corms (underground bulb-like storage stems). Thread-leaved brodiaea blooms March to June. The historic range of the brodiaea includes the foothills of the San Gabriel Mountains at Glendora and San Dimas in Los Angeles County, east to Arrowhead Hot Springs in the foothills of the San Bernardino Mountains, San Bernardino County, south through Orange County, western Riverside County, and San Onofre State Beach, Camp Pendleton, Carlsbad, San Marcos, and Rancho Bernardo in San Diego County.

[5] E-mail communication from David Bramlet (Newport Beach, CA) on April 13, 2015.

In western Riverside County, populations of thread-leaved brodiaea have been documented from the San Jacinto River in Nuevo, Perris, and the San Jacinto Wildlife Area, Upper Salt Creek, southern Santa Ana Mountains, and the Santa Rosa Plateau. It typically grows on gentle hillsides, valleys, and floodplains in semi-alkaline flats of riparian areas, vernal pools, mesic southern needlegrass grassland, mixed native-annual grassland, and alkali grassland plant communities in association with clay, clay loam, or alkaline silty-clay soils.

Marginal suitable habitat is present onsite along the edge of the San Diego Aqueduct and the Hemet Channel. Overall, however, long-term discing practices associated with dryland farming are not favorable for the persistence of corm and bulb species. A reference population was observed on April 16, 2016, in the Lovell Unit, San Jacinto Wildlife Area (Bramlet 2016) to confirm detection during the focused survey program.

Thread-leaved brodiaea was not observed onsite during the focused surveys conducted in 2015/2016/2017, nor was it recorded by the SR 79 surveys from the Project Site (Caltrans 2007). It is not expected due to lack of detection and marginal suitable habitat onsite.

Round-Leaved Filaree (*Erodium macrophyllum* [*California macrophylla*]) [CRPR 1B.1] – Round-leaved filaree is endemic to California but is widespread, occurring in over 20 California counties. It blooms March to May. Habitats include open areas in cismontane woodland and valley and foothill grasslands, which are often associated with heavy clay soils below 3,600 feet elevation. In western Riverside County, round-leaved filaree occurs in the Temescal Valley, near Lake Elsinore, the Temecula-Murrieta area, Menifee-Perris area, Lake Matthews, Lake Skinner, and Oak Mountain near Vail Lake.

Suitable habitat consisting of heavy non-saline clay soils is not present onsite. However, round-leaved filaree was carefully searched for during the project surveys. A reference population was visited in the Temescal Valley along DePalma Road on April 1, 2016, and March 27, 2017.

Round-leaved filaree was not observed during focused surveys conducted in 2015/2016/2017, nor was it recorded by the SR 79 surveys for the Project Site (Caltrans 2007). It is not expected due to lack of detection and lack of suitable habitat.

Coulter's Goldfields (***Lasthenia glabrata* subsp. *coulteri*)** [CRPR 1B.1] – Coulter's Goldfields is associated with low-lying alkali and saline habitats along the coast and inland valleys; numerous populations have been documented in coastal salt marsh habitats. In western Riverside County, Coulter's goldfields are often associated with highly alkaline clays of the Traver-Domino-Willows soils, and usually in the wetter areas of the alkali vernal plain community. Coulter's goldfields blooms February to June.

The majority of the Riverside County populations are found in the vicinity of Mystic Lake, the San Jacinto Wildlife Area, near Gilman Springs Road, the Ramona Expressway just east of Warren Road, the Hemet-Ryan Airport, and a fairly substantial population also grows at the MWD Upper Salt Creek Reserve (RECON 1995; Consortium 2015/2016/2017).

Suitable saline-alkali habitat is present in the seasonally-wet ditch and disturbed wetlands found onsite. A reference population was observed on April 16, 2016, in the Lovell Unit, San Jacinto Wildlife Area (Bramlet 2016) to confirm detection during the focused survey program.

Coulter's goldfields were not observed onsite during the focused surveys conducted in 2015/2016/2017, nor was it recorded by the SR 79 surveys from the Project Site (Caltrans 2007). It is not expected due to lack of detection.

Little Mousetail (*Myosurus minimus* subsp. *apus*) [CRPR 3.1] – Little mousetail is widespread in California. It grows in alkaline vernal pools, and vernal alkali plains and grasslands, and blooms March to June. Little mousetail is known in western Riverside County from alkali vernal pools at Salt Creek west of Hemet, vernal pools on the Santa Rosa Plateau, and the Gavilan Plateau within Harford Springs County Park. It is also known from the vicinity of Lake Elsinore, Wildomar, and Menifee.

Suitable saline-alkali habitat is present in the wet ditch and disturbed wetlands, and the seasonal depressions found onsite. A reference population was visited on April 20, 2016, along Lakeshore Drive near Lake Park Street, Lake Elsinore, to confirm detection during the project surveys.

Little mousetail was not observed onsite during the focused surveys conducted in 2015/2016/2017, nor was it recorded by the SR 79 surveys from the Project Site (Caltrans 2007). It is not expected due to lack of detection.

Mud Nama (*Nama stenocarpum* [*Nama stenocarpa*]) [CRPR 2.2] – Mud nama has been placed in the Namaceae (*Nama stenocarpa*; CNPS.org 2017) or in the Boraginaceae by the Jepson eFlora (2017)[6]. This hirsute annual is prostrate to ascending, freely branched, and is three to 18 inches tall.

Mud nama is known from Imperial, Kings, Orange, Riverside, and San Diego counties, San Clemente Island, California, Arizona, Baja California, Mexico, and elsewhere. It is thought to be extirpated from Imperial and Los Angeles counties (CNPS 2015/2016/2017). This species grows on muddy banks of rivers, marshes, and swamps, lake margins, meadow, playa, and vernal pools. In western Riverside County, it is known mostly from the north shore of Mystic Lake (Roberts et al. 2004), and historically elsewhere such as Perris (Consortium 2015/2016/2017).

Marginal suitable saline-alkali habitat is present in the wet ditch and disturbed wetlands found onsite. Mud nama was not observed during the focused surveys, nor was it recorded by the SR 79 surveys from the Project Site (Caltrans 2007). It is not expected due to lack of detection.

Narrow Endemic Plants: None of the six (6) Narrow Endemic species were detected during the project surveys and/or are not be expected to occur due to lack of suitable habitat present onsite. A brief discussion follows.

[6] Sarah Taylor. 2017. *Nama,* Jepson Flora Project (eds.). *Jepson eFlora*, http://ucjeps.berkeley.edu/eflora/eflora_display.php?tid=34387, accessed on June 25, 2017.

Munz's Onion (*Allium munzii*) [Federal endangered, State threatened, CRPR 1B.1] – Munz's onion is an endemic species restricted to mesic clay soils in western Riverside County, California. It blooms from March to May. This species is found in southern needlegrass grassland, annual grassland, open coastal sage scrub, or occasionally in cismontane juniper woodlands. In western Riverside County, most populations occur in the Gavilan Hills, including Harford Springs County Park, the Temescal Valley, the Cleveland National Forest in the Santa Ana Mountains (Elsinore Peak), near Murrieta, Lake Skinner, and the Domenigoni Hills. Munz's onion prefers annual grasslands within open patches of wild oat grass (*Avena fatua*) and open Riversidean sage scrub developed on clayey soils.

Suitable heavy clay soils, annual grasslands or Riversidean sage scrub habitats are not present onsite. In addition, Munz's onion is not associated with saline-alkali soils. However, Munz's onion was carefully searched for during the project surveys. A reference population was visited in the Temescal Valley along DePalma Road on April 1, 2016, to establish detection.

Munz's onion was not observed during focused surveys conducted in 2015/2016/2017 and is not present due to lack of detection and lack of suitable habitat. Also, it was not recorded by the SR 79 surveys from the Project Site (Caltrans 2007).

San Diego Ambrosia (*Ambrosia pumila*) [Federal endangered, CRPR 1B.1] – San Diego ambrosia is known from Baja California, Mexico, and San Diego and Riverside counties in the United States. It blooms May to September. *Ambrosia pumila* occurs primarily on upper terraces of rivers and drainages, in open grasslands, openings in coastal sage scrub, and occasionally in areas adjacent to vernal pools. The species may also be found in disturbed sites such as fire fuel breaks and the edges of dirt roads. Populations in western Riverside County occur along Nichols Road (Warm Springs Valley), at Alberhill near Lake Elsinore, the Temecula-Murrieta region, Temescal Valley, at Skunk Hollow, and elsewhere. An historical occurrence in the Arlington area in the City of Riverside has also been reported. The soils are often gravelly fine sandy loam, loam, clay, or alkaline soils.

Suitable seasonal depression and ruderal saline-alkali soil habitats for the San Diego ambrosia are present onsite. A reference population growing on disturbed roadsides along Nichols Road west of Alberhill Creek, Lake Elsinore, was visited on June 27, 2016, and on May 17, 2017, to establish detection during the focused survey program.

San Diego Ambrosia was not observed onsite during the focused surveys conducted in 2015/2016/2017, nor was it recorded by the SR 79 surveys from the Project Site (Caltrans 2007). This species is not expected due to lack of detection.

Many-Stemmed Dudleya (*Dudleya multicaulis*) [CRPR 1B.2] – Many-stemmed dudleya is a succulent perennial in the stonecrop family (Crassulaceae). It blooms April to July. This species is known from several southern California counties; typically, it grows in dry, stony places on heavy soils in scrub and grassland habitats below 2,000 feet elevation. It is also frequently found in thinly vegetated areas around rock outcrops. In western Riverside County, most populations of many-stemmed dudleya occur within the Temescal Valley and Gavilan Hills, the vicinity of Santa Ana Canyon, Estelle

Mountain, Lake Mathews, Alberhill near Lake Elsinore, and in the San Mateo Wilderness.

Suitable habitat for many-stemmed dudleya is not present onsite. It was not observed during the focused surveys conducted in 2015/2016/2017, nor was it recorded by the SR 79 surveys from the Project Site (Caltrans 2007). This species is not expected due to lack of detection and lack of suitable habitat onsite.

Spreading Navarretia (*Navarretia fossalis*) [Federal threatened, CRPR 1B] – Spreading navarretia is a member of the phlox family, and is found in vernal pools, chenopod scrub, edge of marshes, and playas on saline-alkali soils. Occasionally it grows in ditches and depressions associated with degraded habitat or old stock ponds (Consortium 2015/2016/2017). Spreading navarretia blooms April to June.

In western Riverside County, spreading navarretia is found primarily within the seasonally flooded alkali vernal plains and vernal pools of the San Jacinto River and Upper Salt Creek drainage near Hemet. These populations are associated mostly with the Domino-Traver-Willows alkali soils (USFWS 2005, 2009). Other populations are reported from Murrieta, French Valley, the Menifee Valley, and the Santa Rosa Plateau (USFWS 1998; CNDDB 2015/2016/2017; Consortium 2015/2016/2017).

Suitable saline-alkali habitat is present in the wet ditch in riparian scrub and herbaceous vegetation, disturbed wetlands, and seasonal depressions found onsite. A reference population was observed on April 16, 2016, at the Stowe Road vernal pool in Hemet (Bramlet 2016) to confirm detection during the focused survey program.

Spreading navarretia was not observed during the focused surveys conducted in 2015/2016/2017, nor was it recorded by the SR 79 surveys from the Project Site (Caltrans 2007). It is not expected due to lack of detection.

California Orcutt Grass (*Orcuttia californica*) [Federal/State endangered, CRPR 1B.1] – This small, unique grass occurs primarily in vernal pool habitats. In southern California, it is known from Orange, Los Angeles, Riverside, Ventura, and San Diego Counties, and continues south into Baja California, Mexico. California Orcutt grass blooms April to August. In western Riverside County, this species is found in southern basaltic claypan vernal pools on the Santa Rosa Plateau, and in alkaline vernal pools such as Skunk Hollow, at Upper Salt Creek near Hemet, Menifee Valley, and elsewhere.

Marginal suitable saline-alkali habitat is present onsite in the created wetland detention basin, which ponded during the survey period (Attachment B, Current Project Site Photographs).

California Orcutt grass was not observed onsite during the focused surveys conducted in 2015/2016/2017, nor was it recorded by the SR 79 surveys from the Project Site (Caltrans 2007). It is not expected due to lack of detection and marginal habitat conditions found onsite.

Wright's Trichocoronis (*Trichocoronis wrightii* var. *wrightii*) [CRPR 2.1] – The historic known range of Wright's trichocoronis in California includes the Great Valley and western Riverside County; it is also known from south Texas and adjacent northeastern Mexico. This plant grows in meadows and seeps, marshes, riparian scrub, and vernal pools. Wright's Trichocoronis blooms May to September.

In southern California Wright's trichocoronis is known only from western Riverside County, where it grows along the San Jacinto River in the vicinity of the Ramona Expressway, the San Jacinto Wildlife Area, and the north-shore of Mystic Lake.

Marginal saline-alkali habitat includes the riparian scrub and herbaceous vegetation of the ditch and disturbed wetlands of the created detention basin. Wright's trichocoronis was not observed during the focused surveys conducted in 2015/2016/2017, nor was it recorded by the SR 79 surveys from the Project Site (Caltrans 2007). It is not expected due to lack of detection.

III. Additional Special-Status Plant Species Found Onsite

No other CNPS, special-status plants, or species of local concern were observed onsite.

No state or federally listed threatened or endangered plant species were detected onsite. One of the MSHCP target Criteria Area species, a small population (consisting of 191 plants) of the smooth tarplant (*Centromadia pungens* subsp. *laevis*) was found on the offsite region of the Project Site. None of the other Criteria Area species or any of the Narrow Endemic plants was observed onsite during the focused surveys conducted from the summer of 2015 through the spring of 2017.

Table 6. Sensitive Plant Species with Potential to Occur Onsite.

Species Name (*Scientific Name*) Status	**Habitat Description**	**Comments**
Munz's onion (*Allium munzii*) FE/ST CRPR List 1B.1 MSHCP NEPSA CA Endemic	Restricted to mesic clay soils in western Riverside County, California. It blooms from March to May. This species is found in southern needlegrass grassland, annual grassland, open coastal sage scrub, or occasionally, in cismontane juniper woodlands.	Munz's onion was not observed during focused surveys conducted in 2015, 2016 and 2017 and is not present within or adjacent to the Project Site due to lack of detection.

Species Name (*Scientific Name*) Status	**Habitat Description**	**Comments**
San Diego ambrosia (*Ambrosia pumila*) FE CRPR List 1B.1 MSHCP NEPSA	San Diego ambrosia is known from Baja California, Mexico, and San Diego and Riverside counties in the United States. It blooms May to September. San Diego ambrosia occurs primarily on upper terraces of rivers and drainages as well as in open grasslands, openings in coastal sage scrub, and occasionally in areas adjacent to vernal pools.	San Diego ambrosia was not observed during focused surveys conducted in 2015, 2016 and 2017 and is not present within or adjacent to the Project Site due to lack of detection.
San Jacinto Valley crownscale (*Atriplex coronata* var. *notatior*) FE CRPR List 1B.1 MSHCP CAPSA CA Endemic	The San Jacinto Valley crownscale occurs primarily in floodplains that support alkali scrub, alkali playas, vernal pools, and occasionally alkali grasslands (Bramlet 1993).	The San Jacinto Valley crownscale was not observed during focused surveys conducted in 2015, 2016 and 2017 and is not present within or adjacent to the Project Site due to lack of detection.
South coast saltbush (*Atriplex pacifica*) CRPR List1B.2 MSHCP Covered	South coast saltbush prefers mildly disturbed coastal bluff scrub with the surrounding habitat of open Diegan coastal sage scrub, although it is found on alkaline flats in areas devoid of taller shrubs (Helix Environmental Planning, Inc. 2007d)	South coast saltbush was not observed during focused surveys conducted in 2015, 2016 and 2017 and is not present within or adjacent to the Project Site due to lack of detection.
Parish's brittlebush (*Atriplex parishii*) CRPR List 1B.1 MSHCP CAPSA	Parish's brittlescale is a small prostrate to decumbent annual, white scaly, and is often much less than eight inches in length. It blooms May to October. This species occurs on alkali or saline flats, alkali meadows, and in or along the margins of vernal pools or playa depressions.	Parish's brittlescale was not observed during focused surveys conducted in 2015, 2016 and 2017 and is not present within or adjacent to the Project Site due to lack of detection.
Davidson's saltscale (*Atriplex serenana* var. *davidsonii*) CRPR List 1B.2 MSHCP CAPSA	Davidson's saltscale is a decumbent to ascending annual that is sparsely scaly. It blooms April to October. It grows on coastal bluffs, alkaline alluvial terraces, on alkali or saline flats western Riverside County.	Davidson's saltscale was not observed during focused surveys conducted in 2015, 2016 and 2017 and is not present within or adjacent to the Project Site due to lack of detection.

Species Name (*Scientific Name*) Status	**Habitat Description**	**Comments**
Thread-leaved brodiaea (*Brodiaea filifolia*) FT.SE CRPR List 1B.1 MSHCP CAPSA CA Endemic	Thread-leaved brodiaea is a geophyte, which produces leaves and flower stalks that sprout from corms (underground bulb-like storage stems). Thread-leaved brodiaea blooms March to June. Thread-leaved brodiaea typically occurs on gentle hillsides, valleys, and floodplains in semi-alkaline flats of riparian areas, vernal pools, mesic southern needlegrass grassland, mixed native-annual grassland, and alkali grassland plant communities in association with clay, clay loam, or alkaline silty-clay soils.	Thread-leaved brodiaea was not observed during focused surveys conducted in 2015, 2016 and 2017 and is not present within or adjacent to the Project Site due to lack of detection.
Smooth Tarplant (*Centromadia pungens ssp. laevis*) CRPR 1B.1 MSHCP CAPSA	Smooth tarplant is an annual member of the sunflower family (Asteraceae) that occurs in vernal pools, alkali playas and scrub, alkali grasslands, riparian areas, along watercourses and disturbed sites. It blooms April to September.	Smooth tarplant was recorded previously for the Project Site, north of Simpson Road, during the SR 79 project surveys (Caltrans 2007). At Rancho Diamante, smooth tarplant was documented on disturbed saline-alkali soils from the same general area; the southwestern (offsite) portion of the Project Site (north of Simpson Road along the San Diego Aqueduct). The population totals 191 plants and the locations mapped for the property are depicted on Figure 9, *Sensitive Floral and Faunal Species Observation Map*.

Species Name (*Scientific Name*) Status	**Habitat Description**	**Comments**
Multi-stemmed dudleya (*Dudleya multicaulis*) CRPR List 1B.2 MSHCP NEPSA	Many-stemmed dudleya is a succulent perennial in the stonecrop family. It blooms April to July. This species is known from several southern California counties, and typically occurs in dry, stony places on heavy soils in scrub and grassland habitats below 2,000 feet elevation. Many-stemmed dudleya is most often associated with clay soils in barren, rocky places, or thinly vegetated openings in chaparral, coastal sage scrub, and southern needlegrass grasslands.	Many-stemmed dudleya was not observed during focused surveys conducted in 2015, 2016 and 2017 and is not present within or adjacent to the Project Site due to lack of detection.
Round-leaved filaree (*Erodium macrophyllum*) CRPR List 2.1 MSHCP CAPSA CA Endemic	Habitats include open areas in cismontane woodland and valley and foothill grasslands, which are often associated with heavy clay soils below 3,600 feet elevation.	Round-leaved filaree was not observed during focused surveys conducted in 2015, 2016 and 2017 and is not present within or adjacent to the Project Site due to lack of detection.
Coulter's goldfields (*Lasthenia glabrata* ssp. *coulteri*) CRPR List 1B.1 MSHCP CAPSA	Coulter's goldfields is associated with low-lying alkali and saline habitats along the coast and inland valleys. The majority of the populations are associated with coastal salt marsh. In Riverside County, Coulter's goldfields primarily grow in highly alkaline, silty clays associated with the Traver-Domino-Willows soils, and usually in the wet areas in the alkali vernal plain community.	Coulter's goldfields was not observed during focused surveys conducted in 2015, 2016 and 2017 and is not present within or adjacent to the Project Site due to lack of detection.
Little mousetail (*Myosurus minimus* ssp. *apus*) CRPR List 3.1 MSHCP CAPSA	Little mousetail is widespread in California. It occurs in alkaline vernal pools, and vernal alkali plains and grasslands, and blooms March to June.	Little mousetail was not observed during focused surveys conducted in 2015, 2016 and 2017 and is not present within or adjacent to the Project Site due to lack of detection.

Species Name (*Scientific Name*) Status	**Habitat Description**	**Comments**
Mud nama (*Nama stenocarpum*) CRPR List 2.2 MSHCP CAPSA	Mud nama grows on muddy embankments of marshes and swamps, lake margins, riverbank, meadow, playa, and vernal pools. In western Riverside County, it is known only from the north shore of Mystic Lake (Roberts et al. 2004).	Round-leaved filaree was not observed during focused surveys conducted in 2015, 2016 and 2017 and is not present within or adjacent to the Project Site due to lack of detection.
Spreading navarretia (*Navarretia fossalis*) FT/SE CRPR List 1B.1 MSHCP NEPSA	Spreading navarretia is a member of the phlox family, and is found in vernal pools, chenopod scrub, edge of marshes, and playas on saline-alkali soils. It occasionally grows in ditches and depressions associated with degraded habitat or old stock ponds (Consortium 2012). Spreading navarretia is a small prostrate to occasionally erect annual. Spreading navarretia blooms April to June.	Spreading navarretia was not observed during focused surveys conducted in 2015, 2016 and 2017 and is not present within or adjacent to the Project Site due to lack of detection.
California Orcutt grass (*Orcuttia californica*) FE/SE CRPR List 1B.1 MSHCP NEPSA	California Orcutt grass is a small, unique grass that occurs primarily in vernal pool habitats. In southern California, it is known from Orange (recently reported occurrence), Los Angeles, Riverside, Ventura, and San Diego Counties, and continues south into Baja California, Mexico. California Orcutt grass blooms April to August. In Riverside County, this species is found in southern basaltic claypan vernal pools at the Santa Rosa Plateau, and alkaline vernal pools such as Skunk Hollow, at Upper Salt Creek near Hemet, Menifee and elsewhere.	California Orcutt grass was not observed during focused surveys conducted in 2015, 2016 and 2017 and is not present within or adjacent to the Project Site due to lack of detection.

Species Name (*Scientific Name*) Status	Habitat Description	Comments
Wright's trichocoronis (*Trichocoronis wrightii* var. *wrightii*) CRPR List 2.1 MSHCP NEPSA	The historic known range of Wright's trichocoronis includes the Great Valley of central California, western Riverside County, and south Texas and adjacent northeast Mexico. This plant grows in meadows and seeps, marshes, riparian scrub, and vernal pools. Wright's trichocoronis blooms May to September.	Wright's trichocoronis was not observed during focused surveys conducted in 2015, 2016 and 2017 and is not present within or adjacent to the Project Site due to lack of detection.

California Native Plant Society (CNPS): California Rare Plant Rank (CRPR)
CRPR 1A – plants presumed extinct in California
CRPR 1B – plants rare, threatened, or endangered in California, but more common elsewhere
CRPR 2 – plants rare, threatened, or endangered in California, but more common elsewhere
CRPR 3 – Plants about which we need more information, a review list
CRPR 4 – Plants of limited distribution, a watch list
.1 – Seriously endangered in California
.2 – Fairly endangered in California
.3 – Not very endangered in California

Federal (USFWS) Protection and Classification
FE – Federally Endangered
FC – Federal Candidate for Listing

State (CDFW) Protection and Classification
SE – State Endangered

Source: Cadre Environmental 2017c.

SENSITIVE WILDLIFE

The following discussion is presented in two (2) parts:

1. MSHCP Planning Species detected on or adjacent to site;
2. MSHCP and sensitive species that can be excluded from the Project Site based on the negative results of the 2015-2017 surveys and/or lack of suitable habitat.

MSHCP Planning Species Documented on or Adjacent to the Site

Burrowing owls (*Athene cunicularia*) [SSC] – The Project Site occurs completely within a predetermined Survey Area for the burrowing owl. Burrowing owl were detected within and adjacent to the Project Site during initial MSHCP focused surveys conducted in 2005 and 2006 by Michael Brandman Associates and CH2M Hill, as shown on Figure 9, *Sensitive Floral and Faunal Species Observations Map*. Updated MSHCP focused burrowing owl surveys were conducted by Cadre Environmental during the summer of 2015 and spring/summer of 2017. No burrowing owl or characteristic sign such as white-wash, feathers, tracks, or pellets were detected within or immediately adjacent to the Project Site during the 2015 or 2017 updated survey efforts.

Incidental MSHCP covered species documented during the habitat assessments and/or focused survey efforts include, white-tailed kite [SSC], loggerhead shrike, turkey vulture, California horned lark [SSC], coyote, and San Diego black-tailed jackrabbit [SSC]. As previously stated, MSHCP has determined that all of these sensitive species documented within the Rancho Diamante Project Site have been adequately covered (MSHCP Table 2-2 Species Considered for Conservation Under the MSHCP Since 1999, 2004).

MSHCP and sensitive species that can be excluded from the Project Site based on the negative results of the 2015-2017 surveys and/or lack of suitable habitat

Sensitive species known to occur within the region, but not documented or expected to breed within or adjacent to the Project Site are presented in Table 7, *Sensitive Wildlife Species with Potential to Occur Onsite*.

Table 7.
Sensitive Wildlife Species with Potential to Occur Onsite.

Species Name (*Scientific Name*) Status	**Habitat Description**	**Comments**
INVERTEBRATES		
Vernal pool fairy shrimp (*Branchinecta lynchi*) FT MSHCP Covered Species	Vernal pool fairy shrimp is restricted to seasonal vernal pools (Eng, Belk, and Eriksen 1990; USFWS 1994). The vernal pool fairy shrimp prefers cool-water pools that have low to moderate dissolved solids, are unpredictable, and often short lived (Eriksen and Belk 1999, MSHCP 2004).	Not expected to occur onsite. Focused wet and dry season surveys in the vernal pools located onsite were conducted with negative results (Helix Environmental Planning, Inc. 2016, 2017)
Riverside fairy shrimp (*Streptocephalus woottoni*) FE MSHCP Covered Species	*S. woottoni* is restricted to deep seasonal vernal pools/ephemeral ponds, and stock ponds and other human modified depressions (Eng, Belk, and Eriksen 1990, USFWS 1993, USFWS 2001). Riverside fairy shrimp prefer warm-water pools that have low to moderate dissolved solids, are less predictable, and remained filled for extended periods of time (Eriksen and Belk 1999, MSHCP 2004).	Not expected to occur onsite. Focused wet and dry season surveys in the vernal pools located onsite were conducted with negative results (Helix Environmental Planning, Inc. 2016, 2017)

Species Name (*Scientific Name*) Status	**Habitat Description**	**Comments**
Quino checkerspot butterfly (*Euphydryas editha quino*) FE MSHCP Covered Species	Quino checkerspot butterfly (QCB) is restricted to low elevation meadow habitats or clearings usually characterized by clay or cryptogamic deposits, inhabited by host plants including *Plantago erecta*, *Plantago patagonica*, *Castilleja exserta,* and *Cordylanthus rigidus*. Adult QCB often occur on open or sparsely vegetated rounded hilltops, ridgelines, and occasionally rocky outcrops. (MSHCP 2004)	Not expected to occur onsite. No suitable host plant located within or adjacent to the Project Site.
AMPHIBIANS		
Western spadefoot (*Spea hammondii*) SSC MSHCP Covered Species	The western spadefoot population is patchily but widely distributed throughout the Riverside Lowlands and San Jacinto Foothills Bioregions. Primary habitat for this species includes suitable breeding habitat below 1500 meters (i.e., vernal pools or other standing water that is free of exotic species) with secondary habitats including adjacent chaparral, sage scrub, grassland, and alluvial scrub habitats. (MSHCP 2004)	Not detected onsite. No suitable aestivation habitat documented onsite. The majority of the site is actively farmed and disked annually. However, in the absence of annual disking and clearing, the infiltration basin and seasonal depressions represent suitable breeding sites.
REPTILES		
Belding's Orange-throated Whiptail (*Aspidoscelis hyperythra beldingi*) SSC MSHCP Covered Species	The Belding's orange-throated whiptail occurs in a wide variety of habitats but is more closely tied to coastal sage scrub and chaparral habitats with less than 90 percent vegetative cover. (MSHCP 2004)	Not expected to occur onsite based on a lack of suitable habitat.

Species Name (*Scientific Name*) Status	**Habitat Description**	**Comments**
Coastal Western Whiptail (*Aspidoscelis tigris stejnegeri*) SSC MSHCP Covered Species	The coastal western whiptail occurs in a wide variety of habitats including coastal sage scrub, desert scrub, Riversidean alluvial fan scrub, woodlands, grasslands, playas, and respective ecotones between these habitats. (MSHCP 2004)	Not expected to occur onsite based on a lack of suitable habitat.
Coast horned lizard (*Phrynosoma blainvillii*) SSC MSHCP Covered Species	The horned lizard occurs primarily in scrub, chaparral, and grassland habitats. The species is common in most areas of the Plan Area except where adjacent to urban situations. (MSHCP 2004)	Not expected to occur onsite based on a lack of suitable habitat.
Red-diamond rattlesnake (*Crotalus ruber*) SSC MSHCP Covered Species	The red-diamond rattlesnake is often found in areas with dense vegetation especially chaparral and sage scrub up to 1,520 meters in elevation. (MSHCP 2004)	Not expected to occur onsite based on a lack of suitable habitat.
Coast patch-nosed snake (*Salvadora hexalepis virgultea*) SSC MSHCP Covered Species	The coast patch-nosed snake prefers brushy coastal sage scrub/ chaparral habitats.	Not expected to occur onsite based on a lack of suitable habitat.
Coastal rosy boa (*Lichanura trivirgata roseofusca*) MSHCP Covered Species	The coastal rosy boa prefers rocky habitats within coastal sage scrub and chaparral habitats.	Not expected to occur onsite based on a lack of suitable habitat.
BIRDS		
Bell's sage sparrow (*Amphispiza belli belli*) SSC MSHCP Covered Species	Bell's sage sparrow is an uncommon to fairly common but localized resident breeder in dry chaparral and coastal sage scrub along the coastal lowlands, inland valleys, and in the lower foothills of local mountains. (MSHCP 2004)	Not expected to occur onsite based on a lack of suitable habitat.

Species Name (*Scientific Name*) Status	**Habitat Description**	**Comments**
Coastal California gnatcatcher (*Polioptila californica californica*) FT/SSC MSHCP Covered Species	The coastal California gnatcatcher is a non-migratory bird species that primarily occurs within sage scrub habitats in coastal southern California dominated by California sagebrush (*Artemisia californica*), and California buckwheat (*Eriogonum fasciculatum*).	Not expected to occur onsite based on a lack of suitable habitat.
Cooper's hawk (*Accipiter cooperii*) SSC MSHCP Covered Species	Cooper's hawk is most commonly found within or adjacent to riparian/oak forest and woodland habitats. This uncommon resident of California increases in numbers during winter migration.	Not detected onsite. The species may occasionally forage onsite. The species has also been documented to breed in mature Eucalyptus trees similar to those documented onsite. A seasonally active red-tailed hawk nest was detected within the onsite Eucalyptus and it is unlikely both species would nest in such close proximity.
Grasshopper sparrow (*Ammodramus savannarum*) MSHCP Covered Species	The grasshopper sparrow generally prefers moderately open grasslands and prairies with patchy bare ground. (MSHCP 2004)	Low potential for seasonal foraging when the Project Site is not being activity farmed.
Least Bell's vireo (*Vireo bellii pusillus*) FE/SE MSHCP Covered Species	Least Bell's vireo resides in riparian habitats with a well-defined understory including southern willow scrub, mule fat, and riparian forest/woodland habitats.	Not detected or expected to breed onsite based on a lack of suitable habitat. The small 0.06 acre of southern willow scrub is not expected to be utilized for breeding.
Loggerhead shrike (*Lanius ludovicianus*) SSC MSHCP Covered *Species*	Loggerhead shrike prefer open ground for foraging and thick trees and shrubs including sage scrub, chaparral, and desert scrub habitats for nesting.	Detected onsite. Not expected to breed onsite based on a lack of suitable nesting habitat.

Species Name (*Scientific Name*) Status	**Habitat Description**	**Comments**
Mountain plover (wintering) (*Charadrius montanus*) FPT/SSC MSHCP Covered Species	The mountain plover is narrowly distributed at relatively few locations within the Plan Area in suitable habitat. The mountain plover uses playas and vernal pool, grassland, and some agriculture habitats during the winter in the Plan Area. Although playa and vernal pool habitat is well identified for the Plan Area, it encompasses a relatively small portion. The remaining habitats, grassland and agriculture land, are well distributed within the Plan Area but the mountain plover uses only a small portion of what is available. (MSHCP 2004)	Low potential to occur onsite based on limited distribution within plan area.
Sharp-shinned hawk (*Accipiter striatus*) SSC MSHCP Covered Species	For the purpose of the conservation analysis, potential habitat for the sharp-shinned hawk includes montane coniferous forest for potential breeding areas (none have been documented) and riparian scrub, woodland, and forest habitat, oak woodland and forest, chaparral, coastal sage scrub, desert scrub, and Riversidean alluvial fan sage scrub for foraging. (MSHCP 2004)	Not expected to occur onsite based on a lack of suitable habitat.

Species Name (*Scientific Name*) Status	**Habitat Description**	**Comments**
Southern California rufous-crowned sparrow (*Aimophila ruficeps canescens*) SSC MSHCP Covered Species	Southern California rufous-crowned sparrow is a non-migratory bird species that primarily occurs within sage scrub and grassland habitats and to a lesser extent chaparral sub-associations (Unitt 2004). This species generally breeds on the ground within grassland and scrub communities in the western and central regions of California.	Not expected to occur onsite based on a lack of suitable habitat.
Southwestern willow flycatcher (*Empidonax traillii extimus*) FE/SE MSHCP Covered Species	The southwestern willow flycatcher is narrowly distributed at few locations within the Plan Area. Although the preferred habitat, riparian woodland and select other forests, is well distributed within all bioregions and spread over the entire Plan Area, few current locations for the willow flycatcher have been documented. (MSHCP 2004)	Not expected to occur or breed onsite based on a lack of suitable habitat.
Turkey vulture (breeding) (*Cathartes aura*) MSHCP Covered Species	The focus of this planning effort is on the nesting of the turkey vulture. There are two recorded nest sites within the Plan Area: Bernasconi Hills near Lake Perris and Rawson Canyon near Lake Skinner. (MSHCP 2004)	Detected onsite. Not expected to breed onsite based on a lack of suitable habitat.
Western yellow-billed cuckoo (*Coccyzus americanus occidentalis*) SE MSHCP Covered Species	Although the preferred habitat, riparian scrub and forest, is well distributed at scattered locations within the Plan Area in the Riverside Lowland Bioregions, the western yellow-billed cuckoo apparently no longer inhabits much of this habitat. (MSHCP 2004)	Not expected to occur or breed onsite based on a lack of suitable habitat.

Species Name (*Scientific Name*) Status	**Habitat Description**	**Comments**
White-faced ibis (*Plegadis chihi*) SSC MSHCP Covered Species	The white-faced ibis is sparsely distributed throughout the Riverside Lowlands Bioregions of the MSHCP Plan Area within its suitable Habitat. It occurs at some of the areas of freshwater marsh habitat but is only documented for breeding at two locations: Prado Basin and Mystic Lake/San Jacinto Wildlife Area. (MSHCP 2004)	Not detected or expected to breed onsite based on a lack of suitable habitat. However, may occasional use man-made drainage ditch and infiltration basin for foraging.
White-tailed kite (*Elanus leucurus*) SFP MSHCP Covered Species	The white-tailed kite is found in riparian, oak woodlands adjacent to large open spaces including grasslands, wetlands, savannahs and agricultural fields. This non-migratory bird species occurs throughout the lower elevations of California and commonly nests in coast live oaks (Unitt 2004).	Detected foraging onsite. Not expected to breed onsite based on a lack of suitable nesting habitat.
Wilson's Warbler (*Cardellina pusilla*) MSHCP Covered Species	The Wilson's warbler has a sparse and widespread distribution within almost every habitat that occurs within the MSHCP Plan Area. few documented records exist for the Wilson's warbler within Plan Area, the literature suggests that the species forages within the Riverside Lowland and Foothills Bioregions of the Plan Area in almost every habitat as a transient in the spring and fall and breeds in Mt. Bioregions in shrub and scrub habitat, wet and montane meadow, and edges of riparian and forested habitats. (MSHCP 2004)	Not expected to breed onsite based on a lack of suitable habitat.

Species Name (*Scientific Name*) Status	**Habitat Description**	**Comments**
Yellow Warbler (*Setophaga petechia*) SSC MSHCP Covered Species	Habitat characteristics of the yellow warbler are well known to include riparian scrub and forest and woodland. (MSHCP 2004)	Not expected to breed onsite based on a lack of suitable habitat
Yellow-breasted Chat (*Icteria virens*) SSC MSHCP Covered Species	The yellow-breasted chat is associated with riparian woodland and riparian scrub habitats. (MSHCP 2004)	Not expected to breed onsite based on a lack of suitable habitat
MAMMALS		
Bobcat (*Lynx rufus*) MSHCP Covered Species	The bobcat requires large expanses of relatively undisturbed brushy and rocky habitats near springs or other perennial water sources.	Not expected to breed onsite based on a lack of suitable habitat
Los Angeles pocket mouse (*Perognathus longimembris brevinasus*) SSC MSHCP Covered Species	The Los Angeles pocket mouse appears to be limited to sparsely vegetated habitat areas in patches of fine sandy soils associated with washes or of aeolian (windblown) origin, such as dunes. (MSHCP 2004)	Not expected to occur onsite based on a lack of suitable habitat
Northwestern San Diego pocket mouse (*Chaetodipus fallax fallax*) SSC MSHCP Covered Species	The northwestern San Diego pocket mouse occurs throughout the Plan Area in coastal sage scrub (including Diegan and Riversidean upland sage scrubs and alluvial fan sage scrub), sage scrub/grassland ecotones, chaparral, and desert scrubs at all elevations up to 6,000 feet. (MSHCP 2004)	Not expected to occur onsite based on a lack of suitable habitat
Stephens' kangaroo rat (Dipodomys stephensi) FE/ST MSHCP Covered Species	The Stephens' kangaroo rat is found almost exclusively in open grasslands or sparse shrublands with cover of less than 50 percent during the summer (MSHCP 2004)	Not expected to occur onsite based on a lack of suitable habitat

Species Name (*Scientific Name*) Status	Habitat Description	Comments
Federal (USFWS) Protection and Classification FE – Federally Endangered FC – Federal Candidate for Listing **State (CDFW) Protection and Classification** SE – State Endangered SSC – State Species of Special Concern CWL – California Watch List SPF – State Fully Protected		

Sources: MBA 2007a, Helix Environmental Planning, Inc. 2018a, Cadre Environmental 2017a.

Critical habitat designations by the USFWS were researched to determine if any of the Project Site is located within USFWS critical habitat. The Project Site does not occur within a designated critical habitat for federally endangered or threatened species.

REGIONAL CONNECTIVITY/WILDLIFE MOVEMENT CORRIDORS

Overview

Wildlife corridors link areas of suitable habitat that are otherwise separated by rugged terrain, changes in vegetation, or human disturbance. The fragmentation of open space areas by urbanization creates isolated "islands" of wildlife habitat. In the absence of habitat linkages that allow movement to adjoining open space areas, various studies have concluded that some wildlife species, especially the larger and more mobile mammals, will not likely persist over time in fragmented or isolated habitat areas because they prohibit the infusion of new individuals and genetic information (MacArthur and Wilson 1967; Soule 1987; Harris and Gallager 1989; Bennett 1990). Corridors effectively act as links between different populations of a species. A group of smaller populations (termed "demes") linked together via a system of corridors is termed a "metapopulation." The long-term health of each deme within the metapopulation is dependent upon its size and the frequency of interchange of individuals (immigration vs. emigration). The smaller the deme, the more important immigration becomes, because prolonged inbreeding with the same individuals can reduce genetic variability. Immigrant individuals that move into the deme from adjoining demes mate with individuals and supply that deme with new genes and gene combinations that increases overall genetic diversity. An increase in a population's genetic variability is generally associated with an increase in a population's health.

Corridors mitigate the effects of habitat fragmentation by:

(1) allowing animals to move between remaining habitats, which allows depleted populations to be replenished and promotes genetic diversity;

(2) providing escape routes from fire, predators, and human disturbances, thus reducing the risk that catastrophic events (such as fires or disease) will result in population or local species extinction; and

(3) serving as travel routes for individual animals as they move within their home ranges in search of food, water, mates, and other needs (Noss 1983; Fahrig and Merriam 1985; Simberloff and Cox 1987; Harris and Gallagher 1989).

Wildlife movement activities usually fall into one of three movement categories: (1) dispersal (e.g., juvenile animals from natal areas, individuals extending range distributions); (2) seasonal migration; and (3) movements related to home range activities (foraging for food or water, defending territories, searching for mates, breeding areas, or cover). A number of terms have been used in various wildlife movement studies, such as "wildlife corridor", "travel route", "habitat linkage", and "wildlife crossing" to refer to areas in which wildlife moves from one area to another. To clarify the meaning of these terms and facilitate the discussion on wildlife movement in this study, these terms are defined as follows:

Travel Route: A landscape feature (such as a ridge line, drainage, canyon, or riparian strip) within a larger natural habitat area that is used frequently by animals to facilitate movement and provide access to necessary resources (e.g., water, food, cover, den sites). The travel route is generally preferred because it provides the least amount of topographic resistance in moving from one area to another; it contains adequate food, water, and/or cover while moving between habitat areas; and provides a relatively direct link between target habitat areas.

Wildlife Corridor: A piece of habitat, usually linear in nature, that connects two or more habitat patches that would otherwise be fragmented or isolated from one another. Wildlife corridors are usually bounded by urban land areas or other areas unsuitable for wildlife. The corridor generally contains suitable cover, food, and/or water to support species and facilitate movement while in the corridor. Larger, landscape-level corridors (often referred to as "habitat or landscape linkages") can provide both transitory and resident habitat for a variety of species.

Wildlife Crossing: A small, narrow area, relatively short in length and generally constricted in nature, that allows wildlife to pass under or through an obstacle or barrier that otherwise hinders or prevents movement. Crossings typically are manmade and include culverts, underpasses, drainage pipes, and tunnels to provide access across or under roads, highways, pipelines, or other physical obstacles. These are often "choke points" along a movement corridor.

Wildlife Movement within Project Site

The Project Site does not represent a regional wildlife movement corridor and provides extremely limited cover, food, and no natural unrestricted water courses that would facilitate regional wildlife movement onsite. The closest regional wildlife movement corridor is located approximately 3,500 ft. south of the Project Site within Salt Creek and immediately north within the Hemet Channel (Constrained Linkage B) as shown in Figure 2, *Project Site Map*.

The Project Site is bordered by the San Diego Aqueduct along the western boundary and existing residential development and Warren Road along the eastern boundary.

Hemet Channel is located adjacent to the northern boundary and is expected to be utilized for local and regional movement. As stated by MBA:

> "*This linkage provides habitat and movement for species from the Hemet area in the east, through the central region of the MSHCP Area, to Canyon Lake in the west. This Linkage is constrained by existing urban and agriculture along both the northern and southern edges of the Linkage*." (MBA 2007a)

Potential edge effects to Constrained Linkage B (Hemet Channel) will be addressed by implementing all MSHCP Urban Wildlife Interface Guidelines as presented below.

The Project Site is not located within a MSHCP designated core, extension of existing core, non-contiguous habitat block, constrained linkage, or linkage area.

The proposed storm drain facilities will be located partially within an area designated as Public/Quasi-Public (PQP) in Hemet Channel, the facilities will not impede or conflict with the conservation value of channel as a drainage facility and wildlife movement corridor. Therefore, no PQP replacement is necessary.

REGIONAL AND REGULATORY SETTING

LOCAL

Western Riverside County Multiple Species Habitat Conservation Plan Consistency Analysis

The proposed Project Site is located completely within the MSHCP, which is a comprehensive multi-jurisdictional effort that includes western Riverside County and eighteen (18) cities including the City of Hemet. Rather than addressing sensitive species on an individual basis, the MSHCP focuses on conservation of 146 species, including those listed at the federal and state levels and those that could become listed in the future. The MSHCP proposed a reserve system of approximate 500,000 acres, of which 347,000 acres are currently within public ownership and 153,000 acres will need to be assembled from lands currently in private ownership. The MHSCP allows the County and other permittees (including the City of Hemet) to issue take permits for listed species so that applicants do not need to receive endangered species incidental take authorization from the USFWS and CDFW.

On June 7th, 2003, the County Board of Supervisors adopted the MSHCP, certified the Environmental Impact Report/Environmental Impact Statement, and authorized the Chairman to sign the Implementing Agreement with the respective wildlife agencies. The Incidental Take Permit was issued by the wildlife agencies on June 22nd, 2004. The City of Hemet is a Permittee under the MSHCP.

MSHCP Reserve Design & Criteria Area Objectives

Regions of the MHSCP have been organized into Area Plans that generally coincide with logical political boundaries, including city limits or long-standing unincorporated

communities. Both the Rancho Diamante parcel and offsite impact areas are located within the San Jacinto Valley Area Plan, which encompasses the San Jacinto and Hemet City limits and surrounding unincorporated communities. The San Jacinto Valley Area Plan has a target conservation acreage of 11,540 to 19,465 acres, of which 620 to 1,000 acres are intended to be within the City boundaries.

The Project Site is located completely within the MSHCP San Jacinto Valley Area Plan, Subunit 4, Hemet Vernal Pool Areas East. Target conservation acreage within Subunit 4 is 940 to 1,445 acres. Planning species for Subunit 4 include burrowing owl, mountain plover, vernal pool fairy shrimp, California Orcutt's grass, Davidson's saltscale, little mousetail, spreading navarretia, thread-leaved brodiaea, and vernal barley. As stated by the MSHCP:

> "*Conservation within this Cell Group will contribute to assembly of Proposed Noncontiguous Habitat Block 7. Conservation within this Cell Group will focus on playas/vernal pool habitat and agricultural land. Areas conserved within this Cell Group will be connected to playas/vernal pool habitat proposed for conservation in Cell #3793 to the east, in Cell #3891 and #3892 to the south and in Cell #3684 and #3791 both in the Harvest Valley/Winchester Area Plan to the west. Conservation within this Cell Group will range from 70%-80% of the Cell Group focusing in the central portion of the Cell Group".* (MSHCP 2004)
>
> *"Conservation within the Southwest Area Plan Cell Group S will contribute to the assembly of Proposed Extension of Existing Core 7, Proposed Constrained Linkage 17 and Proposed Constrained Linkage 18 including focus on the conservation on chaparral, coastal sage scrub, grassland, riparian scrub, woodland, and forest habitats*." (MSHCP 2004)

Biological issues and considerations for Subunit 4 are as follows.

- Conserve alkali soils supporting California Orcutt grass, Davidson's saltscale, little mousetail, spreading navarretia, thread-leaved brodiaea, and vernal barley;
- Conserve existing vernal pool complexes;
- Maintain vernal pool hydrology; and
- Conserve grassland habitat for wintering mountain plover and burrowing owl.

A 62.75-acre portion of the Project Site is located within Criteria Cell 4007 and 20.23-acre portion is located within Criteria Cell 3892 (SU4 Hemet Vernal Pool Areas East) as illustrated in Figure 2, *Project Site Map*.

Criteria Cell 3892 - SU4 Hemet Vernal Pool Areas East

As stated by the MSHCP:

> "*Conservation within this Cell will contribute to assembly of Proposed Noncontiguous Habitat Block 7. Conservation within this Cell will focus on playas/vernal pool habitat and agricultural land. Areas conserved within*

this Cell will be connected to playas/vernal pool habitat proposed for conservation in Cell Group D' to the north and in Cell #3891 to the west. Conservation within this Cell will range from 75%-85% of the Cell focusing in the northwestern portion of the Cell." (MSHCP 2004)

A 20.23-acre portion of the Project Site is located within the extreme southeastern region of Criteria Cell 3892. The southeastern region of Criteria Cell 3892 (where no conservation is identified) is separated hydrologically from the northwestern portion of the Cell (Proposed Noncontiguous Habitat Block 7) by the Hemet Channel (Constrained Linkage B). No conservation within Criteria Cell 3892 is proposed or identified by the MSHCP criteria for the region located within the Project Site. The project is consistent with conservation goals identified for Criteria Cell 3892 – SU4 Hemet Vernal Pool Areas East.

The offsite realignment of Warren Road extending north of the Project Site extends into Criteria Cell 3892. Impacts and MSHCP consistency associated with the realignment of Warren Road will be addressed in a MSHCP minor amendment.

Criteria Cell 4007 - SU4 Hemet Vernal Pool Areas East

As stated by the MSHCP:

"*Conservation within this Cell will contribute to assembly of Proposed Noncontiguous Habitat Block 7. Conservation within this Cell will focus on playas/vernal pool habitat. Areas conserved within this Cell will be connected to playas/vernal pool habitat proposed for conservation in Cell #3891 to the north and in Cell #4007 in the Harvest Valley/Winchester Area Plan to the west. Conservation within this Cell will be approximately 5% of the Cell focusing in the northern portion of the Cell*." (MSHCP 2004)

A 62.75-acre portion of the Project Site is located within the southeastern region of Criteria Cell 4007. The southeastern region of Criteria Cell 4007 (where no conservation is identified) is separated hydrologically from the northern portion of the Cell (Proposed Noncontiguous Habitat Block 7) where conservation is identified. No conservation within Criteria Cell 4007 is proposed or identified by the MSHCP criteria for the region located within the Project Site. The project is consistent with conservation goals identified for Criteria Cell 4007 – SU4 Hemet Vernal Pool Areas East.

The Project will be required to be reviewed through the Habitat Acquisition and Negotiation Strategy (HANS) and the Regional Conservation Authority Joint Project Review (JPR) process.

MSHCP Sensitive Species Surveys

Smooth tarplant remains the only MSHCP criteria area sensitive plant documented onsite. Approximately one-hundred ninety (190) plants have been documented within the offsite region of the Project Site extending south from the southwest corner to

Simpson Road, as shown in Figure 9, *Sensitive Floral and Faunal Species Observation Map*. This small population is located within habitat characterized as agricultural land – field croplands.

The limited distribution of this species offsite is not expected to have long-term conservation value and no additional mitigation obligations specific to this species is expected. The project is consistent with MSHCP Section 6.3.2.

No MSHCP narrow endemic plant species have been documented within the Project Site. The project is consistent with MSHCP Section 6.1.3.

The Project Site is not located within an MSHCP Amphibian or Mammal Species Survey Area; therefore, no surveys were required (RCA GIS Data Downloads 2018). The project is consistent with MSHCP Section 6.3.2.

No burrowing owls were detected within the Project Site during focused MSHCP surveys conducted in 2015 and 2017. The MSHCP states:

> "*If the site (including adjacent areas) support three or more pairs of burrowing owls and supports greater than 35 acres of suitable habitat and is non-contiguous with MSHCP Conservation areas lands, at least 90 percent of the areas within long-term conservation value and burrowing owl pairs will be conserved onsite*" (MSHCP 2004)

Burrowing owl were detected within and adjacent to the Project Site during initial MSHCP focused surveys conducted in 2005 and 2006 by Michael Brandman Associates and CH2M Hill, as shown on Figure 9, *Sensitive Floral and Faunal Species Observations Map*. Results of the initial burrowing owl surveys conducted during the 2005 and 2006 did not meet the MSHCP requirements of three (3) or more pairs for a site requiring onsite conservation.

Regardless, at a minimum, a 30-day preconstruction survey will be conducted immediately prior to the initiation of construction to ensure protection for this species and compliance with the conservation goals as outlined in the MSHCP. If burrowing owls are detected onsite during the 30-day preconstruction survey, a burrowing owl relocation plan will be developed for the passive/active translocation of individuals to RCA conserved lands located north of the Project Site within Proposed Noncontiguous Habitat Block 7. The project is consistent with MSHCP Section 6.3.2.

Regulated activities within inland streams, wetlands and riparian areas in Western Riverside County California fall under the jurisdiction of the MSHCP. The MSHCP requires, among other things, assessments for riparian/riverine and vernal pool resources. As projects are proposed within the MSHCP Plan Area, an assessment of the potentially significant effects of those projects on riparian/riverine areas, and vernal pools are required, as currently mandated by CEQA, using available information augmented by project-specific mapping provided to and reviewed by the permittee's biologist(s). Riparian/riverine areas and vernal pools are defined for this section as follows in accordance with Section 6.1.2, Vol. I, of the Final MSHCP Plan:

> "*Riparian/Riverine Areas are 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 fresh water flow during all or a portion of the year*." (MSHCP 2004)

It is assumed the first part of the definition defines riparian habitat, and the second part defines riverine areas. Vernal pools are defined as:

> "…*seasonal wetlands that occur in depression areas that have wetlands indicators of all three parameters (soils, vegetation and hydrology) during the wetter portion of the growing season but normally lack wetlands indicators of hydrology and/or vegetation during the drier portion of the growing season. Obligate hydrophytes and facultative wetlands plant species are normally dominant during the wetter portion of the growing season, while upland species (annuals) may be dominant during the drier portion of the growing season*". (MSHCP 2004)

As depicted on Figure 8, *Jurisdictional Resources Map*, and tabulated in Table 3, *Jurisdictional Resource Acreages,* riparian and riverine resources characterized and regulated by MSHCP Section 6.1.2 include 16.05-acres of mulefat scrub, southern willow scrub, tamarisk scrub, and understory herbaceous and disturbed wetland that has established within the onsite man-made channel and basin. Unvegetated streambed resources meeting MSHCP 6.1.2 jurisdiction also include non-wetland and non-riparian streambed and bank associated with the Hemet Channel and portions of the onsite man-made channel and basin. A Determination of Biological Equivalent or Superior Preservation (DBESP) will be prepared to ensure replacement of any lost functions and values of habitat as it relates to MSHCP riparian, riverine and covered species.

No riparian habitat suitable for the least Bell's vireo, southwestern willow flycatcher or western yellow-billed cuckoo breeding is present within or adjacent to the Project Site. The project is consistent with MSHCP Section 6.1.2.

No sensitive fairy shrimp were detected onsite during focused USFWS protocol dry and wet season sampling conducted in 2016 and 2017 (Helix Environmental Planning, Inc. 2016, 2017). No resources characterized as MSHCP vernal pool were documented onsite. As stated by Helix Environmental Planning:

> "*Based on the data reviewed, some non-jurisdictional features become saturated and/or inundated infrequently and during good rainfall years, such as 2011 and 2017. The extent and duration of saturation and inundation during these years is unknown, but based on the vegetation and soils composition, and the very low density and species of fairy shrimp cysts found, the duration is expected to be short-lived and not long enough to promote wetland or season wetland conditions, such as that which would be associated with vernal pools. The areas subject to infrequent saturation and inundation are a result of their low-lying landscape position and location along the northeast-southwest trending*

slope that defines the site. No evidence of a restrictive layer was found during soil boring, although some soils above 15 feet and below 20 feet have clayey sand components, and silty clay was encountered between 15 and 20 feet. This suggests water percolates throughout the site and flows beneath the surface, generally from northeast to southwest. (Helix Environmental Planning, Inc. 2018a).

The fuels management guidelines presented in Section 6.4 of the MSHCP are intended to address brush management activities around new development within or adjacent to MSHCP Conservation Areas. The final project design will ensure that no fuel modification will extend into the Hemet Channel (PQP Conserved Land). The reach of Hemet Channel located immediately north of the Project Site is generally devoid of vegetation. The project is consistent with MSHCP Section 6.4.

Stephens' Kangaroo Rat Habitat Conservation Plan

The Project Site is located completely within the SKR HCP fee area which is administered by the Riverside County Habitat Conservation Agency (RCHCA). The SKR fee is established at $500 per acre. As stated by the City of Hemet:

"*The SKR HCP mitigates impacts on the SKR caused by development by establishing a network of preserves and a system of managing and monitoring them*." (City of Hemet 2012)

City of Hemet General Plan – Open Space and Conservation

As outlined below, the City of Hemet's General Open Space and Conservation (Chapter 7) Plan Goals and Polices for the preservation and protection of critical open space and natural resources have been incorporated into the project design and mitigation approach.

"*OS-1.1 Development Proposals* *Require development proposals to identify significant biological resources and to provide mitigation, including the use of adequate buffering and sensitive site planning techniques, selective preservation, provision of replacement habitats, and other appropriate measures as may be identified in habitat conservation plans or best practices related to particular resources*." (City of Hemet 2012)

Interagency meetings have been conducted with the RCA, wildlife, jurisdictional agencies and the City of Hemet to ensure that all project elements including proposed onsite and offsite mitigation are consistent with the provisions and goals of the MSHCP.

"*OS-1.2 Vernal Pools* *Preserve the integrity of the vernal pool complex by ensuring adequate hydration, providing appropriate conservation buffers, and the preservation of native plants, in accordance with the requirements of the MSHCP*." (City of Hemet 2012)

No vernal pools were documented onsite Helix Environmental Planning, Inc. 2018a).

> "***OS-1.3 Wetland Habitats*** *Require project applicants to conserve wetland habitats along the San Jacinto River, the Upper Salt Creek watershed, and elsewhere as identified where conservation serves to maintain watershed processes that enhance water quality and contribute to the hydrologic regime, and comply with Clean Water Act (CWA) Section 404. Identify and, to the maximum extent possible, conserve remaining upland habitat areas adjacent to wetland and riparian areas that are critical to the feeding, hibernation, or nesting of wildlife species associated with these wetland and riparian areas*." (City of Hemet 2012)

Interagency meetings have been conducted with the RCA, wildlife, jurisdictional agencies and the City of Hemet to ensure that all project elements including proposed onsite and offsite mitigation for impacts to resources regulated by the CWA and MSHCP 6.1.2 are consistent with the provisions and goals of the MSHCP.

> "***OS-1.4 Resource Protection in Development Design*** *Require appropriate resource protection measures to be incorporated within specific plans and subsequent development proposals. Such requirements may include the preparation of a vegetation management program that addresses landscape maintenance, fuel modification zones, management of passive open space areas, provision of corridor connections for wildlife movement, conservation of water courses, rehabilitation of biological resources displaced in the planning process, and use of project design, engineering, and construction practices that minimize impacts on sensitive species, MSHCP conservation areas, and designated critical habitats*." (City of Hemet 2012)

Interagency meetings have been conducted with the RCA, wildlife, jurisdictional agencies and the City of Hemet to ensure that all project elements including proposed onsite and offsite mitigation are consistent with the provisions and goals of the MSHCP.

> "***OS-1.5 Restriction of Use*** *As needed to protect resources, limit recreational use in open space areas where sensitive biological resources exist*." (City of Hemet 2012)

Interagency meetings have been conducted with the RCA, wildlife, jurisdictional agencies and the City of Hemet to ensure that all project elements including proposed onsite and offsite mitigation are consistent with the provisions and goals of the MSHCP.

> "***OS-1.6 Habitat Conservation Plans*** *Coordinate with Riverside County and other relevant agencies to implement the Western Riverside County MSHCP, the SKR HCP, and any other applicable habitat plan*." (City of Hemet 2012)

Interagency meetings have been conducted with the RCA, wildlife, jurisdictional agencies and the City of Hemet to ensure that all project elements including proposed onsite and offsite mitigation are consistent with the provisions and goals of the MSHCP.

> **"*OS-1.7 Wildlife Movement Corridor*** *Continue efforts to establish a wildlife movement corridor in areas such as the San Jacinto River corridor, Santa Rosa Hills, Lakeview Mountains, and the open space areas surrounding Diamond Valley Lake. As applicable, new development in these areas shall incorporate such corridors. To minimize impediments to riparian wildlife movement, new roadways over ravines, arroyos, and drainages shall maintain wildlife corridors by incorporating bridges or culverts, where practical*." (City of Hemet 2012)

Interagency meetings have been conducted with the RCA, wildlife, jurisdictional agencies and the City of Hemet to ensure that all project elements including proposed onsite and offsite mitigation are consistent with the provisions and goals of the MSHCP. The Project Site does not represent a wildlife movement corridor. Proposed modification to Hemet Channel (offsite assessment area) will not result in direct or indirect impacts to movement adjacent to the Project Site.

> **"*OS-1.8 Local Resource Preservation*** *Maintain and enhance the natural resources of the Santa Rosa Hills, Tres Cerritos Hills, Salt Creek, Bautista Canyon, San Jacinto River/Bautista Creek, Reinhardt Canyon, Lakeview Mountains, Diamond Valley Lake, and all other waterways, ecosystems, and critical vegetation to ensure the long-term viability of habitat, wildlife, and wildlife movement corridors*." (City of Hemet 2012)

Interagency meetings have been conducted with the RCA, wildlife, jurisdictional agencies and the City of Hemet to ensure that all project elements including proposed onsite and offsite mitigation are consistent with the provisions and goals of the MSHCP.

> **"*OS-1.9 Partnerships*** *Support efforts of local, state, and federal agencies and private conservation organizations to preserve, protect, and enhance identified open spaces and natural resources*." (City of Hemet 2012)

Interagency meetings have been conducted with the RCA, wildlife, jurisdictional agencies and the City of Hemet to ensure that all project elements including proposed onsite and offsite mitigation are consistent with the provisions and goals of the MSHCP.

FEDERAL

Federal Endangered Species Act

The MSHCP serves as an HCP pursuant to Section 10(a)(1)(B) of the FESA of 1973, allowing participating jurisdictions to authorize "*take*" of plant and wildlife species. The MSHCP has been issued under this Section and provides incidental take for all covered species.

Clean Water Act

The USACE Regulatory Program regulates activities pursuant to Section 404 of the federal CWA.

Although not expressly defined it is assumed that the USACE Manual (Environmental Laboratory 1987) for delineating wetlands should be used in determining the presence of wetland indicators in vernal pools. With the exception of wetlands created for the purpose of providing wetlands habitat or resulting from human actions to create open waters or from the alteration of natural stream courses, areas demonstrating characteristics as described above which are artificially created are not included in these definitions.

As stated by the USACE: “(a) The term *waters of the United States* means, (1) all waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide; (2) all interstate waters including interstate wetlands; and (3) all other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, the use, degradation or destruction of which could affect interstate or foreign commerce including any such waters” (33 C.F.R. § 328.3).

The USACE generally takes jurisdiction within rivers and streams to the "ordinary high water mark," determined by erosion, the deposition of vegetation or debris, and changes in vegetation or soil characteristics (33 C.F.R. § 328.4). However, if there is no federal nexus to navigable waters, these waters are considered "isolated" and thus not subject to their jurisdiction.

Migratory Bird Treaty and Bald and Golden Eagle Protection Acts

Migratory birds including resident raptors and passerines are protected under the federal MBTA. The MBTA of 1918 implemented the 1916 convention between the United States and Great Britain for the protection of birds migrating between the U.S. and Canada. Similar conventions between the United States and Mexico (1936), Japan (1972) and the Union of Soviet Socialists Republics (1976) further expanded the scope of international protection of migratory birds. Each new treaty has been incorporated into the MBTA as an amendment and the provisions of the new treaty are implemented domestically. These four treaties and their enabling legislation, the MBTA, established Federal responsibilities for the protection of nearly all species of birds, their eggs and nests.

The MBTA made it illegal for people to "take" migratory birds, their eggs, feathers or nests. Take is defined in the MBTA to include by any means or in any manner, any attempt at hunting, pursuing, wounding, killing, possessing or transporting any migratory bird, nest, egg, or part thereof. The Bald and Golden Eagle Protection Act affords additional protection to all bald and golden eagles.

STATE

California Endangered Species Act

The CESA is similar to FESA in that it contains a process for listing of species regulating potential impacts to listed species. Section 2081 of the CESA authorizes the CDFW to enter into a memorandum of agreement for take of listed species for scientific,

educational, or management purposes. The MSHCP serves as an HCP pursuant the Natural Communities Conservation Plan (NCCP) under the NCCP Act of 2001, allowing participating jurisdictions to authorize "*Take*" of plant and wildlife species.

As stated by CDFW:

> "*On June 22, 2004, the Department issued NCCP Approval and Take Authorization for the Western Riverside County MSCHP per Section 2800 et seq. of the California Fish and Game Code. The MSHCP establishes a multiple species conservation program to minimize and mitigate habitat loss and the incidental take of covered species in association with activities covered under the permit*." (CDFG 2004)

Native Plant Protection Act

The Native Plant Protection Act (NPPA) enacted a process by which plants are listed as rare or endangered. The NPPA regulates collection, transport, and commerce in plants that are listed. The CESA follows the NPPA and covers both plants and wildlife determined to be threatened with extinction or endangered. Plants listed as rare under the NPPA are designated as threated under the CESA. No plants listed under the CESA occur on the Project Site onsite or offsite impact areas.

Porter-Cologne Water Quality Control Act

The RWQCB regulates activities pursuant to Section 401 of the federal CWA and the California Porter-Cologne Water Quality Control Act of 1969 (California Water Code).

The RWQCB regulates activities pursuant to Section 401(a)(1) of the federal CWA as well as the Porter Cologne Act (Water Code section 13260). Section 401 of the CWA specifies that certification from the State is required for any applicant requesting a federal license or permit to conduct any activity including but not limited to the construction or operation of facilities that may result in any discharge into navigable waters. The certification shall originate from the State in which the discharge originates or will originate, or, if appropriate, from the interstate water pollution control agency having jurisdiction over the navigable water at the point where the discharge originates or will originate. Any such discharge will comply with the applicable provisions of Sections 301, 302, 303, 306, and 307 of the CWA. The Porter Cologne Act requires "any person discharging waste, or proposing to discharge waste, within any region that could affect the waters of the state to file a report of discharge (an application for waste discharge requirements (WDRs))" (Water Code § 13260(a)(1)). Discharge of fill material into "waters" of the State which does not fall under the jurisdiction of the USACE pursuant to Section 404 of the CWA may require authorization through application for WDRs or through waiver of WDRs

Streambed Alteration Agreement

The CDFW regulates activities within streambeds, lakes, and wetlands pursuant to Division 2, Chapter 6, Section 1600 of the California Fish and Game Code (Streambed Alteration) and has jurisdiction of "waters" of the State. Regulated activities are those

that "will substantially divert, obstruct, or substantially change the natural flow or bed, channel or bank of any river, stream, or lake or extends to the limit of the adjacent riparian vegetation designated by the department in which there is at any time an existing fish or wildlife resource or from which these resources derive benefit." (California. Fish & Wildlife Code, § 1602).

ENVIRONMENTAL IMPACTS

The following sections include an analysis of the direct impacts, indirect impacts, and cumulative effects of the proposed action on sensitive biological resources. This analysis characterizes the project related activities that are anticipated to adversely impact the species, and when feasible, quantifies such impacts. Direct effects are defined as actions that may cause an immediate effect on the species or its habitat, including the effects of interrelated actions and interdependent actions. Indirect effects are caused by or result from the proposed actions, are later in time, and are reasonably certain to occur. Indirect effects may occur outside of the area directly affected by the proposed action.

Cumulative impacts refer to incremental, individual environmental effects of two or more projects when considered together. These impacts taken individually may be minor but may be collectively significant. Cumulative effects include future tribal, local, or private actions that are reasonably certain to occur in the proposal vicinity considered in this report. A cumulative impact to biological resources may occur if a project has the potential to collectively degrade the quality of the environment, substantially reduce the habitat of wildlife species or cause a population to drop below self-sustaining levels, thereby threatening to eliminate a plant or animal community, or reduce the number or restrict the range of a rare or endangered plant or animal species.

THRESHOLD OF SIGNIFICANCE

The environmental impacts relative to biological resources are assessed using impact significance criteria which mirror the policy statement contained in the CEQA at Section 21001 (c) of the Public Resources Code. This section reflects that the legislature has established it to be the policy of the state to:

> "*Prevent the elimination of fish and wildlife species due to man's activities, ensure that fish and wildlife populations do not drop below self-perpetuating levels, and preserve for future generations representations of all plant and animal communities*…"

The following definitions apply to the significance criteria for biological resources:

- "*Endangered*" means that the species is listed as endangered under state or federal law.

- "*Threatened*" means that the species is listed as threatened under state or federal law.

- "*Rare*" means that the species exists in such small numbers throughout all or a significant portion of its range that it may become endangered if its environment worsens.

- "*Region*" refers to the area within southern California that is within the range of the individual species.

- "*Sensitive habitat*" refers to habitat for plants and animals (1) which plays a special role in perpetuating species utilizing the habitat on the property, and (2) without which there would be substantial danger that the population of that species would drop below self-perpetuating levels.

- "*Substantial effect*" means significance loss or harm of a magnitude which, based on current scientific data and knowledge, (1) would cause a species or a native plant or animal community to drop below self-perpetuating levels on a statewide or regional basis or (2) would cause a species to become threatened or endangered.

Impacts to biological resources may result in a significant adverse impact if one or more of the following conditions would result from implementation of the proposed project.

- Have a substantial adverse effect, either directly or through habitat modification, on any endangered, or threatened species, as listed in Tittle 14 of the California Code of Regulations (Sections 670.2 or 670.5) or Title 50, Code of Federal Regulations (Sections 17.11 or 17.12).

- Have a substantial adverse effect, either directly or through habitat modification, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS, and meets the definition of Section 15380 (b), (c), or (d) of the CEQA Guidelines.

- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the CDFW or USFWS.

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

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

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

- Conflict with the provisions of an adopted HCP, NCCP, or other approved local, regional, or state conservation plan.

Also, the determination of impacts has been made according to the federal definition of "*take*". The federal FESA prohibits the "*taking*" of a member of an endangered or threatened wildlife species or removing, damaging, or destroying a listed plant species by any person (including private individuals and private or government entities). The FESA defines "*take*" as "*to harass, harm, pursue, hunt, shoot, would, kill, trap, capture or collect*" an endangered or threatened species, or to attempt to engage in these activities.

DIRECT IMPACTS

Vegetation Communities

A total of 213.43 acres of vegetation communities including 8.25 acres of offsite impacts will be directly impacted as a result of project implementation. Specifically, a total of 220.05 acres of permanent impacts and 1.63 acre of temporary impacts to vegetation communities will result from project implementation as summarized in Table 8, *Vegetation Community Impacts,* and illustrated on Figure 10*, Vegetation Communities Impact Map*. Offsite impacts include construction of water and reclaimed water pipelines, drainage conveyance features south of the project and north toward Hemet Channel, and realignment of Warren Road including accommodations for future realignment of Stetson Avenue and its intersection with Warren Road at the northeast corner of the Project Site. Direct impacts to field croplands, Eucalyptus woodland, disturbed and developed habitats would not result in significant impacts. However, impacts to resources and habitats regulated by the CDFW and MSHCP 6.1.2 would be considered significant under CEQA. Impacts to all vegetation communities located within the Project Site will be mitigated to a level of less than significant by implementing Biological Mitigation Measures (BIO-MM1, BIO-MM5, and BIO-MM6)

Table 8 - Vegetation Community Impacts

*Vegetation Type	Acreage (onsite)	Acres (offsite)	Permanent Impacts Acres (total)	Temporary Impacts Acres (total)
Agriculture Land – Field Croplands	214.55	10.74	202.90	0.19
Seasonal Depressions	12.93	--	12.26	--
Unvegetated Streambed	6.57	6.61	0.07	0.69
Disturbed Wetland	3.42	--	--	0.03
Eucalyptus Woodland	2.94	--	2.93	--
Tamarisk Scrub	0.61	--	--	0.19
Mulefat Scrub	0.48	--	0.02	0.37
Herbaceous Wetland	0.31	--	--	0.13
Southern Willow Scrub	0.06	--	--	0.01
Disturbed	1.02	3.12	0.82	0.02
Developed	2.18	1.01	1.05	--
TOTALS	**245.07**	**21.48**	**220.05**	**1.63**

**Source: Cadre Environmental 2015, Helix Environmental Planning Inc., 2018a.*

Jurisdictional Resources

USACE Jurisdiction - A total of less than 0.01 acre (0.00006 acre) (5 linear feet) of permanent impacts and less than 0.01 acre (0.003 acre) (30 linear feet) of temporary

impacts to non-wetland waters of the U.S would result from project initiation (Helix Environmental Planning Inc. 2018a).

RWQCB Jurisdiction - A total of 0.01 acre (5 linear feet) of permanent impacts and less than 0.01 acre (80 linear feet) of temporary impacts to non-wetland waters of the State, in addition to 0.01 acre (53 linear feet) of permanent impacts and 0.50 acre (2,783 linear feet) of temporary impacts to wetland waters of the State would result from project initiation (Helix Environmental Planning Inc. 2018a).

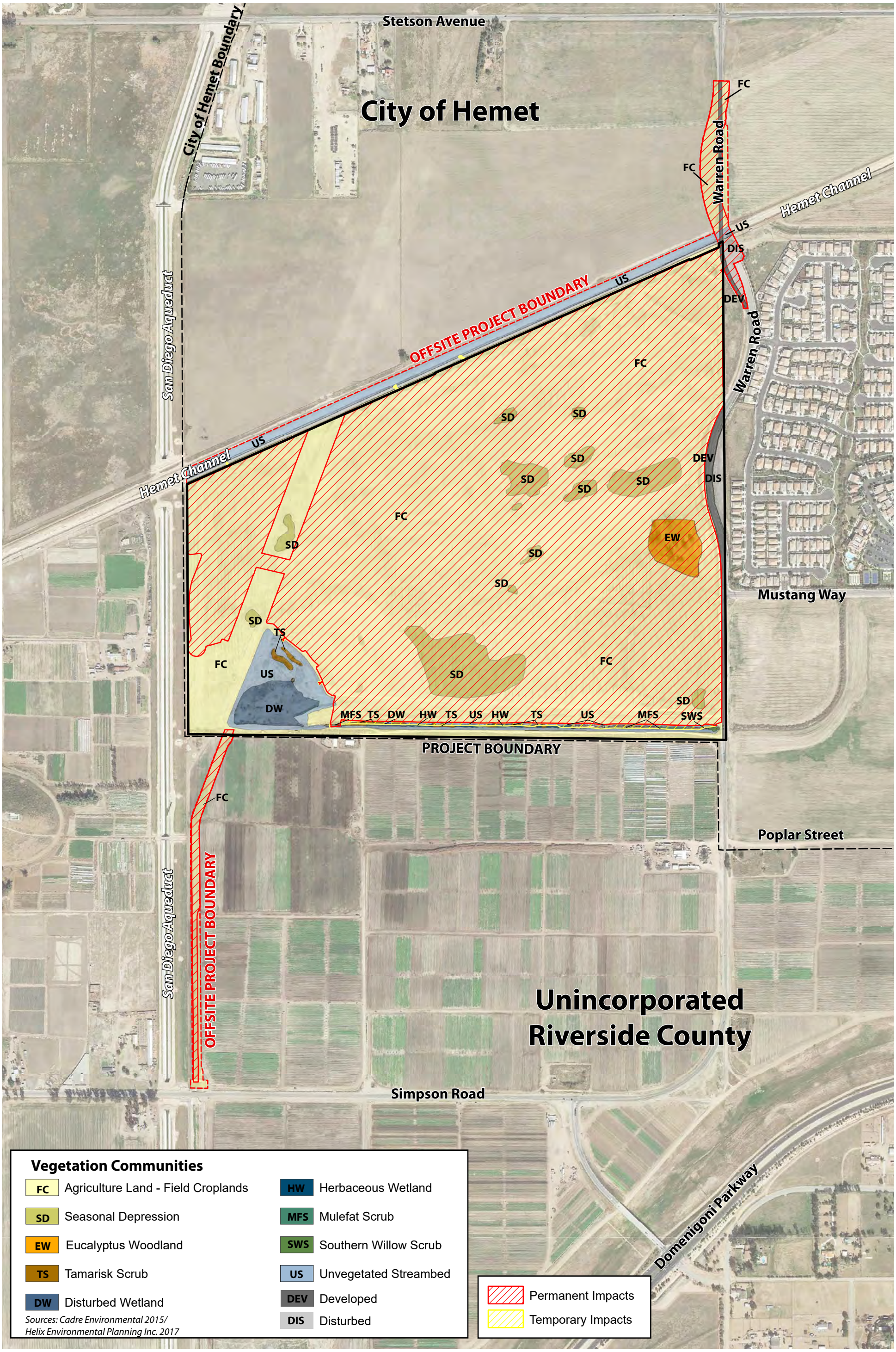
CDFW/MSHCP 6.1.2 Jurisdiction – A total of 0.02 acre of permanent and 0.74 acre of temporary impact on riparian-vegetated streambed/basin, and 0.06 acre of permanent and 0.70 acre of temporary impact on unvegetated streambed would result from project initiation (Helix Environmental Planning Inc. 2018a).

A total of 1.52 acres of permanent/temporary impacts to jurisdictional resources regulated by USACE, CDFW, RWQCB, and MSHCP Section 6.1.2 will occur as a result of project initiation as summarized in Table 9, *Jurisdictional Resources Impacts,* and illustrated on Figure 11*, Jurisdictional Resources Impact Map*. These impacts are considered to be significant. Impacts to regulated resources located within the Project Site will be mitigated to a level of less than significant by implementing Biological Mitigation Measures (BIO- BIO-MM5 and BIO-MM6)

Table 9.
Jurisdictional Resources Impacts

JURISDICTIONAL RESOURCES	EXISTING Acres[1] (Linear Feet)	IMPACTS Acres[1] (Linear Feet)	
		Temporary	Permanent
USACE Jurisdiction			
Non-Wetland Waters (Hemet Channel)	1.77 (4,290)	<0.01 (30)	<0.01 (5)
TOTAL	**1.77 (4,290)**	**<0.01 (30)**	**<0.01 (5)**
RWQCB Jurisdiction			
Non-Wetland Waters (Hemet Channel)	1.77 (4,290)	<0.01 (30)	<0.01 (5)
Isolated Non-Wetland Waters (Man-made Channel)	0.11 (3,025)	<0.01 (50)	--
Isolated Wetland Waters (Man-made Channel and Basin)	4.09 (377)	0.50 (2,783)	0.01 (53)
TOTAL	**10.46 (7,692)**	**0.51 (2,863)**	**0.01 (58)**
CDFW Jurisdiction & MSHCP Riparian/Riverine Areas (Section 6.1.2)			
Riparian Habitat			
Disturbed Wetland	3.42	0.04	--
Herbaceous Wetland	0.31	0.13	--
Mule Fat Scrub	0.39	0.37	0.02
Southern Willow Scrub	0.06	0.01	<0.01
Tamarisk Scrub	0.61	0.19	<0.01
Subtotal	4.87	0.74	0.02
Unvegetated Streambed			
Unvegetated Streambed	11.18	0.70	0.06
Subtotal	11.18	0.70	0.06
TOTAL	**16.05**	**1.44**	**0.08**

Source: Helix Environmental Planning Inc. 2018a.



APNs 465-100-016, 465-100-022, 465-110-020, 021, 022, 023, and 027. Offsite APNs Portions of 465-120-019, 021, 465-130-016, 017, 465-100-018, and 032.

Figure 10 - Vegetation Communities Impact Map

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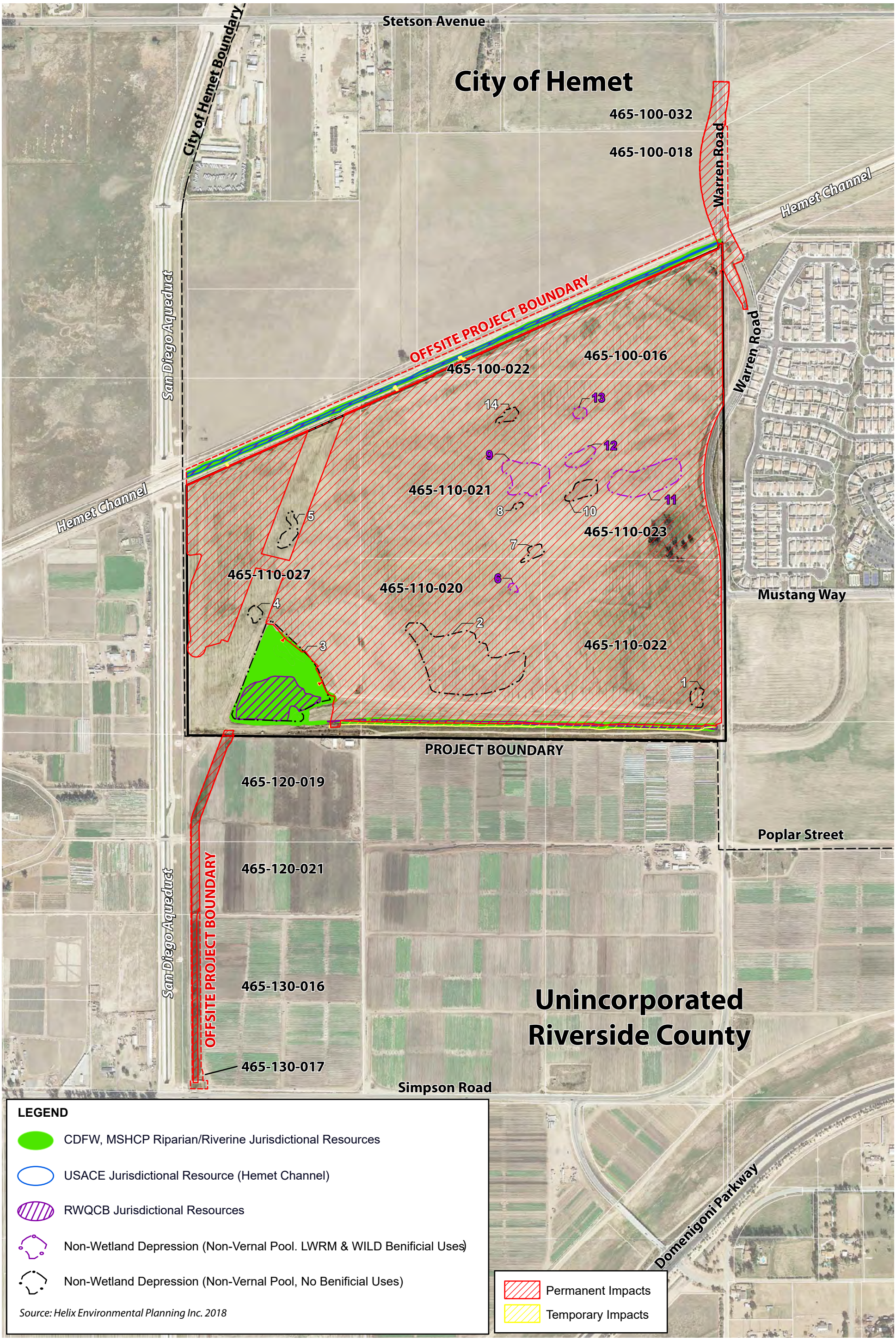
CADRE Environmental



APNs 465-100-016, 465-100-022, 465-110-020, 021, 022, 023, and 027. Offsite APNs Portions of 465-120-019, 021, 465-130-016, 017, 465-100-018, and 032.

Figure 11 - Jurisdictional Resources Impact Map
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CADRE Environmental

Sensitive Plants

The proposed project would not impact any federal/state threatened or endangered plant species.

Smooth tarplant remains the only MSHCP criteria area sensitive plant documented onsite. Approximately one-hundred ninety (190) plants have been documented within offsite region of the Project Site extending south from the southwest corner extending to Simpson Road, as shown in Figure 9, *Sensitive Floral and Faunal Species Observation Map*. This small population is located within habitat characterized as agricultural land – field croplands.

The limited distribution of this species offsite is not expected to have long-term conservation value and no additional mitigation obligations specific to this species is expected. The project is consistent with MSHCP Section 6.3.2.

Sensitive Wildlife

The proposed project would not impact any federal/state threatened or endangered wildlife species.

No burrowing owls were detected within the Project Site during updated focused MSHCP surveys conducted in 2015 and 2017 (Cadre Environmental 2017b). The MSHCP states:

> "*If the site (including adjacent areas) support three or more pairs of burrowing owls and supports greater than 35 acres of suitable habitat and is non-contiguous with MSHCP Conservation areas lands, at least 90 percent of the areas within long-term conservation value and burrowing owl pairs will be conserved onsite*" (MSHCP 2004)

Burrowing owl were detected within and adjacent to the Project Site during initial MSHCP focused surveys conducted in 2005 and 2006 by Michael Brandman Associates and CH2M Hill, as shown on Figure 9, *Sensitive Floral and Faunal Species Observations Map*. Results of the initial burrowing owl surveys conducted during the 2005 and 2006 did not meet the MSHCP requirements of three (3) or more pairs for a site requiring onsite conservation.

Regardless, at a minimum, a 30-day preconstruction survey will be conducted immediately prior to the initiation of construction to ensure protection for this species and compliance with the conservation goals as outlined in the MSHCP. If burrowing owls are detected onsite during the 30-day preconstruction survey, a burrowing owl relocation plan will be developed for the passive/active translocation of individuals to RCA conserved lands located north of the Project Site within Proposed Noncontiguous Habitat Block 7. The project is consistent with MSHCP Section 6.3.2. Potential impacts to nesting burrowing owl located within the Project Site will be mitigated to a level of less than significant by implementing Biological Mitigation Measures (BIO-MM3 and BIO-MM4)

Implementation of the proposed project would result in direct impacts to raptor foraging and potential nesting habitat. Several raptors documented onsite including the red-tailed hawk (*Buteo jamaicensis*) and American kestrel (*Falco sparverius*) utilize the large trees (eucalyptus sp.) for roosting and nesting and the loss of an active raptor nest of common and/or sensitive species would be considered a violation of the CDFG Code, Section 3503, 3503.5, 3513 and MBTA. Therefore, the loss of any nest, roosting and/or foraging habitat would be considered a potentially significant impact. Impacts to raptor foraging and potential nesting habitat would be reduced to less than significant with the implementation of Biological Mitigation Measure (BIO-MM4).

Western Riverside County Multiple Species Habitat Conservation Plan Consistency Analysis

As documented in the previous section, implementation of the proposed project will be consistent with all provisions, guidelines and objectives of the MSHCP following implementation of Biological Mitigation Measures (BIO-MM1, BIO-MM3, BIO-MM4, and BIO-MM5).

INDIRECT IMPACTS

All MSHCP Urban/Wildlands Interface guidelines presented in Section 6.1.4 are intended to address indirect effects associated with locating commercial, mixed uses and residential developments in proximity to an MSHCP Conservation Area. Final project design will be developed to ensure best management practices are incorporated into the proposed project to address and minimize edge effects associated with the Urban/Wildlands Interface to Hemet Channel (PQP Conserved Land, MSHCP Constrained Linkage B) including the reestablishment and conveyance of seasonal clean water flows southwest of the Project Site (Salt Creek).

Water Quality/Hydrology

The project will comply with all applicable water quality regulations, including obtaining and complying with those conditions established in (WDRs) and a National Pollutant Discharge Elimination System (NPDES) permits. Both of these permits include the treatment of all surface runoff from paved and developed areas, the implementation of applicable Best Management Practices (BMPs) during construction activities and the installation and proper maintenance of structural BMPs to ensure adequate long-term treatment of water before entering into any stream course or offsite conservation areas.

Significant vernal pool resources and sensitive plant species are located north and southwest of the Project Site within Salt Creek. Alterations to downstream hydrology and additional impacts to flows leading southwest of the Project Site to Salt Creek would be considered significant. The project proponent will provide design elements that will contribute to the Regional Drainage Plan and significantly improve the existing hydrology contributing to the sensitive resources located southwest of the Project Site within Salt Creek. Specifically, the proposed project will safely convey the region-wide peak flows (the maximum flow rate associated with a 100-year storm event), as well as the increased surface flows that will result from the development of the site. Offsite drainage improvements will include a drainage channel outlet from the onsite drainage

basin in the southwest corner of the Project Site extending southerly to the existing drainage channel at Simpson Road. Three (3) outfall structures will extent north of the Project Site to Hemet Channel discharging captured and treated waters and no significant impacts to downstream hydrology are anticipated.

Toxics

Storm water treatment systems will be designed to prevent the release of toxins, chemicals, petroleum products, exotic plant material, or other elements that could degrade or harm downstream biological or aquatic resources. Toxic sources within the Project Site would be limited to those commonly associated with residential, commercial, and mixed-use development, such as pesticides, insecticides, herbicides, fertilizers, and vehicle emissions. In order to mitigate the potential effects of these toxics, the project will incorporate structural BMPs, as required in association with compliance with WDRs and the NPDES permit system, in order to reduce the level of toxins introduced into the drainage system and the surrounding areas. Runoff patterns will be recreated to mimic the pre-channelization conditions within the Project Site, water quality measures will be implemented and no significant impacts are anticipated.

Lighting

Night lighting associated with the proposed development that is adjacent to the Hemet Channel (PQP Conserved Land, MSHCP Constrained Linkage B) would be directed away to reduce potential indirect impacts to wildlife species. No significant impacts are anticipated.

Noise

Because the proposed project development will not result in noise levels that exceed residential, commercial or mixed use noise standards established for Riverside County, wildlife within proposed open space habitats will not be subject to noise that exceeds these established standards. Short-term construction-related noise impacts will be reduced by the implementation of the following:

- During all Project Site excavation and grading on-site, the construction contractors shall equip all construction equipment, fixed or mobile, with properly operating and maintained mufflers, consistent with manufacturers' standards. The construction contractor shall place all stationary construction equipment so that emitted noise is directed away from sensitive receptors nearest the Project Site.

- The construction contractor shall locate equipment staging in areas that will create the greatest distance between construction-related noise sources and noise sensitive receptors nearest the Project Site during all project construction.

- The construction contractor shall limit all construction-related activities that would result in high noise levels according to the construction hours to be determined by City of Hemet staff.

- The construction contractor shall limit haul truck deliveries to the same hours specified for construction equipment. To the extent feasible, haul routes shall not pass sensitive land uses or residential dwellings.

No significant impacts are anticipated.

Invasive Species

The landscape plans for the residential, commercial and mixed development shall avoid the use of invasive species for the portions of the development areas adjacent to the open space areas. Invasive plants that should be avoided are included in Table 6-2 of the MSHCP, *Plants That Should Be Avoided Adjacent to the MSHCP Conservation Area*. No significant impacts are anticipated.

Barriers

Barriers are intended to reduce or minimize unauthorized public access and associated impacts to protected resources. A permanent barrier between the Project Site and Hemet Channel (PQP Conserved Land, MSHCP Constrained Linkage B) will be constructed. No significant impacts are anticipated.

The proposed storm drain facilities will be located partially within an area designated as PQP in Hemet Channel, the facilities will not impede or conflict with the conservation value of channel as a drainage facility and wildlife movement corridor. Therefore, no PQP replacement is necessary.

The above measures would serve to minimize adverse project effects on conservation configurations and would minimize management challenges that can arise during development located adjacent to open space and/or conservation habitat. The project design and BMPs incorporated into the proposed project will address and minimize edge effects associated with the Urban/Wildlands interface.

Implementation of all Urban/Wildlands Interface guidelines will minimize adverse project indirect impacts and is consistent with MSHCP Section 6.1.4.

CUMULATIVE IMPACTS

The temporary direct and/or indirect impacts of the project would not result in significant cumulative impacts (CEQA Section 15310) to environmental resources within the region of the Project Site. Cumulative impacts refer to incremental effects of an individual project when assessed with the effects of past, current, and proposed projects. Although the project would result in the permanent loss of 220.05 acres of primarily agricultural lands, the MSHCP was developed to address the comprehensive regional planning effort and anticipated growth in the City of Hemet. The proposed project has been designed and mitigated to remain in compliance with all MSHCP conservation goals and guidelines and therefore will not result in an adverse cumulative impact.

The following biological mitigation measures address those adverse impacts determined to be potentially significant or are relevant to the protection of biological resources to the extent practicable as part of ensuring compliance and consistency with all MSHCP conservation goals and guidelines.

BIO-MM1 MSHCP Local Development Mitigation Fee

The project applicant shall pay MSHCP Local Development Mitigation fees as established and implemented by the City of Hemet. Five categories of the fee are defined and include: Residential, density less than 8.0 dwelling units per acre $1,651 per dwelling unit; Residential, density between 8.1 and 14.0 dwelling units per acre $1.057 per dwelling unit; Residential, density greater than 14.1 dwelling units per acre $859 per dwelling unit; Commercial $5,620 per acre; and Industrial $5,620 per acre.

BIO-MM2 SKR Fee Area

The Project Site falls within the Stephens' kangaroo rat (SKR) fee area outlined in the Riverside County SKR HCP. The project applicant shall pay the fees pursuant to County Ordinance 663.10 for the Riverside County SKR HCP Fee Assessment Area as established and implemented by the County

BIO-MM3 Burrowing Owl 30-Day Preconstruction Surveys

A 30-day burrowing owl preconstruction survey will be conducted immediately prior to the initiation of ground-disturbing construction to ensure protection for this species and compliance with the conservation goals as outlined in the MSHCP. The survey will be conducted in compliance with both MSHCP and CDFW guidelines (MSHCP 2006, CDFW 2012). A report of the findings prepared by a qualified biologist shall be submitted to the City of Hemet prior to any permit or approval for ground disturbing activities.

If burrowing owls are detected onsite during the 30-day preconstruction survey, during the breeding season (February 1st to August 31st) then construction activities shall be limited to beyond 300 feet of the active burrows until a qualified biologist has confirmed that nesting efforts are compete or not initiated. In addition to monitoring breeding activity, if construction is proposed to be initiated during the breeding season or active relocation is proposed, a burrowing owl mitigation plan will be developed based on the County of Riverside Environmental Programs Division, CDFW and USFWS requirements for the relocation of individuals to RCA conserved lands located north of the Project Site within Proposed Noncontiguous Habitat Block 7.

BIO-MM4 Federal Migratory Bird Treaty Act

Mitigation for potential direct/indirect impacts to common and MSHCP covered sensitive bird and raptor species will require compliance with the federal MBTA. Construction outside the nesting season (between September 16th and January 31st do not require pre-removal nesting bird surveys. If construction is proposed between February 1st and

September 15th, a qualified biologist must conduct a nesting bird survey(s) no more than fourteen (14) days prior to initiation of grading to document the presence or absence of nesting birds within or directly adjacent (100 feet) to the Project Site.

The survey(s) would focus on identifying any raptors and/or passerines nests that would be directly or indirectly affected by construction activities. If active nests are documented, species-specific measures shall be prepared by a qualified biologist and implemented to prevent abandonment of the active nest. At a minimum, grading in the vicinity of a nest shall be deterred until the young birds have fledged. A minimum exclusion buffer of 100 feet shall be maintained during construction, depending on the species and location. The perimeter of the nest setback zone shall be fenced or adequately demarcated with stakes and flagging at 20-foot intervals, and construction personnel and activities restricted from the area. A survey report by a qualified biologist verifying that no active nests are present, or that the young have fledged, shall be submitted to the City of Hemet prior to initiation of grading in the nest-setback zone. The qualified biologist shall serve as a construction monitor during those periods when construction activities occur near active nest areas to ensure that no inadvertent impacts on these nests occur. A report of the findings prepared by a qualified biologist shall be submitted to the City of Hemet prior to construction that has the potential to disturb any active nests during the nesting season.

Any nest permanently vacated for the season would not warrant protection pursuant to the MBTA.

BIO-MM5 MSHCP Riparian/Riverine Resources

To meet the criteria of a biologically equivalent or superior alternative, the applicant will offset impacts to 1.52 acres of MSHCP Section 6.1.2 riparian and riverine resources as follows and prepare in a MSHCP Determination of Biological Equivalent or Superior Preservation.

Off-Site Establishment/Re-Establishment

The project proposes to purchase 0.03 acre of establishment/re-establishment credits from the Riverpark Mitigation Bank, which is expected to begin selling credits by summer 2018 as illustrated in Figure 12, *Proposed Offsite Mitigation*. This element of the mitigation proposal will mitigate permanent impacts to wetland and non-wetland waters of the U.S./State and isolated waters of the State at a 2:1 ratio for non-wetlands and 3:1 ratio for wetlands. This will also mitigate temporary impacts to non-wetland waters of the U.S./State and isolated non-wetland waters of the State. The entirety of USACE jurisdiction will be mitigated with this option.

On-Site Rehabilitation, Enhancement, and Preservation

The project proposes to rehabilitate and enhance a minimum of 3.1 acres of onsite waters of the State, CDFW jurisdiction, and Riparian/Riverine resources in the form of herbaceous wetland- and southern willow scrub-vegetated areas as illustrated in Figure 13, *Proposed Offsite Mitigation*. The 3.1 acres will be contained within approximately 14.5 acres of on-site waters of the State, CDFW jurisdiction, and Riparian/Riverine

resources that will be preserved. This element of the mitigation proposal will mitigate permanent and temporary impacts to CDFW jurisdiction and MSHCP Riparian/Riverine resources at a 3:1 ratio for wetland/riparian-vegetated streambed and 2:1 ratio for unvegetated streambed. This will also mitigate temporary impacts to isolated wetland waters of the State at a minimum 1:1 ratio.

On-Site Replacement and Enhancement of Beneficial Uses

Five of the 13 non-jurisdictional features were determined to support two beneficial uses: limited warm freshwater habitat (LWRM) and wild habitat (WILD). These features will be permanently impacted by the project. However, as depicted on Figure 13, *Proposed Onsite Mitigation*, the project has been designed to incorporate 19.2 acres of water quality features to compensate the loss of these two beneficial uses and provide additional uses of value (Ground Water Recharge (GWR), Warm Freshwater Habitat (WARM), Wetland Habitat (WET), and Water Quality Enhancement (WQE)) to the local area and watershed.

This alternative is considered biologically superior because the proposed actions would increase water quality functions onsite which are expected to be beneficial to downstream sensitive resources within Salt Creek. Also, the proposes purchase 0.03 acre of establishment/re-establishment credits from the Riverpark Mitigation Bank would contribute to land currently occupied my focal sensitive MSHCP species.

BIO-MM6 USACE/CDFW/RWQCB

Prior to issuance of a grading permit, the project applicant will obtain a, Clean Water Act (CWA) Section 404 permit, 1602 Streambed Alteration Agreement from CDFW and a WDR permit issued by the RWQCB pursuant to the California Water Code Section 13260.

BIO-MM7 Indirect Impacts

All MSHCP Urban/Wildlands Interface guidelines presented in Section 6.1.4 are intended to address indirect effects associated with locating commercial, mixed uses and residential developments in proximity to an MSHCP Conservation Area. Final project design will be developed to ensure best management practices are incorporated into the proposed project to address and minimize edge effects associated with the Urban/Wildlands Interface to Hemet Channel (PQP Conserved Land, MSHCP Constrained Linkage B) including the reestablishment and conveyance of seasonal clean water flows southwest of the Project Site (Salt Creek).

Implementation of Mitigation Measures BIO-MM1 through BIO-MM7 would reduce all potential significant unavoidable impacts on biological resources below a level of significance and ensure compliance with MSHCP conservation requirements.

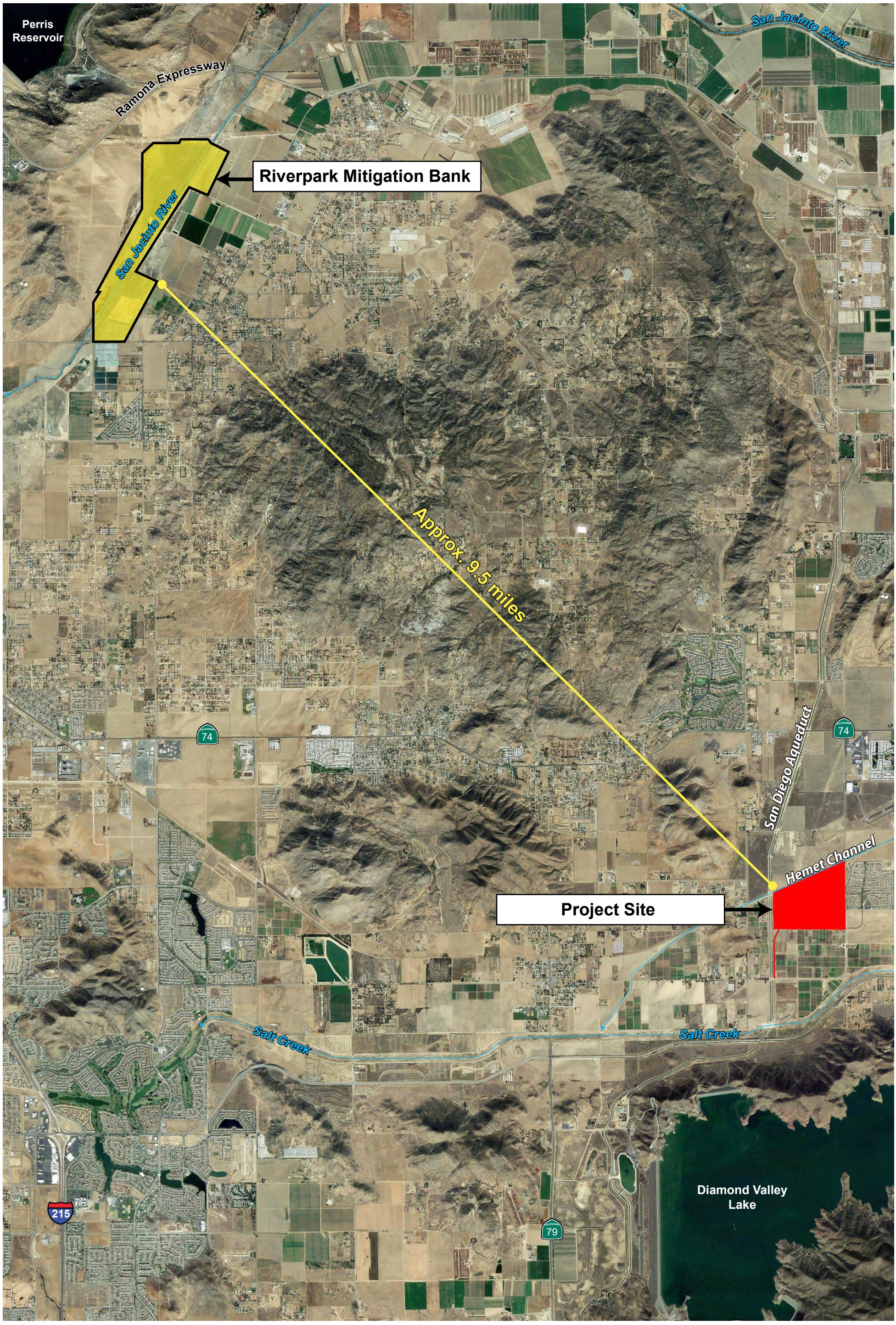


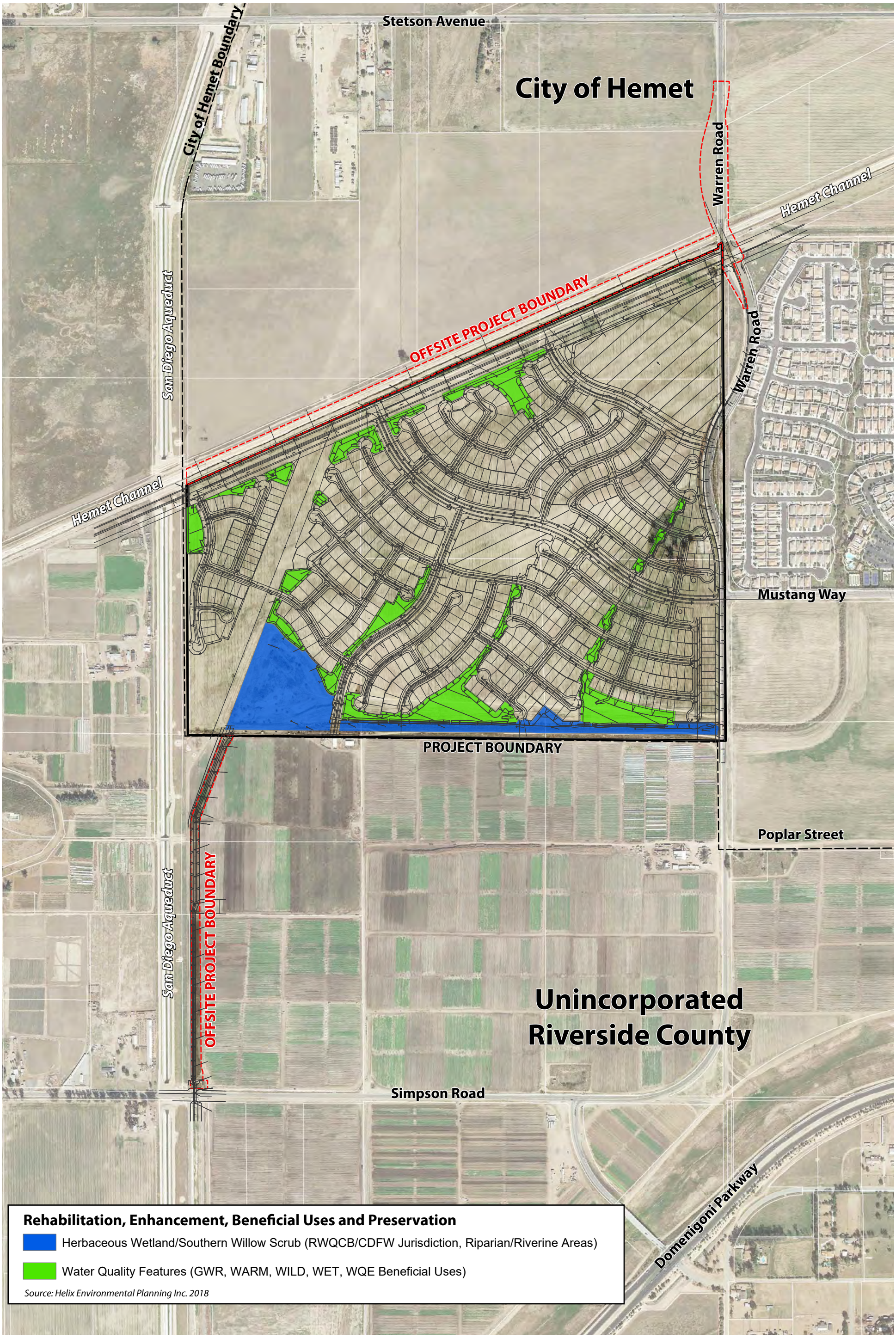
Figure 12 - Proposed Offsite Mitigation

Biological Resources Technical Report
Rancho Diamante - TTM 36841

CADRE Environmental

N

not to scale



APNs 465-100-016, 465-100-022, 465-110-020, 021, 022, 023, and 027. Offsite APNs Portions of 465-120-019, 021, 465-130-016, 017, 465-100-018, and 032.

Figure 13 - Proposed Onsite Mitigation

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CADRE Environmental

N

1 inch = 650 feet

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Certification "*I hereby certify that the statements furnished above and in the attached exhibits present the data and information required for this biological evaluation, and that the facts, statements, and information presented are true and correct to the best of my knowledge.*

Author:_____Date:_____

APPENDIX A

FLORAL COMPENDIUM

(*) asterisk indicates a non-native species

PTERIDOPHYTES - FERNS AND ALLIES

MARSILEACEAE - MARSILEA FAMILY

Marsilea vestita Hook. & Grev. subsp. ***vestita*** HAIRY PEPPERWORT or CLOVER FERN.

ANGIOSPERMAE - FLOWERING PLANTS

DICOTYLEDONES - DICOTS

AIZOACEAE - FIG-MARIGOLD FAMILY

****Galenia pubescens*** (Ecklon & Zeyher) Druve

AMARANTHACEAE - AMARANTH FAMILY

****Amaranthus albus*** L. TUMBLING PIGWEED.
****Amaranthus cruentus*** L. QUILETE.
Amaranthus palmeri S. Watson PALMER'S PIGWEED.

ANACARDIACEAE - SUMAC FAMILY

****Schinus molle*** L. PERUVIAN PEPPER TREE.

APIACEAE (UMBELLIFERAE) - CARROT FAMILY

****Apium graveolens*** L. COMMON CELERY.

ASTERACEAE (COMPOSITAE) - SUNFLOWER FAMILY

Ambrosia acanthicarpa Hook. SAND-BUR.
Ambrosia psilostachya DC. var. ***californica*** (Rydb.) Blake WESTERN RAGWEED.
****Anthemis cotula*** L. DOG MAYWEED.
Aster subulatus Michx. var. ***ligulatus*** Shinners SLENDER ASTER.
Baccharis emoryi A. Gray EMORY'S BACCHARIS.
Baccharis salicifolia (Ruiz Lopez & Pavon) Pers. MULE FAT.
****Carthamus tinctorius*** L. SAFFLOWER**.**
Centromadia pungens (Hook. & Arn.) E. Greene subsp. ***laevis*** Keck SMOOTH TARPLANT.
****Cirsium vulgare*** (Savi) Ten. BULL THISTLE.
****Cnicus benedictus*** L. BLESSED THISTLE.
Deinandra kelloggii E. Greene [*Hemizonia k.* Greene] KELLOGG'S TARPLANT.
Erigeron canadensis L. [*Conyza canadensis* (L.) Cronq.] COMMON HORSEWEED.
****Erigeron sumatrensis*** Retz. [*Conyza floribunda* Kunth.] TROPICAL HORSEWEED.
Gnaphalium palustre Nutt. LOWLAND CUDWEED.
Helianthus annuus L. WESTERN SUNFLOWER.
Heterotheca grandiflora Nutt. TELEGRAPH WEED.
****Lactuca serriola*** L. PRICKLY or WILD LETTUCE.
Lasthenia gracilis (DC.) E. Greene [*L. californica* DC. ex Lindley] COASTAL GOLDFIELDS.
****Matricaria discoidea*** DC. [*Matricaria matricarioides* (Less.) Porter] COMMON PINEAPPLE WEED.

Matricaria occidentalis E. Greene. VALLEY PINEAPPLE WEED.
****Oncosiphon piluliferum*** (L.f.) Kallersjo [*Matricaria globifera* (Thunb.) Fenzl] STINK-NET.
Psilocarphus brevissimus Nutt. var. ***brevissimus*** WOOLLY MARBLES.
****Pulicaria paludosa*** Link. SPANISH SUNFLOWER.
****Senecio vulgaris*** L. COMMON GROUNDSEL.
****Verbesina encelioides*** (Cav.) A. Gray var. ***exauriculata*** Rob. & Greenm. GOLDEN CROWN-BEARD.

BORAGINACEAE - BORAGE FAMILY

Amsinckia menziesii (Lehm.) Nelson & J.F. Macbr. var. ***intermedia*** (Fischer & C. Meyer) Ganders [*A. intermedia* Fischer & C. Meyer] COMMON FIDDLENECK.
Heliotropium curassavicum L. subsp. ***oculatum*** (Heller) Thorne SALT or ALKALI HELIOTROPE.
Plagiobothrys leptocladus (E. Greene) I.M. Johnston WIRE-STEMMED POPCORN FLOWER.

BRASSICACEAE (CRUCIFERAE) - MUSTARD FAMILY

****Capsella bursa-pastoris*** (L.) Medikus SHEPHERD'S PURSE.
****Coronopus didymus*** (L.) Smith [*Lepidium d.* (L.) Smith] LESSER WORT-CRESS.
****Hirschfeldia incana*** (L.) Lagr.-Fossat SHORTPOD or SUMMER MUSTARD.
****Lobularia maritima*** (L.) Desv. SWEET ALYSSUM.
****Raphanus sativus*** L. WILD RADISH.
****Sisymbrium irio*** L. LONDON ROCKET.

CARYOPHYLLACEAE - PINK FAMILY

****Spergularia bocconei*** (Scheele) Merino BOCCONE'S SAND SPURRY.

CHENOPODIACEAE - GOOSEFOOT FAMILY

****Atriplex suberecta*** I. Verd. SERRATE-LEAVED SALTBUSH.
****Bassia hyssopifolia*** (Pallas) Kuntze FIVE-HOOK BASSIA.
****Chenopodium album*** L. LAMB'S QUARTERS.
****Chenopodium murale*** L. NETTLE-LEAVED GOOSEFOOT.
****Chenopodium strictum*** Roth GOOSEFOOT.
****Cycloloma atriplicifolium*** (Spreng.) J. Coulter WINGED PIGWEED.
****Kochia scoparia*** (L.) Schrader SUMMER CYPRESS.

CONVOLVULACEAE - MORNING-GLORY FAMILY

****Convolvulus arvensis*** L. FIELD BINDWEED.
Cressa truxillensis Kunth ALKALI WEED.
Cuscuta sp. DODDER.

FABACEAE (LEGUMINOSAE) - PEA FAMILY

****Medicago polymorpha*** L. BUR-CLOVER.
****Melilotus alba*** Medikus WHITE SWEET-CLOVER.
****Melilotus indica*** (L.) All. SOURCLOVER.

GERANIACEAE - GERANIUM FAMILY

****Erodium cicutarium*** (L.) L'Her. RED-STEMMED FILAREE.

LYTHRACEAE - LOOSESTRIFE FAMILY

****Lythrum hyssopifolium*** L. GRASS POLY.

MALVACEAE - MALLOW FAMILY

****Malva parviflora*** L. CHEESEWEED.

MELIACEAE - MAHOGONY FAMILY

Melia azedarach L. CHINA BERRY or PERSIAN LILAC.

MYRTACEAE - MYRTLE FAMILY

***Eucalyptus* sp.** GUM.

ONAGRACEAE - EVENING PRIMROSE FAMILY

Epilobium brachycarpum C. Presl [*E. paniculatum* Torr. & A. Gray] SUMMER COTTON-WEED.

Epilobium ciliatum Raf. subsp. ***ciliatum*** GREEN WILLOW-HERB.

PLANTAGINACEAE - PLANTAIN FAMILY
(including parts of SCROPHULARIACEAE - FIGWORT FAMILY)

Plantago lanceolata L. ENGLISH PLANTAIN or RIB-GRASS.

Veronica peregrina L. subsp. ***xalapensis*** (Kunth) Pennell MEXICAN SPEEDWELL.

POLYGONACEAE - BUCKWHEAT FAMILY

Eriogonum fasciculatum Benth. subsp. ***foliolosum*** (Nutt.) Abrams INTERIOR CALIFORNIA BUCKWHEAT.

Polygonum argyrocoleon Kunze PERSIAN KNOTWEED.

Polygonum aviculare L. COMMON KNOTWEED.

Rumex crispus L. CURLY DOCK.

PORTULACACEAE - PURSLANE FAMILY

Portulaca oleracea L. COMMON PURSLANE.

SALICACEAE - WILLOW FAMILY

Populus fremontii S. Watson subsp. ***fremontii*** WESTERN COTTONWOOD.

Salix exigua Nutt. NARROW-LEAVED WILLOW.

Salix gooddingii C. Ball GOODDING'S WILLOW or BLACK WILLOW.

Salix lasiolepis Benth. ARROYO WILLOW.

SIMAROUBACEAE - QUASSIA FAMILY

Ailanthus altissima (Miller) Swingle TREE OF HEAVEN.

SOLANACEAE - NIGHTSHADE FAMILY

Datura wrightii Regel [*D. meteloides* A. DC.] JIMSONWEED.

Physalis philadelphica Lam. [*P. ixocarpa* Hornem.] TOMATILLO.

TAMARICACEAE - TAMARISK FAMILY

Tamarix ramosissima Ledeb. MEDITERRANEAN TAMARISK.

ZYGOPHYLLACEAE - CALTROP FAMILY

Tribulus terrestris L. PUNCTURE VINE.

MONOCOTYLEDONES - MONOCOTS

ARECACEAE (PALMAE) - PALM FAMILY

Washingtonia robusta H.A. Wendl. MEXICAN FAN PALM.

CYPERACEAE - SEDGE FAMILY

Cyperus eragrostis Lam. TALL UMBRELLA-SEDGE.

Eleocharis parishii Britton PARISH SPIKERUSH.

JUNCACEAE - RUSH FAMILY

Juncus bufonius L. var. ***bufonius*** COMMON TOAD RUSH.

POACEAE - GRASS FAMILY

Bromus diandrus Roth COMMON RIPGUT GRASS.

Bromus madritensis subsp. ***rubens*** (L.) Husnot [*B. rubens* L.] FOXTAIL CHESS or RED BROME.

Crypsis vaginiflora (Forrsk.) Opiz PRICKLE GRASS.
Cynodon dactylon (L.) Pers. BERMUDA GRASS.
Deschampsia danthonoides (Trin.) Benth. ANNUAL HAIRGRASS.
Festuca perennis Columbus & J.P. Sm. [*Lolium* perenne L., *L. multiflorum* Lam.] PERENNIAL RYEGRASS.
Hordeum marinum Hudson subsp. ***gussoneanum*** (Parl.) Thell. [*H. geniculatum* All.] MEDITERRANEAN BARLEY.
Hordeum murinum subsp. ***leporinum*** (Link) Arcangeli [*H. leporinum* Link] HARE BARLEY or FOXTAIL BARLEY.
Hordeum vulgare L. CULTIVATED BARLEY.
Leptochloa fusca L. (Kunth) subsp. ***uninervia*** (J.S. Presl) N. Snow MEXICAN SPRANGLETOP.
Phalaris canariensis L. CANARY GRASS.
Phalaris minor Retz. LITTLESEED CANARY GRASS.
Polypogon monspeliensis (L.) Desf. ANNUAL BEARD GRASS or RABBIT-FOOT GRASS.
Schismus barbatus (L.) Thell. MEDITERRANEAN SCHISMUS.
Setaria verticillata (L.) Beauv. BUR BRISTLEGRASS.

FAUNAL COMPENDIUM
(*) asterisk indicates a non-native species

	Scientific Name	Common Name
	INVERTEBRATES	
	Branchinecta lindahli	versatile fairy shrimp
	AMPHIBIANS	
	Bufonidae	**True Toads**
	Anaxyrus boreas halophilus	California toad
	Hylidae	**Tree Frogs**
	Pseudacris hypochondriaca hypochondriaca	Baja California treefrog
	REPTILES	
	Phrynosomatidae	**Lizards**
	Sceloporus occidentalis longipes	Great Basin fence lizard
	Uta stansburiana elegans	western side-blotched lizard
	BIRDS	
	Ardeidae	**Herons**
	Egretta thula	snowy egret
	Anatidae	**Waterfowl**
	Anas platyrhynchos	mallard
	Cathartidae	**New World Vultures**
	Cathartes aura	turkey vulture
	Accipitridae	**Hawks**
SFP	*Elanus leucurus*	white-tailed kite
	Buteo jamaicensis	red-tailed hawk
	Falconidae	**Falcons**
	Falco sparverius	American kestrel
	Charadriidae	**Plovers**
	Charadrius vociferus	killdeer
	Columbidae	**Pigeons and Doves**
	**Columba livia*	rock pigeon

	Scientific Name	Common Name
	Zenaida macroura	mourning dove
	Tytonidae	**Barn Owls**
	Tyto alba	barn owl
	Strigidae	**True Owls**
	Bubo virginianus	great horned owl
SSC	*Athene cunicularia*	burrowing owl
	Apodidae	**Swifts**
	Aeronautes saxatalis	white-throated swift
	Trochilidae	**Hummingbirds**
	Calypte anna	Anna's hummingbird
	Selasphorus sasin	Allen's hummingbird
	Picidae	**Woodpeckers**
	Picoides nuttallii	Nuttall's woodpecker
	Tyrannidae	**Tyrant Flycatchers**
	Sayornis nigricans	black phoebe
	Sayornis saya	Say's phoebe
	Myiarchus cinerascens	ash-throated flycatcher
	Tyrannus vociferans	Cassin's kingbird
	Tyrannus verticalis	western kingbird
	Alaudidae	**Larks**
CWL	*Eremophila alpestris actia*	California horned lark
	Hirundinidae	**Swallows**
	Tachycineta thalassina	violet-green swallow
	Stelgidopteryx serripennis	northern rough-winged swallow
	Petrochelidon pyrrhonota	cliff swallow
	Hirundo rustica	barn swallow
	Corvidae	**Jays and Crows**
	Corvus brachyrhynchos	American crow
	Corvus corax	common raven

	Scientific Name	Common Name
	Turdidae	**Thrushes**
	Sialia mexicana	western bluebird
	Mimidae	**Thrashers**
	Mimus polyglottos	northern mockingbird
	Bombycillidae	**Waxwings**
	Bombycilla cedrorum	cedar waxwing
	Ptilogonatidae	**Silky Flycatchers**
	Phainopepla nitens	phainopepla
	Laniidae	**Shrikes**
SSC	*Lanius ludovicianus*	loggerhead shrike
	Sturnidae	**Starlings**
	**Sturnus vulgaris*	European starling
	Parulidae	**Wood Warblers**
	Setophaga coronata	yellow-rumped warbler
	Geothlypis trichas	common yellowthroat
	Cardinalidae	**Cardinals**
	Passerina caerulea	blue grosbeak
	Emberizidae	**Emberizids**
	Chondestes grammacus	lark sparrow
	Passerculus sandwichensis	savannah sparrow
	Melospiza melodia	song sparrow
	Zonotrichia leucophrys	white-crowned sparrow
	Sturnella neglecta	western meadowlark
	Euphagus cyanocephalus	Brewer's blackbird
	Molothrus ater	brown-headed cowbird
	Icterus cucullatus	hooded oriole
	Fringillidae	**Finches**
	Haemorhous mexicanus	house finch
	Spinus psaltria	lesser goldfinch

	Scientific Name	Common Name
	Passeridae	**Old World Sparrows**
	**Passer domesticus*	house sparrow
	MAMMALS	
	Leporidae	**Hares and Rabbits**
SSC	*Lepus californicus bennettii*	San Diego black-tailed jackrabbit
	Sylvilagus audubonii	desert cottontail
	Sciuridae	**Squirrels**
	Otospermophilus beecheyi	California ground squirrel
	Geomyidae	**Pocket Gophers**
	Thomomys bottae	Botta's pocket gopher
	Canidae	**Wolves and Foxes**
	Canis latrans	coyote

SSC- California Species of Special Concern
SFP – State Fully Protected
CWL – State Watch List

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