

Determination of Biologically Equivalent or Superior Preservation (DBESP) Analysis for Riparian/Riverine Habitat

**Tentative Parcel Map No. 35212 Project
APN: 963-030-002 and -003 Case No. PM35212
City of Murrieta, Riverside County, California**

Prepared for:
KTM North America, Inc.
38429 Innovation Court
Murrieta, CA 92563
T: (951) 600-8007 x4117
Contact: Ms. Cheryl Webb

Prepared by:
ECORP Consulting, Inc.
215 North Fifth Street
Redlands, CA 92374
T: (909) 307-0046
Contact: Mr. Scott Taylor

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KTM North America, Inc.

Prepared By:  Date: August 22, 2018
Scott Taylor, Senior Biologist/Regulatory Permitting Manager
ECORP Consulting, Inc.

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1.0 INTRODUCTION

ECORP Consulting, Inc. (ECORP) was contracted by KTM North America, Inc. to prepare a Determination of Biologically Equivalent or Superior Preservation (DBESP) analysis to comply with the Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP) for the Tentative Parcel Map No. 35212 (Project) located in Riverside County, California. The purpose of the DBESP report is to provide a finding that, through a combination of mitigation, project design measures and avoidance, the project would achieve an equivalent or superior preservation of the riparian/riverine areas of the site as compared to the available project alternatives (MSHCP Section 6.1.2). Pursuant to Section 6.1.4 of the MSHCP, this report also includes an analysis of the indirect effects to MSHCP Conservation Areas in proximity of the Project site.

1.1 Project Description

The Project site is located approximately 3.5 miles west of Lake Skinner, approximately 2.6 miles east of Interstate 215 (I-215), and just outside the eastern boundary of the City of Murrieta, in an unincorporated area of Riverside County (Figure 1). The Project site location corresponds to portions of Section 7, Township 7 South, Range 2 West; of the “Murrieta, California” 7.5-minute quadrangle (USGS 2015). The Project site comprises two properties (Assessor Parcel Numbers 963-030-002, -003) totaling approximately 57 acres, located on the northeastern corner of State Route 79 (SR-79; Winchester Road) and Hunter Road (Figure 2).

The Project site can be accessed from I-215 by exiting Murrieta Hot Springs Road and traveling east to SR-79 (Winchester Road). After making a left on SR-79, continue north until Hunter Road. The Project site is located east of SR-79 between Hunter Road and Sparkman Way.

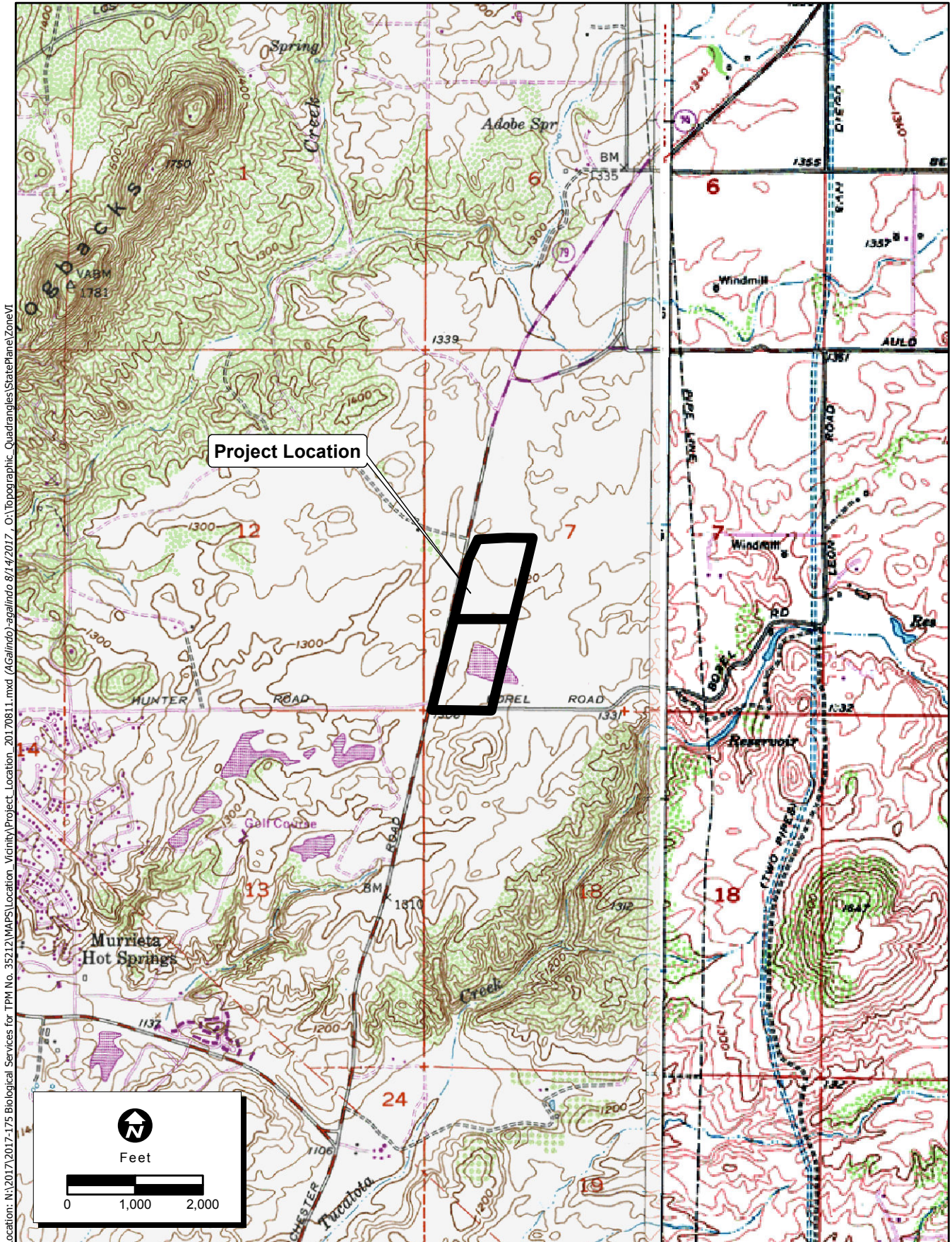
The Project site is located within the Specific Plan 265, Amendment Number 1 (SP 265A1) – Borel Airpark planning area, which was adopted by the County of Riverside on September 22, 2015. Designated land use categories for the property, as proposed in the Specific Plan, include commercial office and commercial retail use. The applicant proposes the development of a commercial center. The conceptual Project design includes mini-storage facilities, multi-tenant showrooms, office buildings, and retail facilities.

1.2 MSHCP Location and Information

The Project site is located in the Southwest Area Plan and is within Criteria Cell 5969 of Cell Group V, which is within the French Valley/Lower Sedco Hills subunit (SU5) (Dudek & Associates 2003).

The criteria for cell 5969 states:

Conservation within this Cell Group will contribute to assembly of Proposed Core 2. Conservation within this Cell Group will focus on grassland and coastal sage scrub habitat and agricultural land. Areas conserved within this Cell Group will be connected to grassland habitat proposed for conservation in Cell #5979 to the east and to coastal sage scrub, grassland and chaparral habitat and agricultural land proposed for conservation in Cell Group W to the south. Conservation within this Cell Group will range from 45%-55% of the Cell Group focusing in the eastern portion of the Cell Group.



Map Date: 8/14/2017
 USGS Topographic Quadrangles: Steele Peak, Riverside East



Figure 2. Project Location

2017-175 Biological Services for TPM No.35212

The Project is located within the burrowing owl (*Athene cunicularia*) habitat assessment area. Criteria Area species include Davidson's saltscale (*Atriplex serenana*), Parish's brittlescale (*Atriplex parishii*), thread-leaved brodiaea (*Brodiaea filifolia*), smooth tarplant (*Centromadia pungens ssp. laevis*), round-leaved filaree (*California macrophylla*), Coulter's goldfields (*Lasthenia glabrata ssp. coulteri*) and little mouseltail (*Myosurus minimus*). Narrow endemic plant species include Munz's onion (*Allium munzii*), San Diego ambrosia (*Ambrosia pumila*), Many-stemmed dudleya (*Dudleya multicaulis*), Spreading navarretia (*Navarretia fossalis*), California Orcutt grass (*Orcuttia californica*) and Wright's trichocoronis (*Trichocoronis wrightii var. wrightii*). There are no special cores or linkage areas within the Project site.

The subject property was reviewed by the County of Riverside Environmental Programs Department and submitted of the Regional Conservation Authority (RCA) for Joint Project Review (JPR) pursuant to Section 6.6.2 of the MSHCP. The RCA concurred with the County that no conservation is described for the property (County of Riverside 2007).

1.3 Avoidance Feasibility

This section discusses the feasibility of implementing the alternatives and their potential impacts on riparian/riverine habitat under Section 6.1.2 within the MSHCP Plan Area. Avoidance of riparian/riverine on the proposed project site is also discussed in this section.

Riparian/riverine habitat run through and along the edge of the Project site. Based on the location, size and orientation of the parcel 100% avoidance of the riparian/riverine habitat is not feasible due in part to safety concerns and overall project design. A single contiguous, development of the entire Project is necessary to meet safety concerns including roadway improvements along SR-79 required as part of the Project.

Alternatives were considered leaving one more or riparian/riverine resources unaltered however the constraints (e.g., safety, including road improvements) on the remaining portions of the Project site necessitated the development of this DBESP for unavoidable impacts.

Unavoidable Project-related impacts up to 0.74 acres to riparian/riverine resources include 0.01 acre to intermittent drainage, 0.53 acre to ephemeral drainage and 0.2 acre to inundated pond.

No feasible alternatives exist that would avoid impacts to these resources and result in sufficient acreage remaining for a viable project when the economic, environmental, and legal considerations are taken into account. Therefore, complete avoidance of all the riparian/riverine resources is not considered feasible.

2.0 METHODS

2.1 Literature Review

ECORP conducted a review of biological resource study documents prepared for the proposed project for the preparation of the DBESP analysis. Documentation reviewed included:

- Habitat Assessment and Focused Survey Results for MSHCP Sections 6.1.3 Narrow Endemic Plant Species and 6.3.2 Criteria Area plant Species Within Criteria Area Four of the Southwest Plan Area for an Approximate 57.0 Acre Property located in an Unincorporated Area of Riverside County, California (TERACOR Resource Management 2006a).
- Step II, Part B Focused Burrowing Owl Survey Results for an Approximate 57.0 Acre Property Located in an Unincorporated Area of Riverside County, California (TERACOR Resource Management 2006c).
- Preliminary Evaluation of MSHCP-Defined Section 6.1.2 riparian/riverine and Vernal Pool Areas within the Approximate 57.0 Acre Property Located in an Unincorporated Area of Riverside County, California (TERACOR Resource Management 2006b).
- Delineation of Jurisdictional Waters Tentative Tract Map No. 35212 Project, Riverside County, California (ECORP).

The National Wetland Inventory was reviewed to determine if wetland areas had been documented within the Project site (USFWS 2017). The Web Soil Survey was used to aid in identifying soils onsite (USDA and NRCS 2017).

2.2 Field Investigations

Field surveys conducted for the Project included general surveys to characterize the site and focused surveys for MSHCP covered species. The following provides information on the field surveys conducted as part of the studies identified above. Methodology followed during each of these surveys is contained within their respective source documents.

- **General Survey.** TERACOR Resource Management biologists Samuel Reed, T. Searl and F. Perez conducted a reconnaissance-level field survey on July 10, 2006, to assess habitats on the site including riparian/riverine and vernal pool areas, and associated MSHCP covered species on the Project site. Vegetation communities identified within the proposed project area during field survey included agricultural land, California buckwheat scrub, emergent riparian, non-native grassland, disturbed and developed land. No areas meeting the MSHCP definition of a vernal pool were identified on the Project site. Riparian/riverine areas identified on the Project site are discussed in Section 3.1.
- **Narrow Endemic Plant Species Habitat Assessment.** TERACOR Resource Management biologists Samuel Reed, T. Searl and J. Reed conducted a habitat assessment for Narrow Endemic and Criteria Area Plant Species Survey Area Number 4 target species on March 21, April 13, July 10, and August 11, 2006. Habitat requirements for these species were

reviewed prior to the site visit. Only marginally suitable habitat for target species occurs on the Project site, and none of the species were detected during focused surveys.

- **Burrowing Owl Habitat Suitability Assessment, Focused Burrow Survey, and Focused Burrowing Owl Survey.** TERACOR Resource Management biologists Samuel Reed, T. Searl, F. Perez, and J. Reed conducted a habitat suitability assessment for burrowing owl (*Athene cunicularia*) and focused burrow survey was conducted on April 15, 2006, and focused burrowing owl surveys on August 26, 28, 30, and 31, 2006. No burrowing owls were observed during surveys, and no evidence that burrowing owls inhabit the Project site, or surrounding areas, was detected.
- **Jurisdictional Delineation.** The fieldwork for the jurisdictional delineation was conducted on July 28, 2017, by ECORP Biologists Ryan Villanueva and Taylor Dee. The results of the jurisdictional delineation are discussed in Section 4.0, Determination of Biologically Equivalent or Superior Preservation Analysis.

A list of all species observed on the project site was compiled from the survey data; this list is provided in Attachment A, Floral and Faunal Compendium.

3.0 EXISTING CONDITIONS

3.1 Physical Conditions

The topography within the Project site ranges from relatively flat along the northern portion to gentle rolling hills to the south with an elevational range of approximately 1,314 to 1,331 feet above mean sea level. Average annual low temperatures range from the high 30s°F in the winter and summer high temperatures average in the high 90s°F (Western Regional Climate Center 2017). The climate in this part of Riverside County tends to be consistent with seasonal changes throughout the year, with an average annual precipitation of approximately 11.32 inches.

The Project site consists of mostly agricultural land with an associated unpaved 15-foot wide access road that runs along the entire eastern boundary and a portion of the southern boundary. Surrounding land uses include undeveloped areas immediately north and south of the Project site, residential areas to the west, and the French Valley Airport to the east. The site is in poor condition with high levels of recent human activity observed. Most of the site, except for small patches of California buckwheat (*Eriogonum fasciculatum*) scrub, has been recently disked and planted with barley (*Hordeum vulgare*) to accommodate sheep grazing. Disking of the site likely occurs on an annual basis and both riparian and upland plant communities are not allowed to develop in areas where such communities commonly occur. Sheep grazing was ongoing during the time of the survey and had begun in the northern portions of the site.

The Project site also contains five drainages that weave through the site and along its eastern and western boundaries. A small patch of emergent riparian vegetation is found within a portion of one of the five drainages. The remaining drainages do not contain riparian plant communities and contain either disturbed areas or bare soil. Trash and other debris is present onsite especially in areas adjacent to SR-79.

The California buckwheat scrub plant community was dominated by mostly monotypic stands of California buckwheat. Other plants observed in this community included turkey mullein (*Croton setigerus*) and vinegar weed (*Trichostema lanceolatum*). A list of all plant species observed on site can be found in Attachment A.

The emergent riparian plant community was dominated by marsh parsley (*Cyclospermum leptophyllum*). Other plants observed in this community included scarlet pimpernel (*Lysimachia arvensis*), curly dock (*Rumex crispus*) and black mustard (*Brassica nigra*).

Agricultural lands contained planted barley. Few other plants were observed in the area used for agriculture.

Disturbed areas contained minimal vegetation cover as they had been recently disked but had not been planted with barley or were in areas adjacent to roadways. Plants observed in these areas included turkey mullein, black mustard, and tocalote (*Centaurea melitensis*).

Wildlife observed on-site included common raven (*Corvus corax*), American crow (*Corvus brachyrhynchos*), mourning dove (*Zenaida macroura*), black phoebe (*Sayornis nigricans*), Anna's hummingbird (*Calypte anna*), Say's phoebe (*Sayornis saya*), California towhee (*Melospiza crissalis*),

rock pigeon (*Columba livia*), northern mockingbird (*Mimus polyglottos*), red-tailed hawk (*Buteo jamaicensis*), western fence lizard (*Sceloporus occidentalis*), California ground squirrel (*Otospermophilus beecheyi*) and desert cottontail (*Sylvilagus audubonii*).

3.1.1 Soil

According to the Web Soil Survey (USDA and NRCS 2017), six soil units, or types, have been mapped within the Project site (Figure 3. *Natural Resources Conservation Service Soil Types*). These are:

- Auld clay, 2 to 8 percent slopes
- Bosanko clay, 2 to 8 percent slopes
- Cajalco rocky fine sandy loam, 5 to 15 percent slopes, eroded
- Las Posas loam, 8 to 15 percent slopes, eroded,
- Monserate sandy loam, 5 to 8 percent slopes, eroded
- Ramona sandy loam, 5 to 8 percent slopes, eroded

None of these soils are considered hydric or conducive to flooding, pooling, ponding, or other water features (USDA and NRCS 2017).

3.1.2 Hydrology

The site contains drainages that originate from culverts and generally flow in an east to west direction until they reach SR-79 where they enter one of two culverts along the western boundary. The onsite drainages convey flows primarily during rain events or when releases from French Valley Airport occur.

3.2 Riparian/Riverine Resources

The Western Riverside MSHCP defines Riparian/Riverine Areas as, "...lands which contain Habitat dominated by trees, shrubs, persistent emergents, or emergent mosses and lichens, which occur close to or which depend upon soil moisture from a nearby fresh water source; or areas with fresh water flow during all or a portion of the year."

Initial surveys conducted by TERACOR Resource Management field personnel in 2006 identified two MSHCP defined riparian/riverine areas on the Project site, totaling 0.15 acre (TERACOR Resource Management 2006b). An updated evaluation of riparian/riverine resources was conducted during a jurisdictional delineation conducted in July 2017. Six riparian/riverine features, including five ephemeral drainages and an inundated pond, were evaluated in the jurisdictional delineation (ECORP 2017). The riparian/riverine features evaluated are discussed below and are shown in Figure 4.



Figure 3.
Natural Resources Conservation
Service Soil Types

- Map Features**
- Project Boundary
- Series Number - Series Name**
- 17231 - Auld clay, 2 to 8 percent slopes
 - 17467 - Bosanko clay, 2 to 8 percent slopes
 - 458181 - Cajalco rocky fine sandy loam, 5 to 15 percent slopes, eroded
 - 17343 - Las Posas loam, 2 to 8 percent slopes
 - 17322 - Monserate sandy loam, 5 to 8 percent slopes, eroded
 - 17289 - Ramona sandy loam, 5 to 8 percent slopes, eroded

Natural Resources Conservation Service (NRCS)
Soil Survey Geographic (SSURGO) Database for
Riverside County, CA



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Figure 4.
Riparian/Riverine Areas

Map Features

- Project Boundary - 56.89 acres
- Reference Coordinate (NAD83)
- Culvert Location

Waters of the U.S.¹

Other Waters (0.45 acres / 4,788 lin. ft.)

- Ephemeral Drainage (0.24 acres / 4,749 lin. ft.)
- Intermittent Drainage (0.01 acres / 39 lin. ft.)
- Inundated Pond (0.20 acres)

CDFW Jurisdiction²

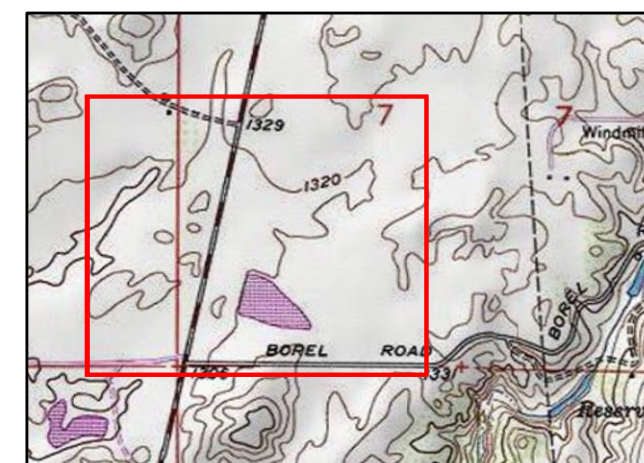
- Streambed (0.28 acres)

¹ Subject to U.S. Army Corps of Engineers verification. This exhibit depicts information and data produced in accord with the wetland delineation methods described in the 1987 Corps of Engineers Wetland Delineation Manual and the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region Version 2.0, as well as the Updated Map and Drawing Standards for the South Pacific Division Regulatory Program as amended on February 10, 2016, and conforms to Los Angeles District specifications. However, feature boundaries have not been legally surveyed and may be subject to minor adjustments if more accurate locations are required.

² All Waters of the U.S. shown on this figure are also under CDFW jurisdiction. The acreage of streambed reported is the area of CDFW jurisdiction that is not accounted for under the Waters of the U.S. reported acreages.

The acreage value for each feature has been rounded to the nearest 1/1000 decimal. Summation of these values may not equal the total potential Waters of the U.S. acreage reported.

USGS 24k Quadrangle: Murrieta, CA



Service Layer Credits: Copyright © 2013 National Geographic Society, i-cubed



4.0 DETERMINATION OF BIOLOGICALLY EQUIVALENT OR SUPERIOR PRESERVATION ANALYSIS

4.1 Riparian/riparian Resources Impact Analysis

The onsite riparian/riverine habitat is composed of ephemeral drainages that generally flow in an east to west direction following on-site overland flow and smaller drainages to reach main, offsite drainages that are ultimately tributary to the Pacific Ocean.

Four of the drainages and a portion of the fifth drainage were ephemeral in nature containing water only during heavy rain events. Vegetation within the ephemeral drainages is highly ruderal and dominated by black mustard (*Brassica nigra*), turkey mullein (*Croton setigerus*), tocalote (*Centaurea melitensis*) and other commonly occurring disturbance-associated plants.

A small portion of the fifth drainage, classified as an intermittent stream, contained emergent riparian vegetation dominated by marsh parsley (*Cyclospermum leptophyllum*), and with scarlet pimpernel (*Lysimachia arvensis*), curly dock (*Rumex crispus*) and black mustard. This drainage is fed by manmade runoff originating from a nearby culvert. The ephemeral/intermittent drainages do not contain riparian vegetation and do not contain habitat to support species identified in MSHCP Section 6.1.2.

A single, inundated pond on-site is connected to an ephemeral drainage (Feature 2). The inundated pond receives its water from Feature 2 as it flows during heavy rain events. The pond showed signs of inundation on aerial photos taken in February 2016 and January 2013. Vegetation within the inundated pond was minimal due to recent disking but included upland plants, including black mustard. The inundated pond does not contain riparian vegetation and does not contain habitat to support species identified in MSHCP Section 6.1.2.

The results of the jurisdictional delineation found a total of 0.45 acre of features that were potential non-wetland waters subject to U.S. Army Corps of Engineers (USACE) jurisdiction, and 0.74 acres of streambed subject to California Department of Fish and Wildlife (CDFW) jurisdiction within the study area (ECORP 2017). The extent of the CDFW jurisdiction corresponds with the MSHCP protected riverine resources, which are the subject of this DBESP. Table 1 shows the acreage of potential USACE and CDFW jurisdictional by feature.

Table 1. Potential Jurisdictional Features

Drainage Feature	Drainage Length (feet)	U.S. Army Corps of Engineers Non-Wetland Waters (acres)	California Department of Fish and Wildlife Streambed (acres)
1	711	0.02	0.02
2	2,170	0.12	0.40
3	110	0.01	0.01
4	1,033	0.05	0.05
5 (ephemeral)	735	0.05	0.05
5 (intermittent)	39	0.01	0.01
Inundated Pond	N/A	0.20	0.20
Total	4,788	0.45	0.74

4.2 Covered Species

ECORP reviewed and concurred with the report prepared by TERACOR Resource Management (2006b) the reviewed the covered species associated with riparian/riverine habitat as noted below:

None of the MSHCP-listed amphibian riparian/riverine species would be expected to occur within the riparian/riverine areas. Arroyo toad, California red-legged frog and mountain yellow-legged frog all have narrow habitat requirements and limited distribution within Western Riverside County. These riparian/riverine areas are not located within the known ranges of the three species. Additionally, the site is not listed as a target conservation area for any of the three species. Furthermore, listed species downstream of the site do not benefit appreciably from riparian/riverine resources derived from the site.

MSHCP-listed riparian/riverine raptor occurrence, bald eagle, and peregrine falcon, within the area, would not be expected to occur, though peregrine falcon could occur during migration. Preferred nesting areas are not located on-site. No bald eagles or peregrine falcons were observed within the riparian area or on-site.

This riparian/riverine areas are not considered suitable for the MSHCP-listed riparian songbirds, least Bell's vireo, southwestern willow flycatcher, and western yellow-billed cuckoo as further noted below. None of these species were observed on-site, or are expected to occur due to the 1) limited riparian vegetation on-site, and 2) highly disturbed nature of the project site.

Habitat within the riparian/riverine areas are not suitable for fish, specifically the Santa Ana sucker.

Furthermore, in that same report, a detailed account of Riverside fairy shrimp (*Streptocephalus woottoni*), Santa Rosa Plateau fairy shrimp (*Underiella santarosae*), and vernal pool fairy shrimp (*Branchinecta lynchi*) was provided that confirmed that none of the species were present or likely to occur due to lack of habitat. ECORP confirmed that conditions described above were accurate for all covered species discussed. Additional information is provided on riparian songbirds below.

4.2.1 Least Bell's Vireo

The least Bell's vireo (*Vireo bellii pusillus*) is listed as an endangered species pursuant to the California Endangered Species Act and endangered under the federal Endangered Species Act. The least Bell's vireo is endemic to California and Baja California, Mexico. It is a highly migratory species that only occurs in the region during the breeding season. The males arrive sometime in late March to April and establish breeding territories, and the females arrive shortly thereafter (USFWS 1998). The least Bell's vireo usually returns to the wintering grounds sometime in August to September. The species is dependent upon riparian habitat during the breeding season and prefers willow-dominated woodland or scrub that typically exists along streams and rivers. (Franzreb 1989). Other habitat types used include mulefat scrub, mixed oak/willow woodland, mesquite woodland, and elderberry scrub. Habitat characteristics that appear to be essential for vireo occupation include dense cover from 3 to 6 feet in height for nesting and foraging, and stratified canopy providing both foraging habitat and song perches for territorial advertisement.

Least Bell's vireo has not been observed onsite. The site lacks suitable habitat for the species as trees and riparian shrubs are absent from the Project site. Least Bell's vireo is considered absent from the Project site.

4.2.2 Southwestern Willow Flycatcher

The southwestern willow flycatcher (*Empidonax traillii extimus*) is a federally threatened subspecies of the willow flycatcher. This subspecies' breeding range include southern California (from the Santa Ynez River, in Santa Barbara County, south), Arizona, New Mexico, southern Nevada and Utah, southwest Colorado, and western Texas, and rarely into northern Baja California del Norte and Sonora, Mexico. Wintering grounds may include Costa Rica (Sogge, Ahlers, and Sferra 2010). Southwestern willow flycatchers are riparian obligates that typically nest in dense riparian vegetation with surface water or high soil moisture present (Sogge, Ahlers, and Sferra 2010). The typical vegetation types used for nesting can be categorized as native broadleaf (usually willows), monotypic exotic (saltcedar, Russian olive), and mixed native/exotic (willows with saltcedar, Russian olive) (Sogge, Ahlers, and Sferra 2010). Nesting occurs from May through August.

Southwestern willow flycatcher has not been observed onsite. The site lacks suitable habitat for the species as trees and riparian shrubs are absent from the Project site. Southwestern willow flycatcher is considered absent from the Project site.

4.2.3 Western Yellow-Billed Cuckoo

Western yellow-billed cuckoo (*Coccyzus americanus occidentalis*) is listed as an endangered species pursuant to the California Endangered Species Act and threatened under the federal Endangered Species Act. The western yellow-billed cuckoo is one of two subspecies of yellow-billed cuckoo. The federal listing pertains to the western Distinct Population Segment (DPS), whose breeding range is west of the Rocky Mountains (USFWS 2014). In California, breeding populations can be found on the Feather River from Oroville to Verona, Butte, Yuba, and Sutter counties; the Owens Valley, Inyo County; the Santa Clara River, Los Angeles County; the Mojave River, San Bernardino County, and the Colorado River, San Bernardino and Imperial counties (Laymon 1998). The western DPS breeds in riparian vegetation communities. Along the Sacramento River, nesting habitat included depositional point bars with young stands of low woody vegetation (Laymon 1998). In southern California, breeding habitat includes desert riparian woodlands (Sonoran Zones) comprised of dense willow (*Salix* spp.), Fremont cottonwood (*Populus fremontii*), and mesquite (*Prosopis* spp.) (Hughes 2015).

Western yellow-billed cuckoo has not been observed onsite. The site lacks suitable habitat for the species as trees and riparian shrubs are absent from the Project site. Western yellow-billed cuckoo is considered absent from the Project site.

4.2 Functions and Values Assessment

Riparian/riverine habitat in the Project site and directly adjacent to the Project is moderately to highly disturbed due primarily to ongoing agricultural practices and adjacent development (e.g., urban runoff). The riparian/riverine areas within the proposed project limits consist mainly of

ephemeral drainages that carry water after rain events and function to provide minimal storage of flood waters.

The area of riparian vegetation is small and does not contain the necessary structural diversity to support targeted MSHCP riparian/riverine species identified in Section 6.1.2. The site is primarily vegetated by agricultural lands, non-native grasslands, and ruderal vegetation and occurs in an area developed by residential housing, commercial use areas, and agricultural lands. Riparian/riverine features on the site provide low to moderate value for such functions as hydrologic regime, flood storage and flood flow modification, sediment trapping and transport, nutrient retention and transformation, toxicant trapping (Novitzki, Smith, and Fretwell 1997).

Potential downstream effects to existing or proposed conservation lands and/or conserved species are not expected when proposed mitigation measures are considered in conjunction with the proposed project. In addition, the impacted drainages on-site immediately flow east to west, away from the existing Criteria Cells and conserved land lands. Resources downstream and offsite include The Golf Club at Rancho California to the southwest of the Project. Onsite drainages are believed to flow into several sequential ponds located on the golf course during heavy rain events. Ponds on the golf course are perennial and likely fed by an artificial water source on the course grounds. The ponds also receive water from nearby urban runoff and are not reliant on flows from drainages located on the Project site. During heavy rain events, Project drainages may contribute flow between the ponds and further downstream along with urban runoff. Therefore, from a riparian/riverine planning species perspective, the net effect of the project would be equivalent or superior to existing conditions.

4.3 Quantification of Unavoidable Impacts to Riparian/Riverine Areas

The project is still in the conceptual design phase, and impacts will be avoided to the maximum extent practicable. According to the current conceptual site plan, implementation of the project would permanently impact up to 0.74 acres of identified riparian/riverine habitat. No riparian/riverine habitat would be left intact onsite.

5.0 PROJECT DESIGN FEATURES AND MITIGATION MEASURES TO PROTECT RIPARIAN/RIVERINE RESOURCES

5.1 Project Design Features

The Project design outlines the full development of the site. As part of the design, all impacted drainages will be placed underground in a culvert suitable to contain the flows of the respective drainage. The new culverts will connect to the existing culverts that carry flows offsite and are currently located along SR-79. The culverts will maintain and/or improve hydrologic regime, flood storage and flood flow modification, sediment trapping and transport, nutrient retention and transformation, toxicant trapping.

Neither landscaping nor plantings are planned for the onsite drainages as they are to be enclosed as culverts. The Project will adhere to local, state, and federal laws that apply to the Project, as well as Project-specific mitigation measures and conditions of environmental permits for the Project.

5.2 Mitigation Measures to Reduce/Minimize Direct Impacts

The proposed and recommended mitigation measures are provided below; however, they should be amended and/or incorporated into the forthcoming requirements conditioned by the resource agencies for the proposed project. The impacts include:

- Direct permanent unavoidable impacts would occur on a total of up to 0.74 acres of MSHCP-defined riparian/riverine areas.

5.2.1 Mitigation Measure 1 – Riparian/Riverine

The following conditions will be applied to the project so that impacts are reduced as construction occurs. The applicant will obtain all appropriate permits for impacts on USACE, RWQCB and CDFW jurisdictional areas. Mitigation for the loss of jurisdictional areas may consist of three different options including the payment of an in-lieu fee to Santa Ana Watershed Authority (SAWA) or other agency-approved entity, purchase of credits at an agency-approved mitigation bank, or offsite restoration of riparian habitat at no less than a 1:1 ratio to ensure no net loss of habitat. Prior to issuance of a grading permit, the in-lieu fee will be paid, mitigation credits will be purchased or a draft conceptual mitigation plan will be prepared for impacted jurisdictional areas. The conceptual mitigation plan, if required, will be approved by the USACE, RWQCB, and CDFW with the following items:

- **Responsibilities and qualifications of the personnel to implement and supervise the plan.** The responsibilities of the landowner, specialists, and maintenance personnel that would supervise and implement the plan will be specified.
- **Site selection.** The mitigation site will be determined in coordination with the applicant and the resource agencies. The site will either be located on the project site in a dedicated open space area or land will be purchased offsite.

- ***Long-term preservation.*** Long-term preservation of the selected site will also be outlined in the conceptual mitigation plan to ensure the mitigation site is not impacted by future development.

5.2.2 Mitigation Measure 2 – Construction Minimization Measure

The following Construction Minimization Measures (Section 7.5.3 of the MSHCP) will be implemented during project construction to minimize impacts on biological resources during construction:

- Plans for water pollution and erosion control will be prepared. The plans will describe sediment and hazardous materials control, dewatering or diversion structures, fueling and equipment management practices, and use of plant material for erosion control.
- Avoid work in riparian areas during most active breeding season; typically designated as March 1 to June 30 by the CDFW/MSHCP Guidelines. Disturbance is restricted to a minimum of 300 feet away from any active nest.
- If vegetation removal must occur during this avoidance period, then a nest survey by a qualified biologist is required. The nest survey shall be conducted for five consecutive days and no more than three days prior to clearing. If an active nest is observed, then the nest location shall be fenced off surrounding a minimum 300-foot (500 feet for raptors) radius buffer zone. The buffer zone shall not be disturbed until the nest is inactive.
- Sediment and erosion control measures will be implemented until such time soils are determined to be successfully stabilized.
- Short-term stream diversions, if needed, will be accomplished by use of sandbags or other methods that will result in minimal instream impacts. Short-term diversions will consider effects on wildlife.
- Silt fencing or other sediment trapping materials will be installed at the downstream end of construction activities to minimize the transport of sediments off-site.
- Settling ponds where sediment is collected will be cleaned in a manner that prevents sediment from re-entering the stream or damaging/disturbing adjacent areas. Sediment from settling ponds will be removed to a location where sediment cannot re-enter the stream or surrounding drainage area. Care will be exercised during removal of silt fencing to minimize release of debris or sediment into streams.
- No erodible materials will be deposited into water courses. Brush, loose soils, or other debris material will not be stockpiled within stream channels or on adjacent banks.
- The footprint of disturbance will be minimized to the maximum extent feasible. Access to sites will occur on pre-existing access routes to the greatest extent possible.
- Equipment storage, fueling and staging areas will be sited on non-sensitive upland habitat types with minimal risk of direct discharge into riparian areas or other sensitive habitat types.

- The limits of disturbance, including the upstream, downstream and lateral extents, will be clearly defined and marked in the field. Monitoring personnel will review the limits of disturbance prior to initiation of construction activities.
- During construction, the placement of equipment within the stream or on adjacent banks or adjacent upland habitats occupied by covered species that are outside of the project footprint will be avoided.
- Exotic species removed during construction will be properly handled to prevent sprouting or regrowth.
- Training of construction personnel will be provided.
- Ongoing monitoring and reporting will occur for the duration of the construction activity to ensure implementation of best management practices.
- When work is conducted during the fire season (as identified by the Riverside County Fire Department) adjacent to RSS vegetation, appropriate firefighting equipment (e.g., extinguishers, shovels, water tankers) shall be available on the site during all phases of project construction to help minimize the chance of human-caused wildfires. Shields, protective mats, and/or other fire preventative methods shall be used during grinding, welding, and other spark-inducing activities. Personnel trained in fire hazards, preventative actions, and responses to fires shall advise contractors regarding fire risk from all construction-related activities.
- Active construction areas shall be watered regularly to control dust and minimize impacts to adjacent vegetation.
- All equipment maintenance, staging, and dispensing of fuel, oil, coolant, or any other toxic substances shall occur only in designated areas within the proposed grading limits of the project site. These designated areas shall be clearly marked and located in such a manner as to contain runoff.
- No waste, dirt, rubble, or trash shall be deposited in the Conservation Area or on native habitat.

5.2.3 MSHCP Appendix C Standard Best Management Practices

- A qualified biologist shall conduct a training session for project personnel prior to grading. The training shall include a description of the species of concern and its habitats, the general provisions of the Endangered Species Act (Act) and the MSHCP, the need to adhere to the provisions of the Act and the MSHCP, the penalties associated with violating the provisions of the Act, the general measures that are being implemented to conserve the species of concern as they relate to the project, and the access routes to and project site boundaries within which the project activities must be accomplished.
- Water pollution and erosion control plans shall be developed and implemented in accordance with RWQCB requirements.

- The footprint of disturbance shall be minimized to the maximum extent feasible. Access to sites shall be via preexisting access routes to the greatest extent possible.
- The upstream and downstream limits of projects disturbance plus lateral limits of disturbance on either side of the stream shall be clearly defined and marked in the field and reviewed by the biologist prior to initiation of work.
- Projects should be designed to avoid the placement of equipment and personnel within the stream channel or on sand and gravel bars, banks, and adjacent upland habitats used by target species of concern.
- Projects that cannot be conducted without placing equipment or personnel in sensitive habitats should be timed to avoid the breeding season of riparian bird species identified in MSHCP Global Species Objective No. 7.
- When stream flows must be diverted, the diversions shall be conducted using sandbags or other methods requiring minimal in stream impacts. Silt fencing or other sediment trapping materials shall be installed at the downstream end of construction activity to minimize the transport of sediments off site. Settling ponds where sediment is collected shall be cleaned out in a manner that prevents the sediment from reentering the stream. Care shall be exercised when removing silt fences, as feasible, to prevent debris or sediment from returning to the stream.
- Equipment storage, fueling, and staging areas shall be located on upland sites with minimal risks of direct drainage into riparian areas or other sensitive habitats. These designated areas shall be located in such a manner as to prevent any runoff from entering sensitive habitat. Necessary precautions shall be taken to prevent the release of cement or other toxic substances into surface waters. Project related spills of hazardous materials shall be reported to appropriate entities including but not limited to applicable jurisdictional city, USFWS, CDFW, and RWQCB and shall be cleaned up immediately and contaminated soils removed to approved disposal areas.
- Erodible fill material shall not be deposited into water courses. Brush, loose soils, or other similar debris material shall not be stockpiled within the stream channel or on its banks.
- The qualified project biologist shall monitor construction activities when working in identified LAPM and BUOW habitat and any other sensitive areas to ensure that practicable measures are being employed to avoid incidental disturbance of habitat and species of concern outside the project footprint.
- The removal of native vegetation shall be avoided and minimized to the maximum extent practicable. Temporary impacts shall be returned to preexisting contours and revegetated with appropriate native species.
- Exotic species that prey upon or displace target species of concern should be permanently removed from the site to the extent feasible.

- To avoid attracting predators of the species of concern, the project site shall be kept as clean of debris as possible. All food-related trash items shall be enclosed in sealed containers and regularly removed from the site(s).
- Construction employees shall strictly limit their activities, vehicles, equipment, and construction materials to the proposed project footprint and designated staging areas and routes of travel. The construction area(s) shall be the minimal area necessary to complete the project and shall be specified in the construction plans. Construction limits will be fenced with orange snow screen. Exclusion fencing should be maintained until the completion of all construction activities. Employees shall be instructed that their activities are restricted to the construction areas.
- The City shall have the right to access and inspect any sites of approved projects including any restoration/enhancement area for compliance with project approval conditions including these BMPs.

5.3 Urban/Wildland Interface Guidelines and Mitigation for Indirect Impacts

Urban/Wildlife Interface Guidelines shall be incorporated into the Project design to ensure indirect project-related impacts to Riparian/Riverine habitat are avoided or minimized to the greatest extent feasible. The nearest conserved lands to the Project are located over 2000 feet away to the southeast in Criteria Cell 6074 (Western Riverside County Regional Conservation Authority 2017). Furthermore, the French Valley Airport is situated between the Project and the nearest conservation area.

5.3.1 Drainage

Proposed developments in proximity to the MSHCP Conservation Area will incorporate measures, including measures required through the National Pollutant Discharge Elimination System (NPDES) requirements, to ensure that the quantity and quality of runoff discharged to the MSHCP Conservation Area is not altered in an adverse way when compared with existing conditions. Measures will be put in place to avoid the discharge of untreated surface runoff from developed and paved areas into the MSHCP Conservation Area. Stormwater systems will be designed to prevent the release of toxins, chemicals, petroleum products, exotic plant materials, or other elements that might degrade or harm biological resources or ecosystem processes within the MSHCP Conservation Area. This can be accomplished using a variety of methods including natural detention basins, grass swales, or mechanical trapping devices. Regular maintenance will occur to ensure effective operations of runoff control systems.

5.3.2 Toxics

Local, State and Federal regulations limit the discharge of chemicals that adversely affect wildlife. There are no Project features, direct or indirect, that would result in discharge of toxic chemicals.

5.3.3 Lighting

Night lighting will be directed away from the MSHCP Conservation Area to protect species within the MSHCP Conservation Area from direct night lighting. Shielding will be incorporated in project designs to ensure ambient lighting in the MSHCP Conservation Area is not increased.

5.3.4 Noise

The project site is located in an area already subject to fairly high ambient noise levels due to street and airport traffic. The completed project would not subject a MSHCP Conservation Area to noise above the existing ambient noise level. The construction site is west of the existing French Valley Airport which is closer to the closest MSHCP Conservation Area in Criteria Cell 6074 to the southeast, thus temporary construction-related noise impacts would not negatively impact resources within the Conservation Area.

5.3.5 Invasive Plant Species

No invasive species from MSHCP Table 6.2 shall be included in any landscaping for the project.

5.3.6 Barriers

The construction site is west of the existing French Valley Airport and does not abut any conservation areas, thus no barriers are anticipated to be included as part of the project design.

5.3.7 Grading/Land Development

Project-related grading would occur outside of MSHCP Conservation Areas.

6.0 FINDINGS OF DETERMINATION OF BIOLOGICALLY EQUIVALENT OR SUPERIOR PRESERVATION

Implementation of the avoidance, minimization, and compensatory mitigation presented in Section 5 would mitigate for proposed impacts to riparian/riparian resources. As identified in Section 5, the existing riparian/riparian resources in the study area do not provide habitat for Section 6.1.2 planning species.

The removal of 0.74 acres of riparian/riverine resources in the form of intermittent and ephemeral drainages and inundated pond is considered a significant loss. Due to the current and historic use of the site for agricultural purposes, the onsite riverine habitat mainly functions to convey water during heavy rain events. The onsite riverine habitat contains minimal vegetation and does not provide habitat for species listed under MSHCP Section 6.1.2 including least Bell's vireo, southwestern willow flycatcher or western yellow-billed cuckoo and fairy shrimp. The loss of the onsite riparian/riverine habitat will not impact these species or their populations.

Although the functions and values of existing drainages will be temporarily altered, the mitigation outlined in Section 5.2.1 Mitigation Measure 1 – Riparian/Riverine, will provide superior functions and values in an area that will be protected by a conservation easement or other similar agreement as outlined in a conceptual mitigation plan. The payment of an in-lieu fee, purchase of mitigation credits or restoration or preservation of off-site riverine habitat is expected to be biologically superior to allowing the habitat to remain in place especially if the offsite habitat is located along a larger watercourse that is connected to other regionally significant habitat areas.

Potential downstream effects to existing or proposed conservation lands and/or conserved species are not expected when proposed mitigation measures are considered in conjunction with the proposed project. In addition, the impacted drainages on-site immediately flow east to west, away from the existing Criteria Cells and conserved lands. Therefore, from a riparian/riverine planning species perspective, the net effect of the project would be equivalent or superior to existing conditions.

For these reasons, the proposed mitigation would be considered biologically equivalent or superior to the functions and values currently provided by the onsite riverine habitat.

7.0 REFERENCES

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- Western Riverside County Regional Conservation Authority. 2017. RCA MSHCP Information App.

LIST OF ATTACHMENTS

Attachment A – Floral and Faunal Compendium

Attachment B – Site Photographs

ATTACHMENT A

Floral and Faunal Compendium

Floral Compendium

Scientific Name	Common Name
AMARANTHACEAE	AMARANTH FAMILY
<i>Amaranthus albus</i> *	tumbleweed
APIACEAE	PARSLEY FAMILY
<i>Cyclospermum leptophyllum</i>	marsh parsley
ASTERACEAE	SUNFLOWER FAMILY
<i>Ambrosia acanthicarpa</i>	Annual bur sage
<i>Ambrosia psilostachya</i>	western ragweed
<i>Baccharis pilularis</i>	coyote brush
<i>Centaurea melitensis</i> *	totalote
<i>Chamomilla suaveolens</i> *	pineapple weed
<i>Cirsium vulgare</i> *	bull thistle
<i>Conyza bonariensis</i> *	asthmaweed
<i>Conyza canadensis</i>	horseweed
<i>Corethrogyne filaginifolia</i>	California sandaster
<i>Deinandra fasciculata</i>	clustered tarweed
<i>Deinandra paniculata</i>	San Diego tarweed
<i>Helianthus annuus</i>	annual sunflower
<i>Heterotheca grandiflora</i>	telegraph weed
<i>Lactuca serriola</i> *	prickly lettuce
<i>Xanthium strumarium</i>	cocklebur
BORAGINACEAE	BORAGE FAMILY
<i>Amsinckia intermedia</i>	common fiddleneck
<i>Cryptantha sp.</i>	catseye
<i>Heliotropium curassavicum</i>	salt heliotrope
BRASSICACEAE	MUSTARD FAMILY
<i>Brassica nigra</i> *	black mustard
<i>Hirschfeldia incana</i> *	shortpod mustard
CHENOPODIACEAE	GOOSEFOOT FAMILY
<i>Salsola tragus</i>	Russian thistle
CONVOLVULACEAE	MORNING GLORY FAMILY
<i>Calystegia macrostegia</i>	island false bindweed
CYPERACEAE	SEDGE FAMILY
<i>Cyperus eragrostis</i>	umbrella sedge
<i>Eleocharis macrostachya</i>	pale spikerush
EUPHORBIACEAE	SPURGE FAMILY
<i>Croton setigerus</i>	turkey mullein
<i>Ephorbia serpyllifolia</i>	thyme-leaved spurge
<i>Ephorbia sp.</i> *	spurge
FABACEAE	LEGUME FAMILY
<i>Acmispon americanus</i>	American bird's-foot trefoil
<i>Acmispon glabris</i>	common deerweed
<i>Lupinus bicolor</i>	miniature lupine
<i>Medicago polymorpha</i> *	California burclover
<i>Melilotus officinalis</i> *	yellow sweet clover
<i>Trifolium willdenovii</i>	tomcat clover

GERANIACEAE	GERANIUM FAMILY
<i>Erodium sp.*</i>	filaree
JUNCACEAE	RUSH FAMILY
<i>Juncus triformis</i>	Yosemite dwarf rush
LAMIACEAE	MINT FAMILY
<i>Trichostema lanceolatum</i>	Vinegar weed
MALVACEAE	MALLOW FAMILY
<i>Malva parviflora*</i>	cheese weed
ONAGRACEAE	EVENING PRIMROSE FAMILY
<i>Epilobium brachycarpum</i>	tall annual willowweed
<i>Epilobium ciliatum</i>	hairy willowherb
PLANTAGINACEAE	PLANTAIN FAMILY
<i>Veronica sp.</i>	speedwell
POACEAE	GRASS FAMILY
<i>Avena barbata*</i>	slender wildoat
<i>Bromus diandrus*</i>	ripgut brome
<i>Bromus hordeaceus*</i>	soft brome
<i>Bromus madritensis ssp. rubens</i>	Red brome
<i>Cynodon dactylon*</i>	Bermuda grass
<i>Digitaria sp.*</i>	crabgrass
<i>Hordeum vulgare*</i>	Common barley
<i>Lolium sp.*</i>	ryegrass
<i>Polypogon monspeliensis</i>	Rabbit's foot grass
POLYGONACEAE	BUCKWHEAT FAMILY
<i>Eriogonum fasciculatum</i>	California buckwheat
<i>Eriogonum sp.</i>	buckwheat
<i>Rumex crispus*</i>	curly dock
PRIMULACEAE	PRIMROSE FAMILY
<i>Anagallis arvensis</i>	scarlet pimpernel
SALICACEAE	WILLOW FAMILY
<i>Salix lasiolepis</i>	arroyo willow
SOLANACEAE	NIGHTSHADE FAMILY
<i>Datura wrightii</i>	Jimsonweed
<i>Nicotiana glauca*</i>	Tree tobacco
TAMARICACEAE	TAMARISK FAMILY
<i>Tamarix sp.*</i>	tamarisk

* nonnative species

Faunal Compendium

Scientific Name	Common Name
CLASS AVES	BIRDS
ACCIPITRIDAE	HAWKS, KITES, EAGLES
<i>Buteo jamaicensis</i>	red-tailed hawk
COLUMBIDAE	PIGEONS AND DOVES
<i>Columba livia*</i>	rock dove (rock pigeon)
<i>Zenaida macroura</i>	mourning dove

CORVIDAE	JAYS & CROWS
<i>Corvus brachyrhynchos</i>	American crow
<i>Corvus corax</i>	common raven
EMBERIZIDAE	EMBERIZIDS
<i>Pipilo crissalis</i>	California towhee
MIMIDAE	MOCKINGBIRDS, THRASHERS
<i>Mimus polyglottos</i>	northern mockingbird
TROCHILIDAE	HUMMINGBIRDS
<i>Calypte anna</i>	Anna's hummingbird
TYRANNIDAE	TYRANT FLYCATCHERS
<i>Sayornis nigricans</i>	black phoebe
<i>Sayornis saya</i>	Say's phoebe
CLASS MAMMALIA	MAMMALS
LEPORIDAE	HARES & RABBITS
<i>Sylvilagus audubonii</i>	desert cottontail
SCIURIDAE	SQUIRRELS
<i>Otospermophilus beecheyi</i>	California ground squirrel
CLASS REPTILIA	REPTILES
IGUANIDAE	AMERICAN ARBOREAL LIZARDS, IGUANAS, AND CHUCKWALLAS*
<i>Sceloporus occidentalis</i>	western fence lizard

* nonnative species

ATTACHMENT B

Site Photographs



Site overview (northern portion), facing south



Site overview (southern portion), facing north. Sheep grazing.



Site overview (northern portion), facing south



Feature 1 outlet, facing east



Feature 1, facing south



Feature 2 outlet structure, facing east



Feature 2, facing east



Feature 3 outlet structure, facing west



Feature 4 inlet structure, facing west



Feature 4, facing north



Feature 5 outlet structure, facing south. Standing water present.