Biological Technical Report for
Subarea 29 Specific Plan Amendment Project
(Planning Areas 30-34)

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ACRONYMS, ABBREVIATIONS, AND GLOSSARY OF TERMS

§	Section
§§	Subsection
Ac	acre
APN	Assessor Parcel Number
BCC	bird of conservation concern
BLM	United States Bureau of Land Management
BLMS	Bureau of Land Management Sensitive Species
BMPs	Best Management Practices
BUOW	Burrowing Owl
CDFW	California Department of Fish and Wildlife
City	City of Ontario
CESA	California Endangered Species Act
CEQA	California Environmental Quality Act
CNDDB	California Natural Diversity Database
CNPS	California Native Plant Society
CRPR	California Rare Plant Rank
CWA	Federal Clean Water Act
DSF	Delhi Sands Flower-loving Fly
ESA	Federal Endangered Species Act
FGC	Fish and Game Code
I-10	Interstate 10
I-15	Interstate 15
MCV	Manual of California Vegetation
MBTA	Migratory Bird Treaty Act
MSL	mean sea level
NHD	National Hydrography Dataset
NMC	New Model Colony
NPPA	Native Plant Protection Act
NRCS	Natural Resources Conservation Service
NWI	National Wetlands Inventory
OHWM	Ordinary High-Water Mark
PA	Planning Area
Project	Subarea 29 Specific Plan 2021 Amendment area (Planning Areas 30-34)
RWQCB	Regional Water Quality Control Board
SCE	Southern California Edison
SCH	State Clearinghouse
sp.	unspecified species
spp.	several unspecified species
SR-60	State Route 60

SR-71	State Route 71
SR-91	State Route 91
SSC	Species of Special Concern
ST	State threatened
U.S.	United States
USACE	United States Army Corps of Engineers
USFS	United States Forest Service
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
VCS	VCS Environmental
WDR	Waste Discharge Requirements
WLS	Watch List Species
WOS	Waters of the State
WOUS	Waters of the United States
WQC	Water Quality Certification

1.0 INTRODUCTION

On behalf of Lewis Operating Corp. and Richland Communities, VCS Environmental (VCS) prepared this Biological Technical Report, which incorporates the findings from a biological survey conducted by VCS on September 1, 2021, and focused species surveys conducted in March, May, and June 2022. VCS prepared this report to support California Environmental Quality Act (CEQA) documentation for the Subarea 29 Specific Plan Amendment (Project) area, including Planning Areas (PA) 30 – 34 (generally located East and West of Haven Avenue and south of Eucalyptus Avenue) [herein after referred to as the "Project"] with the City of Ontario (City) as the lead agency.

1.1 Purpose and Approach

This report provides a summary of the conditions present during the September 2021 biological field survey and focused species surveys conducted in March, May, and June 2022, which included an assessment of the potential presence of sensitive biological resources, and an analysis of the potential impacts to those resources with implementation of the Project. This report identifies the current biological resources present within the Project Footprint including habitat communities and the potential for occurrence of special status plant and wildlife species. The potential biological impacts in view of federal, state, and local laws and regulations are also identified in this report. While general biological resources are discussed, the focus of this assessment is on those resources considered to be sensitive. The report also recommends, as appropriate, Best Management Practices (BMPs), avoidance, minimization, and mitigation measures to reduce or avoid potential impacts. This report was prepared based upon results of a literature review and field survey.

1.2 Terms

The following terms will be used throughout this document and are defined as follows:

- Project Footprint: the approximately 171.3-acre area assessed during the biological survey which encompasses Planning Areas (PAs) 30-34, the approximately 8.50-acre Southern California Edison (SCE) easement located on the eastern side of the property, and the approximately 11.7 acres roadway right of way (ROW) Off-site improvement area.

- Offsite improvements: the approximately 11.7 acres of ROW surrounding expansions where improvements will occur around the Property.

- Impact area: the entire approximately 171.3 acre area consisting of the Project Footprint that will be permanently impacted by the proposed Project.

- Burrowing Owl Study Area: includes the Project Footprint and a 500-foot buffer around the Project Footprint.

1.3 Project Location

The approximately 171.3-acre Project is located in the City of Ontario, San Bernardino County, California; the site is bounded by Eucalyptus Avenue to the north, Mill Creek Boulevard to the east, and Bellegrave Avenue to the south. Parkview Street and existing residential development occur west of the site. The Project is regionally accessible from State Route 60 (SR-60) and Haven Avenue to the north, and from Interstate 15 (I-15) and Limonite Avenue to the southeast [Figures 1 and 2; Regional Location and Aerial Map], respectively. The southern boundary of the Project is also the jurisdictional boundary between the cities of Ontario and Eastvale, and the counties of San Bernardino and Riverside. The Project is located on the U.S. Geological Survey (USGS) Corona North quadrangle in Sections 23 and 24, Township 2S, Range 7W (Figure 3).

The Assessor Parcel Numbers (APNs) are:

107317101, 107317102, 107317103, 107317104, 107317105, 107317106, 107317107, 107317108, 107317109, 107317110.

1.4 Regional Environmental Setting

The Project is located between the San Gabriel Mountains to the north and the Santa Ana Mountains to the south. This area of San Bernardino County is characterized by intense agricultural uses, including numerous dairy farming operations. The general area is converting into residential and related developments; thus, it exhibits a mosaic of developed and partially developed parcels, demolished and partially demolished dairies and farms, cleared lands, and active agricultural operations. The site is located less than three miles northwest of the Hidden Valley Wildlife Area and Prado Regional Park is located five miles southwest of the Project.

2.0 PROJECT DESCRIPTION

The proposed Project involves a Specific Plan Amendment to add approximately 113.24-acres to the Subarea 29 Specific Plan to include PAs 32, 33, and 34 to the Subarea 29 Specific Plan area (expansion area) and PAs 30 and 31. The Project, including PAs 30-34, an SCE Easement corridor between PAs 30 and 31, and offsite roadway improvements totals 171.3 acres (see Figure 4, Sub Area 29 – 2021 Plan Amendment Area (Land Use Plan), and Table 1 below).

Table 1. Subarea 29 SPA Acreage Calculations

Onsite	
Planning Area	**Onsite Net/Gross**
30	21.79
31	16.09
32	43.63
33	49.61
34	20.00
Onsite Subtotal	*151.12*
Onsite Total = 151.12	
Offsite	
SCE Easement	8.50
Roadway ROW (surrounding expansion area)	11.70
Offsite Subtotal	*20.20*
Total Project Area	**171.32**

It is assumed for purposes of this biological study that the entirety of the Amendment Area (171.3-acres) surveyed during the biological assessment (including PA 30-34) subject to the proposed Specific Plan Amendment will be disturbed with future implementation of uses allowed by the proposed Specific Plan Amendment.

The Subarea 29 Specific Plan currently allows for 2,418 dwelling units, including residential development allowed in existing PAs 30 and 31. The proposed Specific Plan expansion area, located immediately east of the original Specific Plan area, is bounded by Eucalyptus Avenue on the north, Haven Avenue on the west, Bellegrave Avenue on the south, and Mill Creek Boulevard on the east. The proposed Specific Plan Amendment permits the addition of 1,470 units (inclusive of the PA30/31 density increase and the addition of the land area east of Haven Avenue). This Amendment also introduces new home types and architectural styles to support the goals of the Specific Plan.

2.1 Current Conditions and Past Site Use

The Project is surrounded by agricultural lands such as dairies, stockyards, row crops, and nurseries to the north. The area to the east is currently being developed with a residential development per the Esperanza Specific Plan. The area to the south is developed with existing residential uses in the City of Eastvale. Residential uses in the Subarea 29 Specific Plan area are currently under construction to the west of the proposed expansion area and south of existing PAs 30 and 31. The Project Footprint supports five vegetation communities/land cover types. These vegetation communities/land cover types include Disturbed/Developed, Agricultural Row Crops, Herbaceous Non-native Forbs and Grasses, *Tamarix* spp. Stands, and *Nicotiana Glauca* Stands. Site photographs are attached as Appendix A.

The Project Footprint is generally flat with elevations ranging from approximately 676 to 703 feet (206 to 214 meters) above mean sea level (MSL) (Google Earth 2021).

Special status species observed within the Project Footprint include: Cooper's hawk (*Accipiter cooperii*), Bell's sage sparrow (*Artemisiospiza belli belli*), and San Diego black-tailed jackrabbit (*Lepus californicus bennettii*) during the September 1, 2021 survey; northern harrier (*Circus hudsonius*) on March 16, 2022, and white-faced ibis (*Plegadis chihi*) on June 21, 2022. No other special status species plant or animal species were observed onsite.

The site does not contain aquatic features containing jurisdictional waters of the U.S. or waters of the State.

2.2 City of Ontario Sphere of Influence Specific Plan Amendment, Final EIR, and Settlement Agreement

As further discussed in Section 5.4.1, Environmental Setting, of *The Ontario Plan Final Environmental Impact Report* (State Clearinghouse [SCH] No. 2008101140), in accordance with the Mitigation Fee Act (California Government Code, Section 66000 et seq.), the City of Ontario established a development impact fee for development in the New Model Community (NMC). The primary purpose of the fee is to acquire and restore mitigation lands to offset impacts to species now living in the NMC and impacts to existing open space. Fees collected will be used to advance the goals, objectives and policies set forth in the Specific Plan Amendment (SPA) for the NMC adopted in 1998 and any subsequent specific plan amendment. Residential, commercial, and industrial development is required to pay $4,320 per acre for the acquisition of open space. The Ontario Plan (TOP) 2050 Supplemental Environmental Impact Report (SEIR) Notice of Preparation has been completed, and an updated document is in preparation (SCH No. 2021070364).

The proposed Specific Plan Amendment is also subject to the applicable terms and conditions of the Settlement and General Release Agreement, November 28, 2001 (the Agreement). The

purpose of the Agreement is to settle and release fully and completely all claims of Endangered Habitats League and Sierra Club (Petitioners) in a lawsuit against the City of Ontario (the Respondent) commenced in February 1998. The Agreement addressed and provided mitigation for certain potential future environmental effects that could result from development, and covered potential environmental impacts to the Burrowing Owl, the Delhi Sands Flower-loving Fly, raptor foraging and wildlife habitat, loss of open space, actual and potential habitat, and agricultural lands. The Agreement also covered other sensitive species, both listed and non-listed, that inhabit or may inhabit similar habitat. Mitigation measures included in the Agreement which relate to biological resources include such things as the City's establishment of a mitigation fee based on developable acres, the City's establishment of long-term habitat area(s), management of said habitat by a land trust (or other conservation entity), and the requirement for biological studies in conjunction with CEQA and development applications. The GPA for the NMC Final EIR is presumed to be legally adequate based on the Settlement Agreement and inclusion of the mitigation measures established therein.

3.0 REGULATORY CONTEXT

The following is a list of the relevant federal, state, and local laws and regulations that apply to protecting plant communities, plants, wildlife, and water quality resources.

Agency/ Organization	Laws/Regulations	Notes
Federal	Clean Water Act (CWA) Section 401	Jurisdictional Waters of the State or Waters of the U.S. are considered absent within the Project Footprint; therefore, a Section 401 permit from the Regional Water Quality Control Board (RWQCB) would not be required.
	CWA Section 404	Jurisdictional Waters of the U.S. are considered absent within the Project Footprint; therefore, no impacts will occur, and a Section 404 permit would not be required from the United States Army Corps of Engineers (USACE).
	CWA Section 408	No facilities subject to Section 408 occur within the Project.
	Migratory Bird Treaty Act (MBTA)	Compliance with the MBTA will be achieved with pre-construction surveys for nesting birds within three days prior to initiation of work.
	Endangered Species Act (ESA)	No federally listed species were observed on the Project Footprint during the 2021 survey and are not considered to have moderate or high potential to occur within the Project Footprint.
State	Fish and Game Code (FGC) Section 1600	Jurisdictional Waters of the State are considered absent within the Project Footprint; therefore, a Streambed Alteration Agreement through California Department of Fish and Wildlife (CDFW) would not be required.
	FGC Sections 3503, 3503.5, and 3513	These FGC sections offer protection of nesting birds, birds-of-prey, and migratory birds. Compliance will be maintained with a pre-construction survey for nesting birds (including birds-of-prey and migratory birds) within three days prior to initiation of work.
	FGC Section 4150	Prohibits incidental or deliberate "take" of non-game mammals, including bats. The potential for bat roosting is low within the Project Footprint; incidental take of bats is not anticipated with implementation of Project activities.
	California Endangered Species Act (CESA)	No state listed species were observed within the Project Footprint during the 2021 survey and are not considered to have moderate or high potential to occur within the Project Footprint.
	Porter-Cologne Water Quality Control Act and Waste Discharge Requirements (WDR)	Jurisdictional Waters of the State are considered absent within the Project Footprint; therefore, a WDR from the RWQCB would not be required.

City of Ontario	Landscape Division 6.05.020 Tree Preservation Policy and Protection Measures	This code establishes policies and measures that will further the preservation, protection, and maintenance of established and healthy heritage trees, landmark, or significant outstanding features, and/or native trees within the City. Heritage, native and/or landmark significant trees were not observed within the Project Footprint, therefore, no preservation or protection measures for trees will be required.

3.1 Impacts Terminology

Potential impacts to biological resources that could result from implementation of the proposed Project are discussed in each of the Vegetation, Wildlife, and Jurisdictional Waters sections presented in this report.

Biological resources may be either directly or indirectly impacted by a project. Furthermore, direct and indirect impacts may be either permanent or temporary in nature. These impact categories are defined below. These terms will be used throughout the document.

- Direct Impact: Any loss, alteration, disturbance, or destruction of biological resources that would result from project-related activities is a direct impact. Examples include vegetation clearing, encroaching into wetlands, diverting natural surface water flows, and the loss of individual species and/or their habitats. Direct impacts are long-term.

- Indirect Impact: As a result of project-related activities, biological resources may also be affected in a manner that is not direct. Examples of indirect impacts include elevated noise, light, and dust levels, increased human activity, decreased water quality, erosion created by the removal of vegetation, and the introduction of invasive plants and unnatural predators (e.g., domestic cats and dogs). These indirect impacts may be both short-term and long-term in their extent.

- Permanent Impacts: All impacts that result in the long-term or irreversible removal of biological resources are considered permanent. Examples include constructing a building or permanent road on an area containing biological resources.

- Temporary Impacts: Any impacts considered to have reversible effects on biological resources can be viewed as temporary. Examples include the generation of fugitive dust during construction, removing vegetation, and either allowing the natural vegetation to recolonize or actively revegetating the impact area.

Under each section, potential impacts are discussed.

4.0 VEGETATION

4.1 Literature Review

4.1.1 Sensitive Plant Communities

Sensitive plant communities (sensitive habitats) as defined below, are of limited distribution statewide or within a county or region and are often vulnerable to environmental effects of projects. Sensitive habitats are often threatened with local extirpation and are therefore considered as valuable biological resources. Plant communities are considered "sensitive" by the California Native Plant Society (CNPS) and CDFW if they meet any of the following criteria listed below.

- The habitat is recognized and considered sensitive by CDFW, United States Fish and Wildlife Service (USFWS), and/or special interest groups such as CNPS.
- The habitat is under the jurisdiction of the USACE pursuant to Section 404 of the CWA.
- The habitat is under the jurisdiction of the CDFW pursuant to Sections 1600 through 1612 of the FGC.
- The habitat is known or believed to be of high priority for inventory in the California Natural Diversity Database (CNDDB).
- The habitat is considered regionally rare.
- The habitat has undergone a large-scale reduction due to increased encroachment and development.
- The habitat supports special status plant and/or wildlife species (defined below).
- The habitat functions as an important corridor for wildlife movement.

The most current version of CDFW's List of California Sensitive Natural Communities indicates which natural communities are sensitive given the current state of the California classification (CDFW 2021b).

4.1.2 Special Status Plants

Species of plants are afforded "special status" by federal agencies, state agencies, and/or non-governmental organizations (e.g., USFWS, CDFW, CNPS, and United States Forest Service [USFS]) because of their recognized rarity, potential vulnerability to extinction, and local importance. These species typically have a limited geographic range and/or limited habitat and are referred to

collectively as "special status" species. Plant species are considered "special status" species if they meet any of the following criteria:

- Taxa with official status under ESA, CESA, and/or the Native Plant Protection Act (NPPA).
- Taxa proposed for listing under ESA and/or CESA.
- Taxa identified as sensitive, unique or rare, by the USFWS, CDFW, USFS, and/or the Bureau of Land Management (BLM).
- Plants that meet the definition of rare or endangered under the California Environmental Quality Act (CEQA) §15380(b) and (d). Species that may meet the definition of rare or endangered include the following:
  - Species considered by CNPS and CDFW to be "rare, threatened or endangered in California" (California Rare Plant Rank [CRPR] 1A, 1B and 2; CNPS 2021). A majority of the CRPR 3 and CRPR 4 plant species generally do not qualify for protection under CESA and NPPA.
  - Species that may warrant consideration on the basis of local significance or recent biological information.
  - Some species included on the CNDDB Special Vascular Plants, Bryophytes, and Lichens List (CDFW 2021c).
- Considered a locally significant species, that is, a species that is not rare from a statewide perspective but is rare or uncommon in a local context such as within a county or region (CEQA §15125 (c)) or is so designated in local or regional plans, policies, or ordinances. Examples include a species at the outer limits of its known range or a species occurring on an uncommon soil type.

Available literature and databases were reviewed regarding sensitive habitats and special status plant species. Special status plant species that have the potential to occur within the immediate region of the Project were identified. Several agencies, including the USFWS, CDFW, and CNPS publish lists of particular taxa (species and subspecies) and the associated level of protection or concern associated with each. Reviewed and consulted literature and databases focused on the Project Footprint and included the following sources listed below:

- The CNDDB, a CDFW species account database that inventories status and locations of rare plants and wildlife in California, was used to identify any sensitive plant communities and special status plants that may exist within the following USGS Quadrangles: Ontario, Guasti, Fontana, Prado Dam, Corona North, and Riverside West (CDFW 2021a).

- Online CNPS Inventory of Rare and Endangered Plants of California (CNPS 2021). A search for the following USGS 7.5-Minute Topographic Map Quadrangles provided information regarding the distribution and habitats of special status vascular plants in the vicinity of the Project: Ontario, Guasti, Fontana, Prado Dam, Corona North, and Riverside West.

- A map of USFWS critical habitat to determine species with critical habitat mapped in the general vicinity of the Project (USFWS 2021a).

- Pertinent maps, scientific literature, websites, and regional flora and fauna field guides.

As noted previously, species occurrence and distribution information are often based on documented occurrences where opportunistic surveys have taken place; therefore, a lack of records does not necessarily indicate that a given species is absent from the Project Footprint.

4.2 Field Methodology

4.2.1 General Field Survey

A general biological survey was conducted within the Project Footprint on September 1, 2021 by VCS biologists Carla Marriner and Molly Burdick-Whipp, and botanist CJ Fotheringham. During the general biological survey, the biologists walked the entirety of the Project Footprint, paying special attention to those areas that could host sensitive vegetation communities or had the potential to provide suitable habitat for special status plant species. Plant species were identified using plant field and taxonomical guides, such as The Jepson Manual: Vascular Plants of California, second edition (Baldwin et al. 2012). All plant species encountered during the field survey were identified and recorded in field notes. The survey area for the Project consists of the potential impact area as currently known. All construction activities, including staging and equipment areas, are expected to be within the Project Footprint limits.

The vegetation communities and habitat conditions were inspected to confirm presence and habitat quality of the vegetation found onsite. Where appropriate, descriptions of vegetation communities from the Manual of California Vegetation (MCV) second edition (Sawyer et al. 2009) were also utilized. Any deviations from standard vegetation classifications were made on best professional judgment when areas did not fit into a specific habitat description provided by the MCV. Vegetation communities were mapped using field observations and utilizing aerial imagery. Plant species were identified in the field.

Scientific and common names for those species that are considered special status conform to the *Special Vascular Plants, Bryophytes, and Lichens List* (CDFW 2021c). Non-special status scientific and common names conform to the Jepson eFlora (Jepson Flora Project 2017).

4.2.2 Burrowing Owl Habitat Assessment and Focused Surveys

A habitat assessment for burrowing owl (*Athene cunicularia*) [BUOW] was conducted by VCS Biologists on September 1, 2021 at the time of the general field biological survey. The habitat assessment and focused surveys were conducted on foot, visually inspecting and mapping all areas of the site and adjacent areas (including a 500-foot buffer; Figure 5, Burrowing Owl Study Area) for components of burrowing owl habitat (i.e., sparsely vegetated areas with appropriate-sized burrows or man-made structures suitable for burrowing owl use).

The survey was conducted according to the CDFW survey guidelines described in the Staff Report on Burrowing Owl Mitigation (CDFW 2012) [Staff Report], to determine the presence or absence of this species and its suitable habitat within the Project Footprint. The results of this survey will be used to determine whether and to what extent this species would be affected by Project development.

Four BUOW focused surveys were performed in 2022 and included the Project Footprint and the Burrowing Owl Study Area as depicted on Figure 5, where direct or indirect impacts could potentially occur. The survey was not conducted during rain, high winds (>20 kilometers per hour), dense fog, cloud cover >75%, or temperatures above 20°C. Details of dates, times, weather conditions, and biologists performing the BUOW focused surveys are listed below in Table 2.

During the survey, VCS paid special attention to those habitat areas that appeared to provide suitable habitat for BUOW. The methods used to detect and identify BUOW included observation of key signs such as sight, scat, tracks, burrows, nests, and calls. All encountered burrows or structure entrances were checked for the presence of BUOWs, molted feathers, cast pellets, prey remains, eggshell fragments, tracks, or excrement at or near a burrow entrance. Natural or man-made structures and debris piles that could support BUOWs were also surveyed. All burrows were monitored at a short distance from the entrance, and at a location that would not interfere with owl behavior.

Onsite soil conditions, topography, vegetative communities, and habitat quality were documented during the field survey. All wildlife species encountered visually or audibly during the field survey were identified and recorded in field notes. Binoculars were used to aid in the identification of observed wildlife.

Table 2. Survey Dates and Conditions

Survey #	Date	Start	End	Temperature/Weather Conditions	Surveyors
1	3/16/2022	7:00 am	11:40 am	51˚F - 67° F; sunny and clear; 0-2 mph wind	CM, CE, NM

Survey #	Date	Start	End	Temperature/Weather Conditions	Surveyors
2	5/9/2022	6:10 am	9:30 am	55˚F - 62°F; mostly cloudy; 0-2 mph wind	WC, MBW, SF, NM
3	6/1/2022	6:10 am	9:30 am	57˚F-72˚F, sunny and clear; 0-2 mph wind	MBW, SF, NM, SV
4	6/21/2022	6:10 am	9:10 am	63˚F-78˚F, sunny and clear; 0-2 mph wind	WC, KD, MBW, SF

WC: Wade Caffrey CM: Carla Marriner MBW: Molly Burdick-Whipp SC: Sierra Valladares
KD: Kathy Douglas CE: Chris Eljenholm SF: Stephanie Fan NM: Natalie Munoz

4.2.3 Results of Previous Biological Assessments

General and focused surveys were previously conducted for portions of the Project Footprint by Psomas in 2006 (Psomas 2018) and BonTerra Consulting in 2005, 2006, and 2007 (BonTerra 2008). Vegetation mapping and general plant and wildlife surveys were performed on October 23, 2018 covering the approximately 125.8-acres of the eastern side of the Project Footprint (east of Haven Avenue); and, September 13, 2005 and January 9 and 25, 2006 surveys that covered the eastern half and the southern corner of the eastern portion of the Project Footprint; most of the western half of the Project Footprint was not mapped. Vegetation and other landcover was mapped in 2005/2006 as agricultural/dairies and stockyards, annual grassland, ruderal, developed/ornamental, and disturbed. The area east of Haven Avenue was included in the June 11, 2007 survey to reflect current conditions following dairy demolition and drought conditions.

At this time, the eastern portion of the Project Footprint consisted of disturbed and disturbed/developed landcover. Focused surveys were conducted for special status plant species on May 23, 2006 by BonTerra Consulting for the eastern half and the southern corner of the Project Footprint; most of the western half of the Project was not assessed. No special status plant species were observed on the site during those surveys.

Vegetation and other landcover mapped on the eastern portion (east of Haven Avenue) of the site in 2018 included Agricultural-Row Crops, Ruderal, and Disturbed. Vegetation present on this portion of the Project Footprint was dominated by non-native, invasive plant species or agricultural crops. These areas are not considered to be special status vegetation types.

Additionally, the area west of Haven Avenue known as the Schakel parcel in 2005, which consists of approximately 27 acres was surveyed by ECORP Consulting, Inc. in October 2005. This property was developed as a small dairy which included a house, barns and other outbuildings. Holding ponds were present along the southern, western and northwestern boundaries of the site. Vegetation consisted of ruderal and non-native weedy plants and non-native grasses. No special

status wildlife and/or plants species were observed and, additionally, no suitable burrows for burrowing owl were found during the surveys.

4.3 Results

4.3.1 Vegetation Communities/Land Cover

Vegetation/land cover mapping and acreages for each vegetation community and land type within the Project Footprint can be found in Table 2 and are depicted on Figure 6, Vegetation/Land Cover Map. The majority of the Project Footprint is highly disturbed and most of the soil conditions on the site are highly contaminated by fine silty materials, manure, and organic content. This is likely the results of decades of agricultural use and livestock operations. Plant species associated with Delhi sands ecosystems do not occur within the Project Footprint.

During vegetation mapping of the Project, one vegetation alliance, Tamarisk thickets (*Tamarix* spp. Shrubland Semi-Natural Alliance), was identified. Three additional vegetation types are identified that did not meet alliance membership requirements of the manual of California vegetation (MVC, 2009). Detailed descriptions of each of these vegetation/land type including Agricultural Row Crops, Herbaceous Non-native Forbs and Grasses, and Tree tobacco (*Nicotiana Glauca*) Stands can be found below. These lands were nearly devoid of native plant species. Those native plant species present are "ruderal/weedy" in habit, in that they commonly occur in highly disturbed conditions.

Representative photographs of the Project Footprint are included as Appendix A.

Table 3. Vegetation Communities/Land Cover Observed

Vegetation Community/Land Cover Type	Project Footprint	
	PA 30-34 and SCE Easement (acres)	Off-site ROW Improvements (acres)
Disturbed/Developed	23.4	10.9
Agricultural – Row Crops	49.5	-
Dairy Farm	34.1	-
Herbaceous Non-native Forbs and Grasses	40.5	0.9
Tamarisk thickets	1.0	-
Tree tobacco (*Nicotiana glauca)* Stands	11.1	-
Total	**159.6**	**11.7***

**Sum is 0.01 acre greater due to rounding. 11.7 acres is the correct total.*

Disturbed/Developed

Approximately 23.4 acres of disturbed/developed land cover was mapped within PA 30-34 and SCE easement area, while an additional 10.9 acres was mapped within the Off-site ROW

improvement area. The Project is currently in a highly disturbed condition after many years of agriculture and livestock operations. The disturbed/developed areas include unpaved and paved roads, concrete pads from a previous dairy operation, and other construction related debris.

Agricultural – Row Crops

Approximately 49.5 acres of the land within the Project Footprint is considered agricultural row crops. The eastern half portion of the proposed expansion area is in active agricultural use in irrigated crop production.

Dairy Farm

A total of 34.1 acres of dairy farm was mapped on the western portion of the Project Footprint (west of Haven Avenue). The site has been in dairy operations since at least the 1980's through to at least February 2021. This land cover consists of cow-pens, manure, unpaved access roads, and associated outbuildings and infrastructure. Dry holding ponds are present in the western portion of the site. The dairy farm area is disturbed and mostly devoid of vegetation, except for patchy areas supporting non-native herbaceous ruderal vegetation consistent with species observed in other areas of the site. Additionally, an approximately 1,500-foot long by 250-foot-wide SCE electrical easement with electrical towers traverses the western portion of the site (west of Haven Avenue) in an easterly-westerly direction (Figure 4).

Herbaceous Non-native Forbs and Grasses

Approximately 40.5 acres of the land within PA 30-34 and SCE easement area is considered herbaceous non-native forbs and grasses. An additional 0.9 acres was mapped within the Offsite ROW improvements area.

This land cover is located mainly on the western and eastern portions of the Project Footprint and is dominated by ruderal fallow non-native herbaceous vegetation including golden crownbeard (*Verbesina encelioides*), fat-hen *(Atriplex prostrata),* Australian saltbush *(Atriplex semibaccata),* Fivehorn smotherweed (*Bassia hyssopifolia*), ripgut brome (*Bromus diandrus*), red brome (*Bromus rubens*), cheeseweed (*Malva parviflora*), Mediterranean schismus (*Schismus barbatus*), giant reed (*Arundo donax),* prickly lettuce *(Lactuca serriola),* Russian thistle (*Salsola tragus),* and short-pod mustard (*Hirschfeldia incana)*. Native species observed within this land cover include common fiddleneck (*Amsinckia* sp.), common sunflower (*Helianthus annuus*), and Palmer's amaranth (*Amaranthus palmeri).*

Tamarisk thickets - Tamarix spp*. Shrubland Semi-Natural Alliance*

Approximately 1.0 acre of tamarisk thickets was mapped within the Project Footprint. This vegetation/land cover located in the western portion of the site is dominated in the shrub and tree canopy by *Tamarix ramosissima*.

Tree tobacco - Nicotiana glauca Stands

Approximately 11.1 acres of the Project Footprint was identified as tree tobacco (*Nicotiana glauca*) stands. Large, high-density patches of this non-native species were observed primarily on the eastern side of the site, along concrete structures/piles and an earthen ditch. Native species such as mulefat (*Baccharis salicifolia*) was observed within this vegetation community at a low cover.

4.3.2 Special Status Vegetation Communities

The site does not support any sensitive vegetation communities. Additionally, no sensitive communities were reported in the CNDDB within two miles of the Project Footprint.

4.3.3 Plants

A total of 40 plant species were observed within the Project Footprint during the biological surveys and are listed in Appendix B.

4.3.4 Sensitive Plant Species with Potential to Occur

Sensitive plant species include federally, or state listed threatened or endangered species and those species listed on CNPS's rare and endangered plant inventory. Species with the potential to occur onsite were analyzed based on distribution, habitat requirements, and existing site conditions, and are listed in Appendix C.

No sensitive plant species were observed within the Project Footprint during the September 2021 biological survey. Based on the habitat found onsite, special status plant species are not likely to occur onsite, primarily based on the absence of suitable habitat and highly disturbed soils due to current and previous agriculture and dairy farmland uses.

An assessment of sensitive plant species and their potential to occur, as well as their federal/ state/local classifications, are listed in Appendix C.

4.4 Project Impacts

4.4.1 Potential Impacts to Vegetation Communities

Potential impacts to vegetation communities/land cover types due to implementation of the Project includes the entire Project Footprint, totaling approximately 171.3 acres, which includes the habitat types shown in Table 2 (Section 4.3.1 above) and Figure 6. The proposed Project will not impact any native habitats or any special-status habitats.

Direct impacts to disturbed/developed, herbaceous non-native forbs and grasses, tamarisk thickets, tree tobacco stands, and agricultural vegetation/land cover types are considered less

than significant because these habitats/land covers are common in the surrounding vicinity and do not represent CNDDB or CDFW sensitive plant communities.

4.4.2 Potential Impacts to Special Status Plants

None of the thirty-six special status plant species that have been reported to occur in the vicinity of the Project are expected to occur within the Project Footprint. Based on the high levels of disturbance, low habitat quality, and the lack of detection of any special-status plants during the biological survey, the Project is not expected to impact any special-status plant species. Based on the habitat found onsite, no direct impacts are expected to occur as a result of Project implementation and no mitigation is recommended.

5.0 WILDLIFE

5.1 Literature Review

Species of wildlife are afforded "special status" by federal agencies, state agencies, and/or non-governmental organizations because of their recognized rarity, potential vulnerability to extinction, and local importance. These species typically have a limited geographic range and/or limited habitat and are referred to collectively as "special status" species. Wildlife species were considered "special status" species if they meet any of the following criteria:

- Taxa with official status under ESA or CESA.
- Taxa proposed for listing under ESA and/or CESA.
- Taxa designated a species of special concern by CDFW.
- Taxa designated a state fully protected species by CDFW.
- Taxa identified as sensitive, unique or rare, by the USFWS, CDFW, USFS, and/or BLM.
- Taxa that meet the definition of rare or endangered under the CEQA §15380(b) and (d).
- Species considered locally significant; that is, a species that is not rare from a statewide perspective but is rare or uncommon in a local context such as within a county or region (CEQA §15125 (c)) or is so designated in local or regional plans, policies, or ordinances. Examples include a species at the outer limits of its known range.

Special status wildlife species that have the potential to occur within the immediate region of the Project were identified. Several agencies, including the USFWS and CDFW publish lists of particular taxa (species and subspecies) and the associated level of protection or concern associated with

each. Reviewed and consulted literature and databases focused on the Project Footprint and included the following sources listed below:

- The CNDDB was used to identify any special status wildlife that may exist within the following USGS Quadrangles: Ontario, Guasti, Fontana, Prado Dam, Corona North, and Riverside West. CNDDB records are generally used as a starting point when determining what special status species, if any, may occur in a particular area. However, these records may be old, lack of data not yet entered, and do not represent all the special status species that could be in that particular area.

- A map of USFWS critical habitat to determine species with critical habitat mapped in the general vicinity of the Project (USFWS 2021a).

- Pertinent maps, scientific literature, websites, and regional flora and fauna field guides.

The literature review provided a baseline from which to inventory the biological resources potentially occurring within the Project Footprint, as well as the surrounding area. Although the inventory list of special status wildlife species was not exhaustive of all species that might be of concern for the property, it provided a wide range of species that are representative of the wildland habitats in the area. Species occurrence and distribution information is often based on documented occurrences where opportunistic surveys have taken place; therefore, a lack of records does not necessarily indicate that a given species is absent from the Project Footprint.

5.2 Field Methodology

The purpose of the September 1, 2021 biological survey was to note and identify habitat areas that could be suitable for special status wildlife species.

All wildlife species encountered visually or audibly during the field survey were identified and recorded in field notes. Signs of wildlife species including wildlife tracks, burrows, nests, scat and remains, were also recorded. Binoculars were used to aid in the identification of observed wildlife and in areas not accessible on foot. Wildlife field guides and photographs were used to assist with identification of wildlife species during the field survey, as necessary. A one-day survey cannot be used to conclusively determine presence or absence of a species; therefore, assessments of presence/absence and potential for occurrence were made based on presence of suitable habitat to support the species, diagnostic signs (burrows, scat, tracks, vocalizations, and nests), known records or occurrence within the area, known distribution and elevation range, and habitat utilization from the relevant literature.

5.3 Results

A total of 26 wildlife species or signs thereof were observed during the September 2021 general field survey and 2022 focused burrowing owl surveys. The wildlife species or signs thereof observed during the field survey are listed in Appendix B and discussed below.

5.3.1 Fish

Natural drainages or areas of open water containing suitable fish habitat were not present within the Project Footprint. Therefore, no fish were observed or are expected to occur on the site.

5.3.2 Amphibians

Amphibians are small vertebrates that need water, or a moist environment for at least a portion of their life cycle and many require standing or flowing water for reproduction. Terrestrial species may or may not require standing water for reproduction. These species are able to survive in dry areas by aestivating (i.e., remaining beneath the soil in burrows or under logs and leaf litter, and emerging only when temperatures are low and humidity is high). Many of these species' habitats are associated with water and they emerge to breed once the rainy season begins.

During the general biological survey, no amphibian species were observed within the Project Footprint. Common amphibian species have a low potential to occur on the site due to a lack of suitable habitat.

5.3.3 Reptiles

Reptiles are air-breathing vertebrates covered in special skin made up of scales, bony plates, or a combination of both. Reptiles live in a wide range of habitats. Lizards are all terrestrial, but their habitats may range from deserts to rainforests, and from underground burrows to the tops of trees. Most snakes are terrestrial and live in a wide range of habitats, but some snakes are aquatic.

During the general biological survey, only two species of reptiles were observed including the western fence lizard (*Sceloporus occidentalis*) and side-blotched lizard (*Uta stansburiana*). Other species have low potential to occur onsite due to the current levels of disturbance within the Project Footprint.

5.3.4 Birds

During the biological survey, common birds observed include house finch (*Haemorhous mexicanus)*, American crow (*Corvus brachyrhynchos*), Anna's Hummingbird (*Calypte anna),* red-winged blackbird (*Agelaius phoeniceus*), mourning dove (*Zenaida macroura*), and Bell's sage sparrow.

Raptors observed on the site include red-tailed hawk (*Buteo jamaicensis*), Cooper's hawk, and American kestrel (*Falco sparverius*), and northern harrier (*Circus hudsonius*).

5.3.5 Mammals

During the biological survey, mammal species observed within the Project Footprint included San Diego black-tailed jackrabbit (*Lepus californicus bennettii*), California ground squirrel (*Spermophilus beecheyi*), and desert cottontail (*Sylvilagus audubonii*).

5.3.6 Insects

5.3.6.1 Delhi Sands Flower-loving Fly – Previous Surveys

Focused surveys for Delhi sands flower-loving fly (*Rhaphiomidas terminates abdominalis*) (DSF) were performed in 2006 and 2007 for the southern portion (area east of Haven Avenue); most of the western half of the Project Footprint was not assessed. A habitat suitability evaluation was performed on March 11 and May 19, 2006, by Consulting Biologist Gilbert Goodlett, and concluded that 3.6 acres adjacent to Bellegrave Avenue were suitable for focused surveys.

Focused surveys were conducted on 23 and 24 days between July 1 and September 20 in 2006 and 2007, respectively. The DSF was not observed during the 2006 or 2007 focused surveys.

A habitat suitability evaluation was performed in 2020 and 2021 by Ken H. Osborne. The entire Project footprint (including PAs 30 – 34) was considered unsuitable for DFS due to lands managed with irrigated crops and areas contaminated with organic debris derived from its history in dairy operations as to be unsuitable for DFS (Appendix D).

5.3.7 Sensitive Wildlife Species with Potential to Occur

Sensitive wildlife species include the following classifications: federally or state listed threatened or endangered species, California species of special concern, and fully protected and protected species (as designated by CDFW). Species with the potential to occur onsite were analyzed based on distribution, habitat requirements, and existing site conditions.

Sensitive wildlife species with high or moderate (or low to moderate) potential to occur, observed and not observed during the biological survey include:

- burrowing owl (*Athene cunicularia*), a CDFW Species of Special Concern (SSC). Not observed.
- Cooper's hawk, a CDFW Watch List species (WLS). Observed.
- Bell's sage sparrow, a CDFW WLS and USFWS Bird of Conservation Concern (BCC). Observed.
- grasshopper sparrow (*Ammodramus savannarum*), a CDFW SSC. Not observed.

- San Diego black-tailed jackrabbit (*Lepus californicus bennettii*), a CDFW SSC. Observed.

A complete list of sensitive wildlife species analyzed with potential to occur within the Project Footprint is included in Appendix C. The five sensitive species noted above are described in further detail below.

5.3.7.1 Burrowing Owl

The burrowing owl is a small, tan, ground-dwelling owl that occupies and nests in underground burrows. The species is associated with grasslands and other arid open terrain throughout much of the western United States. A disjunct population of this owl also occurs in Florida.

Burrowing owls are opportunistic in their selection of burrows, typically utilizing the burrows of small mammals, drainpipes, culverts and other suitable cavities at or below ground level. In California, the species often occurs in association with colonies of the California ground squirrel (*Otospermophilus beecheyi*), where it makes use of the squirrel's burrows. A burrow can be up to 10 feet in length with an enlarged terminal nesting chamber. The entrance of the burrow is often adorned with animal dung, feathers, debris, and other small objects. The species is active both at day and at night and may be seen perching conspicuously on fence posts or standing at the entrance of their burrows.

Due to the characteristic fossorial habits of burrowing owls, burrows are a critical component of their habitat. In southern California, burrowing owls are not only found in undisturbed natural areas, but also fallow agricultural fields, margins of active agricultural areas, berms to flood control and creek channels, livestock farms, airports, and vacant lots. Declines in burrowing owl populations are attributed to loss and degradation of habitat, to ongoing residential and commercial development, and to rodent control programs.

Previous BUOW observations have been recorded onsite. The site provides suitable habitat for the species although it is surrounded by active and fallow dairy land, dirt and paved roads, and livestock paddocks.

Burrowing Owl Focused Surveys – Previous Surveys Results

Focused surveys for burrowing owl (*Athene cunicularia*) were performed in 2006 for the eastern half and the southern corner of the current Project Footprint; most of the western half of the site was not assessed. This consisted of a habitat assessment on March 30, 2006; a focused burrow survey on April 20 and 21, 2006; and four crepuscular owl surveys on June 27, July 14 and 15, and August 7, 2006. Burrowing owls were observed on the eastern half of the current Project Footprint: a single owl which didn't exhibit breeding behavior and a nesting pair with three fledglings. The owls were not observed during the August 7, 2006 survey, which occurred after demolition and clearing activities on the site.

During a general biological assessment conducted by Psomas in 2018, burrowing owls were observed within the site on the eastern portion of the current Project Footprint.

Burrowing Owl Survey Results (2022)

The majority of the property is highly disturbed/developed and currently used for agricultural row crops and dairy operations.

The western and eastern portions of the site provide somewhat suitable habitat within the disturbed/non-native vegetation patches, open fields and soil berms, where some suitable burrows were observed.

Four focused BUOW surveys were conducted in March, May, and June 2022. No burrowing owls or evidence thereof (i.e., whitewash, pellets, feathers, tracks, eggshell fragments, nest adornment materials, etc.) were observed within the Burrowing Owl Study Area. Adjacent properties within the survey buffer were only surveyed with binoculars due to access limitations. While no burrowing owls were observed within the Project Footprint or surrounding 500-foot buffer during the survey, the site provides suitable shelter and nesting habitat for burrowing owls; therefore, there is potential for the species to occur on or adjacent to the Project in the future.

5.3.7.2 Cooper's Hawk

This hawk species occurs in forest and woodland habitats. These hawks are a regular sight in parks, quiet neighborhoods, over fields, at backyard feeders, and even along busy streets if there are trees around. A Cooper's hawk was observed foraging within the Project Footprint on the tamarisk trees located on the western portion of the site during the biological survey. The species is known to occasionally nest in large pines and Eucalyptus trees. This species is protected by the MBTA and California Fish and Game Code.

5.3.7.3 Bell's Sage Sparrow

The Bell's sage sparrow is a neat, gray-headed sparrow emblematic of California's coastal sage and chaparral. They also occur in Baja California, the Mojave Desert, and on San Clemente Island, California (a federally threatened subspecies). Like the very similar Sagebrush Sparrow, these birds spend much of their time foraging for insects and seeds on the ground underneath shrubs. In spring males sing a fast mix of trills and chips from the tallest perches they can find. This species is protected by the MBTA and California Fish and Game Code. A Bell's sage sparrow was observed foraging within the eastern portion of the Project Footprint during the biological survey, however the site lacks suitable nesting habitat for the species.

5.3.7.4 Grasshopper Sparrow

The grasshopper sparrow is a stubby-tailed and bull-necked songbird found in grasslands, prairies, hayfields, and open pastures with little to no scrub cover and often with some bare ground. When not singing its quiet, insect-like song from atop a stalk in a weedy pasture, it disappears into the grasses where it usually runs along the ground rather than flies. This species is protected by the MBTA and California Fish and Game Code. This species has a low to moderate potential to occur within the Project Footprint for foraging, however the site lacks suitable nesting habitat for the species.

5.3.7.5 San Diego Black-tailed Jackrabbit

This jackrabbit species is found throughout southern California in forests, chaparral, and coastal sage scrub. Although marginal habitat occurs within the Project Footprint, the species was observed during the biological survey. The entire site could provide foraging habitat for this species.

5.3.8 Critical Habitat

The USFWS's online service for information regarding Threatened and Endangered Species Final Critical Habitat designation within California was reviewed to determine if the Project Footprint occurs within any species designated Critical Habitat. No Critical Habitat exists within 2 miles of the site.

5.3.9 Wildlife Movement

Wildlife corridors link together 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. Corridors effectively act as links between different populations of a species. 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:

- Allowing wildlife to move between remaining habitats, which allows depleted populations to be replenished and promotes genetic diversity;
- 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

- Serving as travel routes for individual wildlife species as they move within their home ranges in search of food, water, mates, and other needs (Fahrig and Merriam 1985, Simberloff and Cox 1987, Harris and Gallagher 1989).

Wildlife movement activities usually fall into one of three movement categories:

- Dispersal (e.g., juvenile animals from natal areas, individuals extending range distributions);
- Seasonal migration; and
- Movements related to home range activities (foraging for food or water, defending territories, searching for mates, breeding areas, or cover).

The Project is located within a mosaic of developed and partially developed parcels, cleared lands, dairy farms, livestock, and agriculture areas. These areas do not have native habitat and are managed as business operations. Because these industries include open fields for their operation, it is possible the Project Footprint may play a minor role in local wildlife dispersal and foraging. Common wildlife species including coyotes, skunks, opossums, and raccoons that may travel through the site and neighboring developed areas, but the site does not provide connectivity between large areas of open space on a local or regional scale. The site is not within a significant regional wildlife movement corridor and is not considered to play a role for local or regional wildlife movement.

5.3.10 Avian Nesting and Bat Roosts

There is potential for avian nesting within the Project Footprint. The tamarisk trees located within the western portion of the Project Footprint and residential ornamental trees provide suitable habitat for avian species that nest in trees. The agricultural and other disturbed fields provide suitable nesting habitat for ground-nesting avian species. There is low potential for bat roosting to occur within the Project Footprint. Biologists did not observe signs of nesting activity or bat roosting within the site during the general biological survey; inactive nests were observed within the tamarisk trees.

5.4 Project Impacts to Wildlife

5.4.1 Potential Impacts to Special Status Wildlife

Three sensitive wildlife species were observed within the Project Footprint during the survey. Two additional species exhibit a high or low to moderate potential to occur on the site.

Cooper's hawk is considered to have moderate to high potential to occur within the Project Footprint during the nesting bird season and in a foraging capacity. Foraging habitat exists on the

site as open fields with perching opportunities in the tamarisk trees. The species was observed within the western portion of the Project Footprint. The tamarisk trees may provide potential nesting bird habitat; however, this species prefers other mature trees including large pines and Eucalyptus trees, which are not present within the site. Project activities may have an impact if performed during the nesting bird season. To avoid impacts to the species during the nesting season, construction activities on the site would be implemented in accordance with mitigation requirements outlined in Section 8.0 below.

Burrowing owl are known to use both fallow and active agricultural fields for foraging and nesting. Suitably sized burrows were primarily observed on soil berms, debris piles, and pipes located in disturbed/developed land cover within the eastern and western portions of the Project Footprint. Based on the results of the burrowing owl focused surveys, no burrowing owls or evidence of BUOW activity (e.g., active burrows, whitewash, pellets, etc.) were detected during the surveys. As a result, the Study Area was not considered to be occupied by BUOW. However, the Study Area includes burrows suitable for burrowing owl and suitable burrowing owl foraging habitat; therefore, although burrowing owls were not found, it is recommended that a 30-day burrowing owl pre-construction clearance survey be conducted prior to any ground disturbing activities to avoid direct take of burrowing owls in compliance with the CDFW protocol. Construction activities within the Project Footprint would be implemented in accordance with mitigation requirements outlined in Section 8.0 below.

Bell's sage sparrow was observed foraging during the biological survey. However, the Project Footprint lacks suitable nesting habitat for the species, which is primarily chaparral and sage scrub vegetation communities. Similarly, the grasshopper sparrow has a low to moderate potential to occur on the site for foraging, however, the site lacks suitable nesting habitat for the species. The loss of 171.3 acres of foraging habitat for these two species would not decrease populations below self-sustaining levels given the availability of habitat remaining in the region. Therefore, impacts would be less than significant per CEQA and no mitigation would be required. Foraging individuals are expected to move to adjacent habitat during construction activities; therefore, there would be no direct mortality on these species.

San Diego black-tailed jackrabbit was observed within the Project Footprint. Although the site is very disturbed, it could provide foraging habitat for this species. The loss of 171.3 acres of habitat for this species would result in an incremental loss of habitat, which is considered a less than significant impact per CEQA because it would not decrease jackrabbit populations in the region below self-sustaining levels given the availability of remaining habitat. Therefore, no mitigation would be required. Individuals are expected to move to adjacent habitat during construction activities; therefore, there would be no direct mortality on the species.

The remaining species listed in Appendix C are not expected to occur within the Project Footprint due to the lack of suitable habitat. Therefore, there would be no impact on these species and no mitigation would be required.

With the inclusion of standard BMPs as noted in Section 7.0, *Best Management Practices*, and mitigation recommendations in Section 8.0, *Mitigation Recommendations*, potential impacts to these special status wildlife species would be considered less than significant.

5.4.2 Potential Impacts to Critical Habitat

The Project does not fall within any Critical Habitat.

5.4.3 Potential Impacts to Wildlife Movement/Nesting/Bat Roosts

Wildlife Movement

As described earlier, the Project Footprint may serve a function in local wildlife dispersal and foraging; however, due to the disturbed nature of the site and the degraded habitats, the loss of foraging habitat and/or effect on local wildlife movement would be less than significant. No long-term or significant effects to wildlife movement are anticipated due to Project implementation.

Nesting Birds/Raptor Foraging Habitat

Due to the potential for onsite bird nesting and marginal foraging habitat for raptors including tamarisk and residential trees, Project construction could result in impacts to nesting birds. Recommended measures include a pre-construction nesting bird survey and biological monitoring as needed, to avoid impacts and are outlined in Section 8.0, *Mitigation Recommendations,* of this report. These measures would ensure potential impacts to nesting birds are less than significant.

Bat Foraging Habitat

The potential for bat roosting is low within the Project Footprint, while the existing vegetation onsite may represent suitable foraging habitat. However, this impact on foraging habitat would be less than significant given the availability of habitat remaining in the region. Therefore, no mitigation would be required.

6.0 JURISDICTIONAL WATERS

6.1 Literature Review

The following sources were reviewed to determine the potential presence or absence of jurisdictional streams/drainages, wetlands, lakes, and their location within the watersheds associated with the Project Footprint, and other features that might contribute to federal or state jurisdictional authority located within watersheds associated with the site:

- National Wetlands Inventory (NWI) maps (USFWS 2021b). The NWI database indicates potential wetland areas based on changes in vegetation patterns as observed from satellite imagery. This database is used as a preliminary indicator of wetland habitats because the satellite data is not precise;
- USGS National Hydrography Dataset (NHD). Provides the locations of "blue-line" streams as mapped on 7.5-Minute Topographic Map coverage;
- Aerial Imagery;
- USGS 7.5-Minute Topographic Maps; and
- Natural Resource Conservation Service (NRCS) Soil Survey.

6.2 Field Methodology

A field survey was conducted within the Project Footprint on September 1, 2021 by VCS biologists Carla Marriner and Molly Burdick-Whipp to assess the presence or absence of potential jurisdictional streams/drainages and to conduct a wetland delineation on the site. During the field survey, the Project Footprint was assessed for jurisdictional wetland and non-wetland Waters of the United States (WOUS). To determine the presence of a wetland, three indicators are required: (1) hydrophytic vegetation, (2) hydric soils, and (3) wetland hydrology. The RWQCB has exceptions to this methodology in situations where a site has soils and hydrology, but no vegetation is present; these areas may be considered wetlands by the RWQCB. The methodology published in the *United States Army Corps of Engineers 1987 Wetland Delineation Manual* and the *Arid West Supplement* sets the standards for meeting each of the three indicators, which normally require that 50 percent or more dominant plant species typical of a wetland, soils exhibiting characteristics of saturation, and hydrological indicators be present. Jurisdictional non-wetland Waters of the United States are typically determined through the observation of an Ordinary High Water Mark (OHWM), which is defined as the "line on the shore established by the fluctuation of water and indicated by physical characteristics such as a clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas."

Projects with impacts to Waters of the United States are regulated under Sections 401 and 404 of the Clean Water Act.

On June 22, 2020, a revised rule regarding jurisdictional Waters of the United States went into effect. The revised rule states that Waters of the United States do not include ephemeral features that flow only in direct response to precipitation, including ephemeral streams, swales, gullies, rills, and pools. Consistent with the U.S. District Court for the District of Arizona's August 30, 2021 order vacating and remanding the Navigable Waters Protection Rule, the regulatory agencies have halted implementation of the Navigable Waters Protection Rule and are interpreting Waters of the United States consistent with the pre-2015 regulatory regime until further notice.

The following guidance documents were utilized in making this determination:

- Field Guide to OHWM Determinations in the Arid West (August 2008);
- Updated OHWM Datasheet for the Field Guide to OHWM Determinations in the Arid West (July 2010); and
- Ordinary High Flows and the Stage-Discharge Relationship in the Arid West Region (2011).

The CDFW and the RWQCB take jurisdiction over Waters of the State (WOS) and Riparian/Riverine resources (California Fish and Game Code §§1600 et seq.; California Code of Regulations, Title 14, §720). Section 1602 of the California Fish and Game Code (FGC) applies to natural rivers, streams, and lakes:

> "An entity may not substantially divert or obstruct the natural flow of, or substantially change or use any material from the bed, channel, or bank of, any river, stream, or lake, or deposit or dispose of debris, waste, or other material containing crumbled, flaked, or ground pavement where it may pass into any river, stream, or lake."

The Project Footprint was assessed for jurisdictional WOS during the field survey using guidance from Section 1600 of the FGC and Brady and Vyverberg (2013), which defines a stream as "a body of water that flows perennially or episodically and that is defined by the area in which water currently flows, or has flowed, over a given course during the historic hydrologic course regime, and where the width of its course can reasonably be identified by physical or biological indicators." CDFW regulates wetland areas only to the extent that those wetlands are part of a stream, river, or lake as defined by the CDFW.

The RWQCB has jurisdiction over both waters of the State and waters of the U.S. (Porter-Cologne Water Quality Control Act; California Code or Regulations title 23, section 3831(w); Executive Order W-59-93; Section 401 of the CWA; 33 U.S.C. 1341). As identified in the State Wetland

Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State ("the Procedures") adopted on April 2, 2019,

> "The Water Boards define an area as wetland as follows:
>
> An area is wetland if, under normal circumstances, (1) the area has continuous or recurrent saturation of the upper substrate caused by groundwater, or shallow surface water, or both; (2) the duration of such saturation is sufficient to cause anaerobic conditions in the upper substrate; and (3) the area's vegetation is dominated by hydrophytes or the area lacks vegetation.
>
> The Water Code defines "waters of the state" broadly to include "any surface water or groundwater, including saline waters, within the boundaries of the state." "Waters of the state" includes all "waters of the U.S." The following wetlands are waters of the state:
>
> 1. Natural wetlands,
>
> 2. Wetlands created by modification of a surface water of the state, and
>
> 3. Artificial wetlands that meet any of the following criteria:
>
>> a. Approved by an agency as compensatory mitigation for impacts to other waters of the state, except where the approving agency explicitly identifies the mitigation as being of limited duration;
>>
>> b. Specifically identified in a water quality control plan as a wetland or other water of the state;
>>
>> c. Resulted from historic human activity, is not subject to ongoing operation and maintenance, and has become a relatively permanent part of the natural landscape; or
>>
>> d. Greater than or equal to one acre in size, unless the artificial wetland was constructed, and is currently used and maintained, primarily for one or more of the following purposes (i.e., the following artificial wetlands are not waters of the state unless they also satisfy the criteria set forth in 2, 3a, or 3b):
>>
>>> i. Industrial or municipal wastewater treatment or disposal,
>>>
>>> ii. Settling of sediment,

iii. Detention, retention, infiltration, or treatment of stormwater runoff and other pollutants or runoff subject to regulation under a municipal, construction, or industrial stormwater permitting program,

iv. Treatment of surface waters,

v. Agricultural crop irrigation or stock watering,

vi. Fire suppression,

vii. Industrial processing or cooling,

viii. Active surface mining – even if the site is managed for interim wetlands functions and values,

ix. Log storage,

x. Treatment, storage, or distribution of recycled water, or

xi. Maximizing groundwater recharge (this does not include wetlands that have incidental groundwater recharge benefits); or

xii. Fields flooded for rice growing

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

6.3 Results

6.3.1 National Wetland Inventory

Freshwater ponds and emergent wetlands are mapped within the central and western portions of the Project Footprint through the online NWI (USFWS [2021b]) [Figure 7].

Two areas identified in the NWI are located west of Haven Avenue. These are isolated agricultural holding ponds that continue to be in use and lack connectivity to surface drainages. These ponds were dry at the time of the September 2021 site visit.

Multiple features within the central portion of the Project Footprint (east of Haven Avenue) were identified in the NWI. These features are located within the row crops where irrigation pools and remains onsite. These areas do not contain wetland or riparian vegetation.

The southernmost feature within the Project Footprint identified in the NWI occurs within an area with pavement and a stockpiled dirt hill with non-native vegetation.

6.3.2 Soils

The U.S. Department of Agriculture NRCS (NRCS 2021) identifies two soil types present within the Project Footprint (Figure 8; Soil Map). Soil types on the site consist of Delhi fine sands and Hilmar loamy fine sands.

- Hilmar loamy fine sand: This series is a member of the sandy over loamy, mixed, active, calcareous, thermic family of Aeric Halaquepts. Typically, Hilmar soils have pale brown, mildly alkaline, loamy sand A horizons, very pale brown, very strongly alkaline, loamy sand upper C horizons over light gray and light olive gray, very strongly alkaline, stratified, silt loam lower C horizons.

- Delhi fine sands: The Delhi series consists of very deep, somewhat excessively drained soils. They formed in wind modified material weathered from granitic rock sources. Delhi soils are on floodplains, alluvial fans and terraces.

6.3.3 Jurisdictional Waters

An analysis of current and historic aerial photographs along with the September 2021 field survey did not reveal any jurisdictional features within the Project Footprint.

As described in Section 6.3.1, agricultural holding ponds occur west of Haven Avenue that have no connections with surface drainages and contained herbaceous, non-native vegetation. An earthen ditch feature occurs along the western boundary of the site that was recently constructed for slope stability in conjunction with the adjacent residential development. Lastly, an earthen ditch feature is located within the eastern portion of the Project Footprint, containing primarily tree tobacco, golden crownbeard, and a few mulefat individuals, consistent with vegetation types in this part of the site. This is an isolated ditch feature, created to capture runoff from the previous dairy/cattle operations onsite similar to the agricultural holding ponds noted above. These types of features associated with agricultural operations are identified as non-jurisdictional waters of the U.S. under the Clean Water Act (40 CFR § 120.2). Furthermore, the features are not identified as jurisdictional waters of the State as they lack downstream connectivity and do not represent wetland features based on the lack hydrophytic vegetation and presence of primarily upland vegetation.

County Line Channel and a storm drain culvert occur along the southern boundary of the Project along Bellgrave Avenue. The storm drain culvert was constructed for ultimate connection of the developments' storm drains; thus, it will convey flows from the residential development in the post-development condition and is not sized to convey current site runoff.

No jurisdictional waters or wetlands are present within the Project Footprint.

6.3.4 Potential Impacts to Jurisdictional Waters

Jurisdictional waters are considered to be absent from the Project Footprint; therefore, no impacts to jurisdictional waters are anticipated.

7.0 BEST MANAGEMENT PRACTICES

Implementation of general BMPs is recommended to the extent practical. Key aspects of the BMPs are to clearly delineate the limits of disturbance, use properly maintained equipment, properly implement, and monitor water quality BMPs, avoid use of chemicals near sensitive areas, develop procedures for minimizing the likelihood of spills and to control sediment, ensure worker safety, and minimize impacts to sensitive biological resources onsite including sensitive wildlife species. Standard BMPs will be implemented including compliance with the South Coast Air Quality Management District and State Water Resources Control Board Stormwater requirements for the control of fugitive dust and management of water quality.

8.0 MITIGATION RECOMMENDATIONS

The following mitigation measures from the Subarea 29 Specific Plan Final EIR are incorporated into the proposed development within the Project Footprint, which is required to comply with applicable requirements for development associated with the Subarea 29 Specific Plan Amendment PA 30 – 34.

MM BIO-1 There may be a probability of owl colonization within the project site considering the presence of foraging habitat and previous records of presence. To ensure that no direct loss of individuals occurs, mitigation shall be completed prior to initiation of on-site grading activities for each development phase. A pre- construction survey for resident burrowing owls will be conducted by a qualified biologist. The survey will be conducted 30 days prior to construction activities including vegetation clearing, grubbing, tree removal, or site watering. If ground-disturbing activities are delayed or suspended for more than 30 days after the preconstruction survey, the site should be resurveyed for owls.

If owls are determined to be present within the construction footprint, they will be captured and relocated. If non-breeding owls must be moved away from the disturbance area, passive relocation techniques will be used. The pre-construction survey and any relocation activity will be conducted in accordance with the CDFG Report on Burrowing Owl Mitigation, 1995. According to CDFG guidelines, mitigation actions will be conducted from September 1 to January 31, which is prior to the nesting season. However, burrowing owl nesting activity is variable, and as such the time frame will be adjusted accordingly. Should eggs or fledglings be discovered in any owl burrow, the burrow cannot be disturbed (pursuant to CDFG guidelines) until the young have hatched and fledged (matured to a stage that they can leave the nest on their own).

Occupied burrows will not be disturbed during the nesting season (February 1 through August 31) unless a qualified biologist approved by the Department of Fish and Game verifies through non-invasive methods that either: a) the adult birds have not begun egg-laying and incubation; or b) the juveniles from the occupied burrows are foraging independently and are capable of independent survival. If a biologist is unable to verify one of the above conditions, then no disturbance shall occur within 300 feet of the burrowing owls nest during the breeding season to avoid abandonment of the young.

Passive relocation can be used to exclude owls from their burrows (outside the breeding season or once the young are able to leave the nest and fly) by installing one-way doors in burrow entrances. These one-way doors allow the owl to exit the burrow, but not enter it. These doors should be left in place 48 hours to ensure owls have left the burrow. Artificial burrows should be provided nearby. The project area should be monitored daily for one week to confirm owl use of burrows before excavating burrows in the impact area. Burrows should be excavated using hand tools and refilled to prevent reoccupation. Sections of flexible pipe should be inserted into the tunnels during excavation to maintain an escape route for any animals inside the burrow.

MM BIO-2 To mitigate for potential impacts to loss of nesting and foraging habitat, the project proponent shall be required to pay City of Ontario open space mitigation fees. Fees collected will be used "to acquire and restore mitigation lands to offset impacts to species now living in the New Model Colony and impacts to existing open space," according to the City of Ontario Development Impacts Fee Calculation Report and the Settlement and general Release Agreement. Development is currently required to pay $4,320 per acre. Therefore, the proposed project will pay approximately $1,080,000 for open space acquisition based upon the current fee.

MM BIO-3 While project impacts to individual raptor species were considered not significant, the following mitigation measure will also be incorporated in order to eliminate or reduce any potential impacts to raptors and/or migratory birds. Construction and/or removal of windrow trees will occur outside of the nesting season (the nesting season for songbirds is February 1st through August 31st, and the nesting season is January 15th to August 31st for raptors). If tree removal activities must occur during the breeding season, the mitigation measure in MM Bio 4 shall be implemented.

MM BIO-4 If project construction activities involving heavy equipment and/or windrow tree removal are to occur during the nesting/breeding season (between February 1st and August 31st for songbirds; and between January 15th and to August 31st for raptors) of potentially occurring sensitive bird species, a pre-construction field survey shall be conducted by a qualified biologist to determine if active nests of species protected by MBTA or CDFG are present in the construction zone or within a buffer of 500 feet. Pre- construction nesting/breeding surveys shall be conducted in all CDFG jurisdictional areas and within windrow trees. If no active nests are found during the survey, construction activities may proceed.

If active nests are located during the pre-construction surveys, no grading, heavy equipment or tree removal activities shall take place within at least 500 feet of an active listed species or raptor nest, 300 feet of other sensitive bird nests (non-listed), and 100 feet of most common songbird nests. The buffer may be modified and/or other recommendations proposed as determined appropriate by the biological monitor to minimize impacts.

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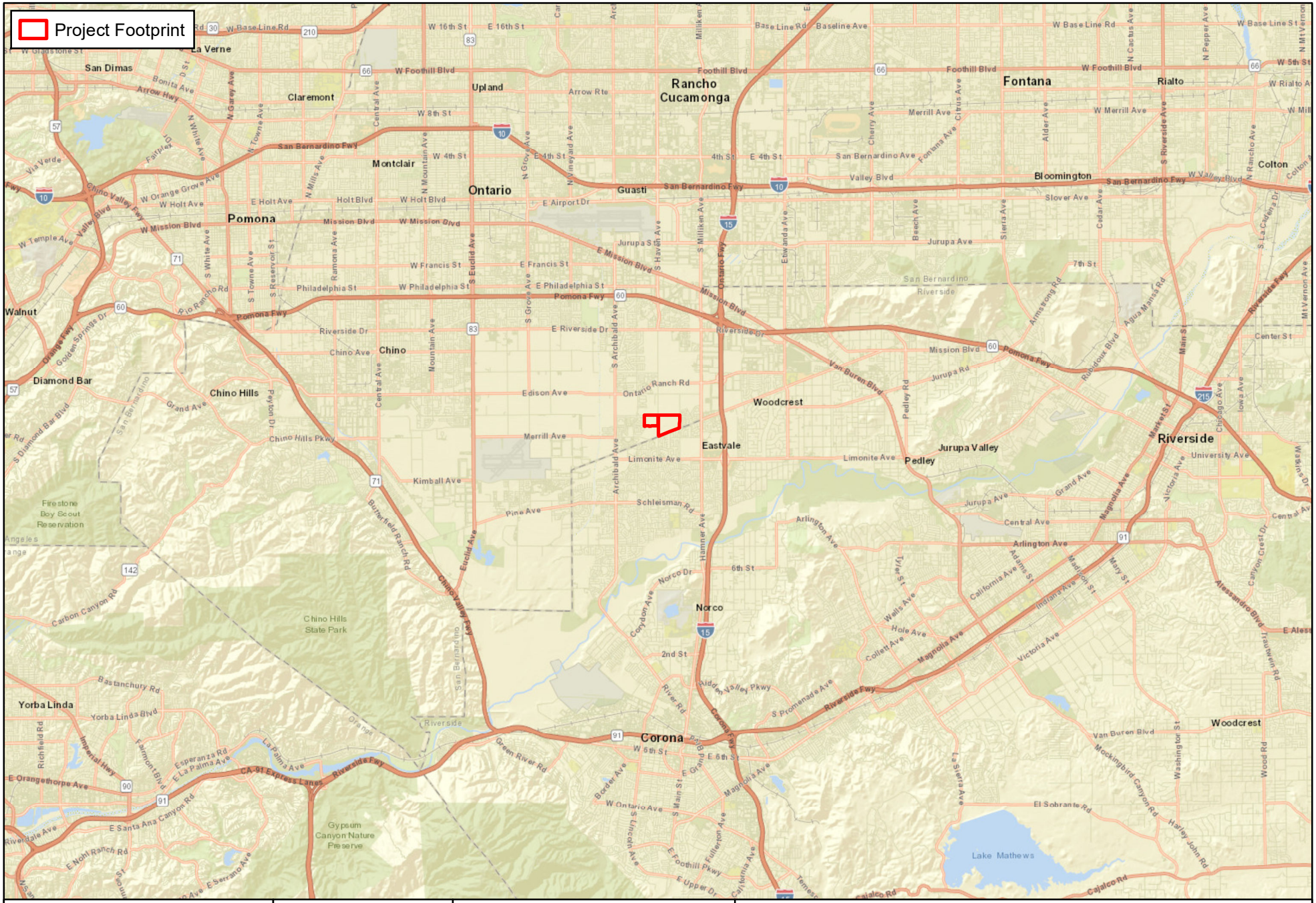
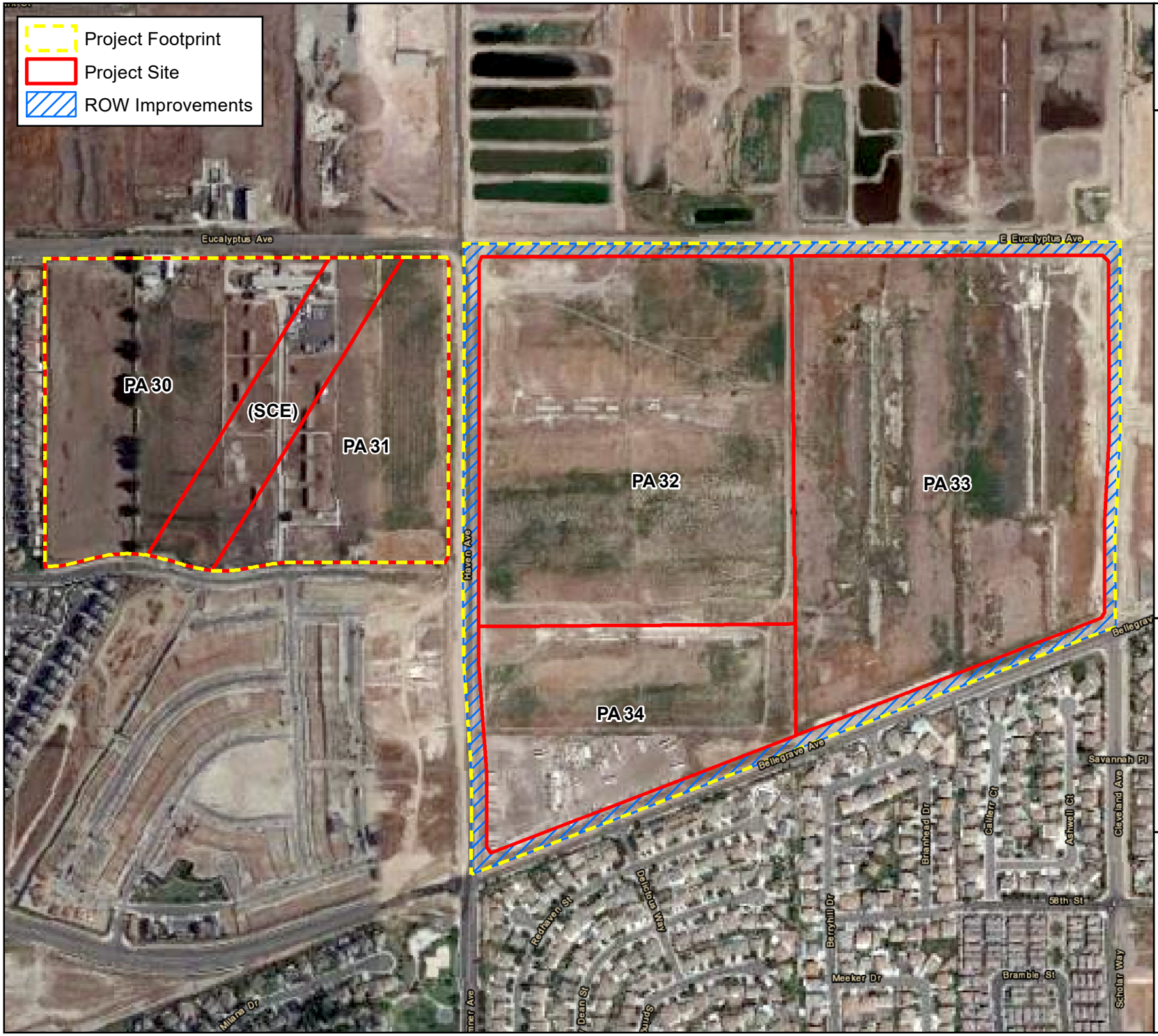
FIGURES


Project Footprint
La Verne
San Dimas
Claremont
Upland
Rancho Cucamonga
Fontana
Rialto
Montclair
Ontario
Guasti
Bloomington
Colton
Pomona
Walnut
Chino
Diamond Bar
Chino Hills
Woodcrest
Eastvale
Jurupa Valley
Pedley
Riverside
Norco
Corona
Yorba Linda
Chino Hills State Park
Gypsum Canyon Nature Preserve
Lake Mathews
Firestone Boy Scout Reservation
San Bernardino
Riverside
Foothill Blvd
San Bernardino Fwy
Pomona Fwy
Riverside Fwy
Mission Blvd
Van Buren Blvd
Limonite Ave
Ontario Ranch Rd
Schleisman Rd
Hamner Ave
Archibald Ave
Euclid Ave
Chino Valley Fwy
Butterfield Ranch Rd
Green River Rd
Magnolia Ave
Arlington Ave
Central Ave
Jurupa Ave
Merrill Ave
Edison Ave
Kimball Ave
Pine Ave
Norco Dr
6th St
2nd St
Chino Hills Pkwy
Carbon Canyon Rd
Bastanchury Rd
Yorba Linda Blvd
Esperanza Rd
E La Palma Ave
CA-91 Express Lanes
E Santa Ana Canyon Rd
E Orangethorpe Ave
Imperial Hwy
Fairmont Blvd
Richfield Rd
Riverdale Ave
E Nohl Ranch Rd
E Serrano Ave
Prepared By:
VCS Environmental
Date: Aug 2021
0 1 2 3 Miles
Source: ESRI
Sub-area 29 (PA 30 - PA 34)
Lewis Management and Richland Communities
Figure 1
Regional Location Map



VCS Environmental
EXPERT SOLUTIONS | CEQA-NEPA . Biology . Regulatory

Subarea 29 - Rais

Figure 2

Aerial Map

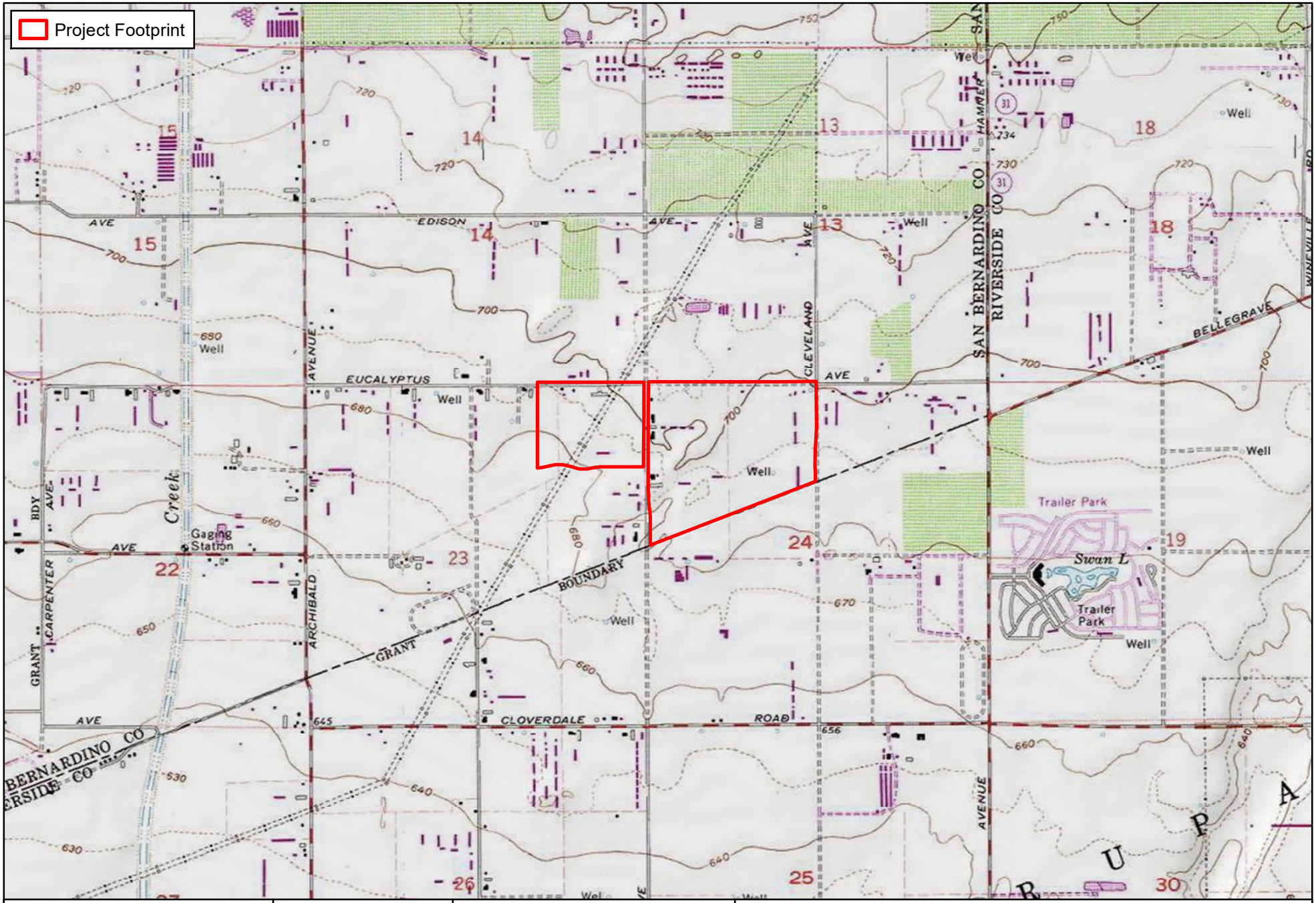
N
W E
S

0 300 600
Feet

1:6,500

Map Date: November 2022
Data Sources: ESRI, Google Earth, Richland, Lewis Op.

Service Layer Credits: Esri, HERE, Garmin, (c) OpenStreetMap contributors



Prepared By:
VCS Environmental

Date: Aug 2021

0 1,000 2,000 Feet

7.5-Minute Quadrangle: Corona North
Section: 23, 24
Township: T2S R7W
Meridian: San Bernardino
State: California
County: San Bernardino

Sub-area 29
(PA 30- PA 34)

Figure 3

USGS Topographic Map

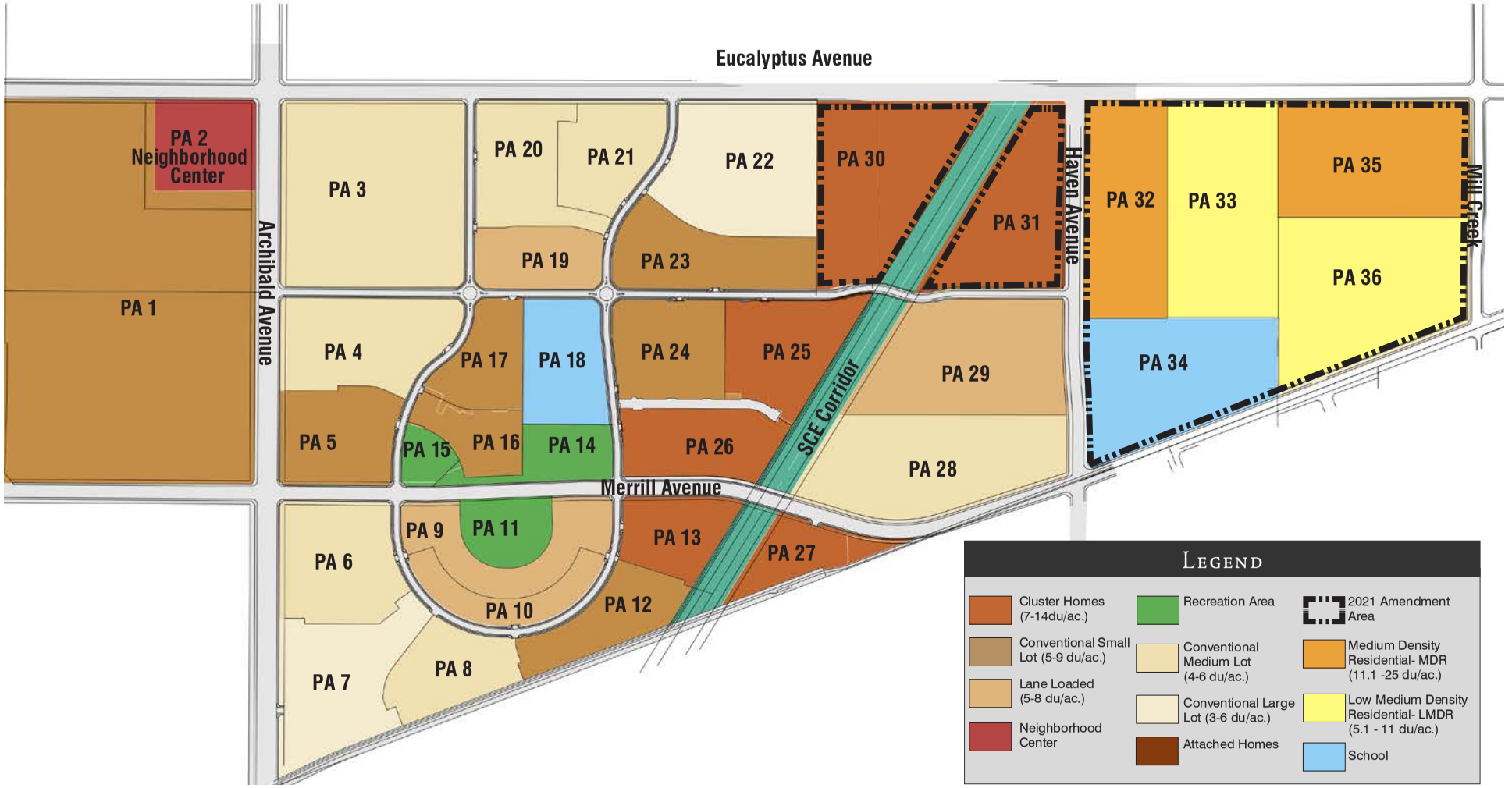
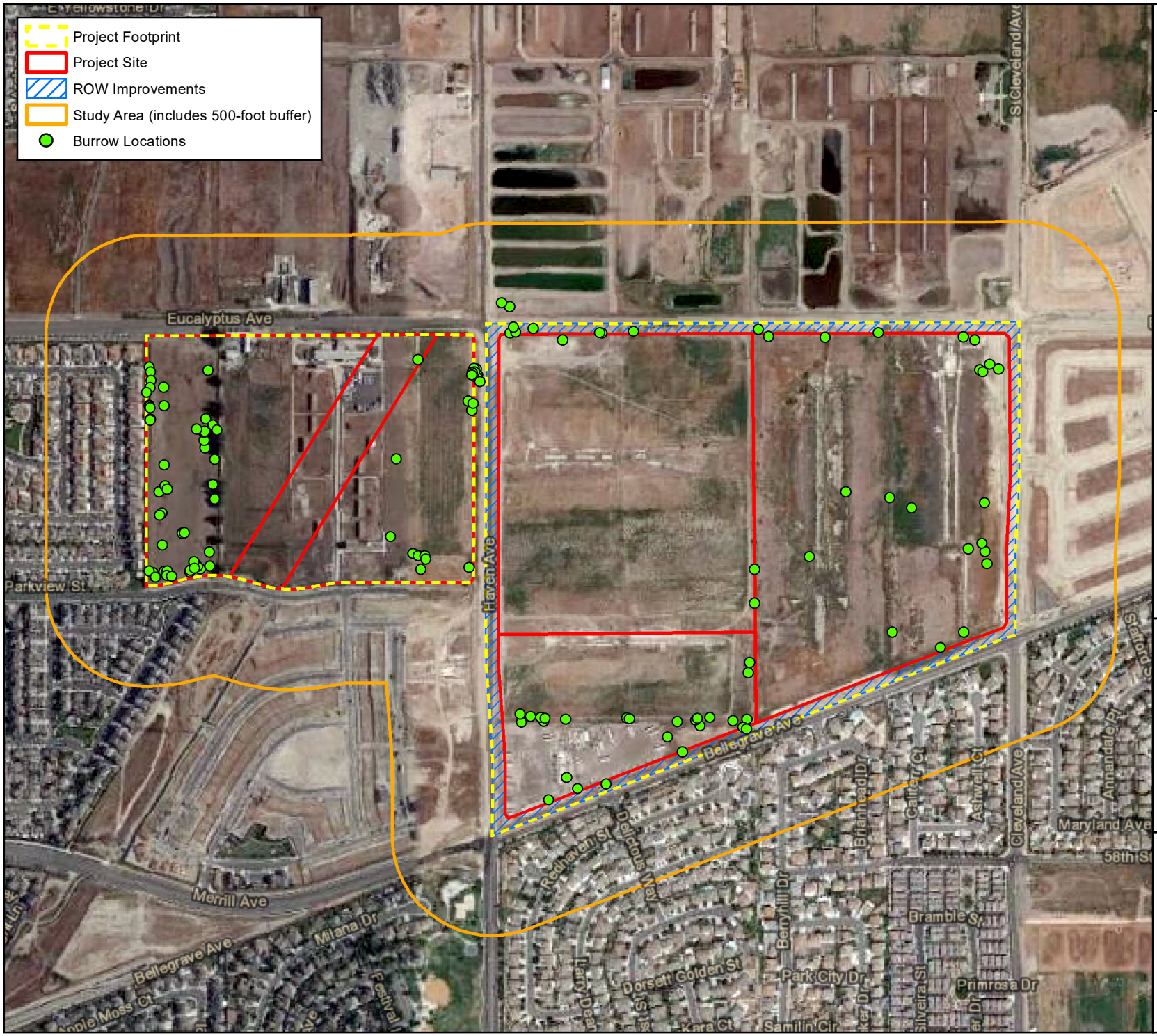


Figure 4 — Site Plan



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Subarea 29 - Rais

Figure 5

Burrowing Owl (BUOW) Study Area

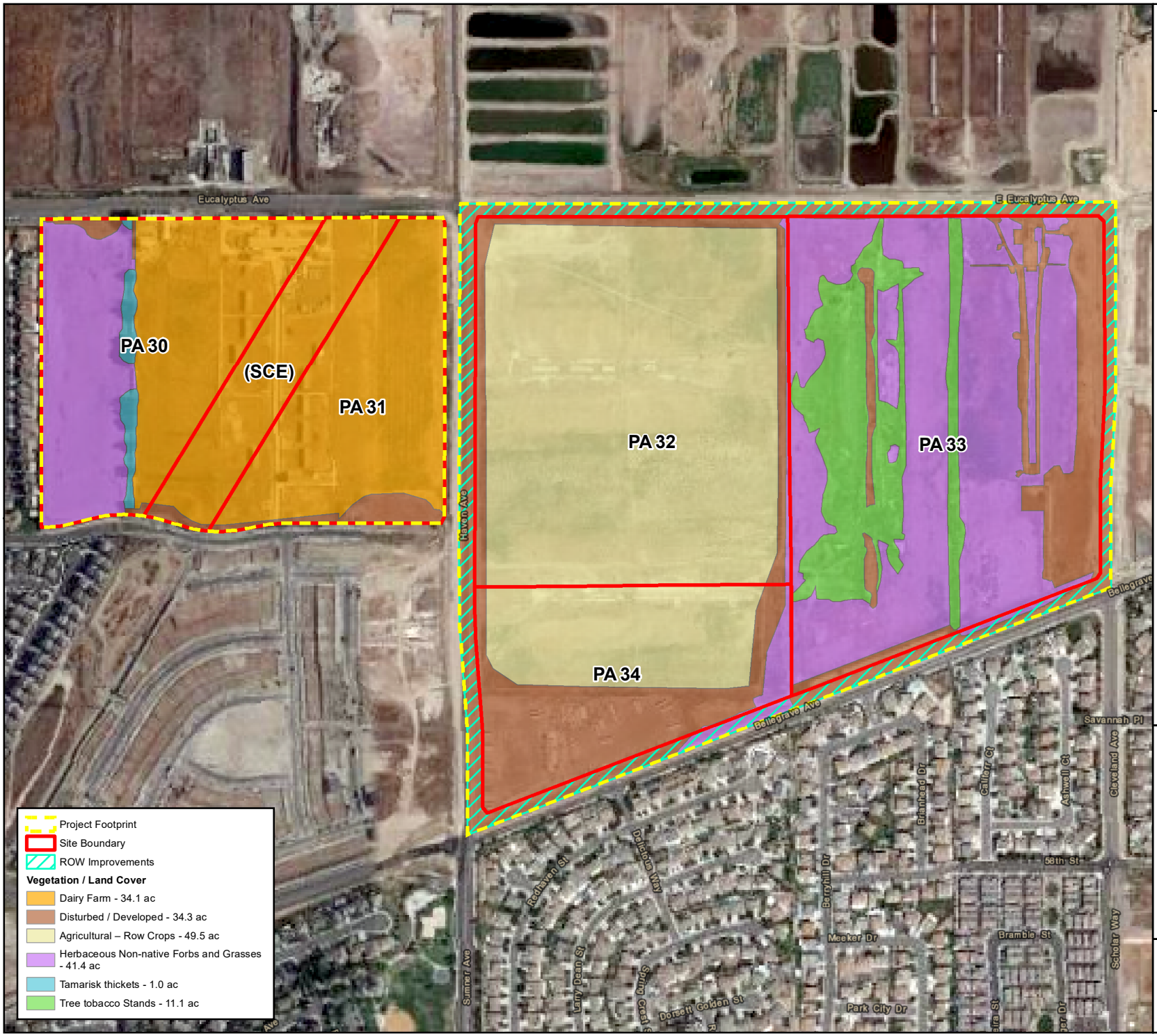
N
W E
S

0 400 800
Feet

1:8,000

Map Date: July 2022
Data Sources: ESRI, Google Earth, Richland, Lewis Op.

Service Layer Credits: Esri, HERE, Garmin, (c) OpenStreetMap contributors



VCS Environmental
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Lewis Op.
Subarea 29

Figure 6
Vegetation Map

N
W E
S

0 300 600
Feet

1:6,500

Map Date: November 2022
Data Sources: ESRI, BAWCE

U.S. Fish and Wildlife Service

National Wetlands Inventory

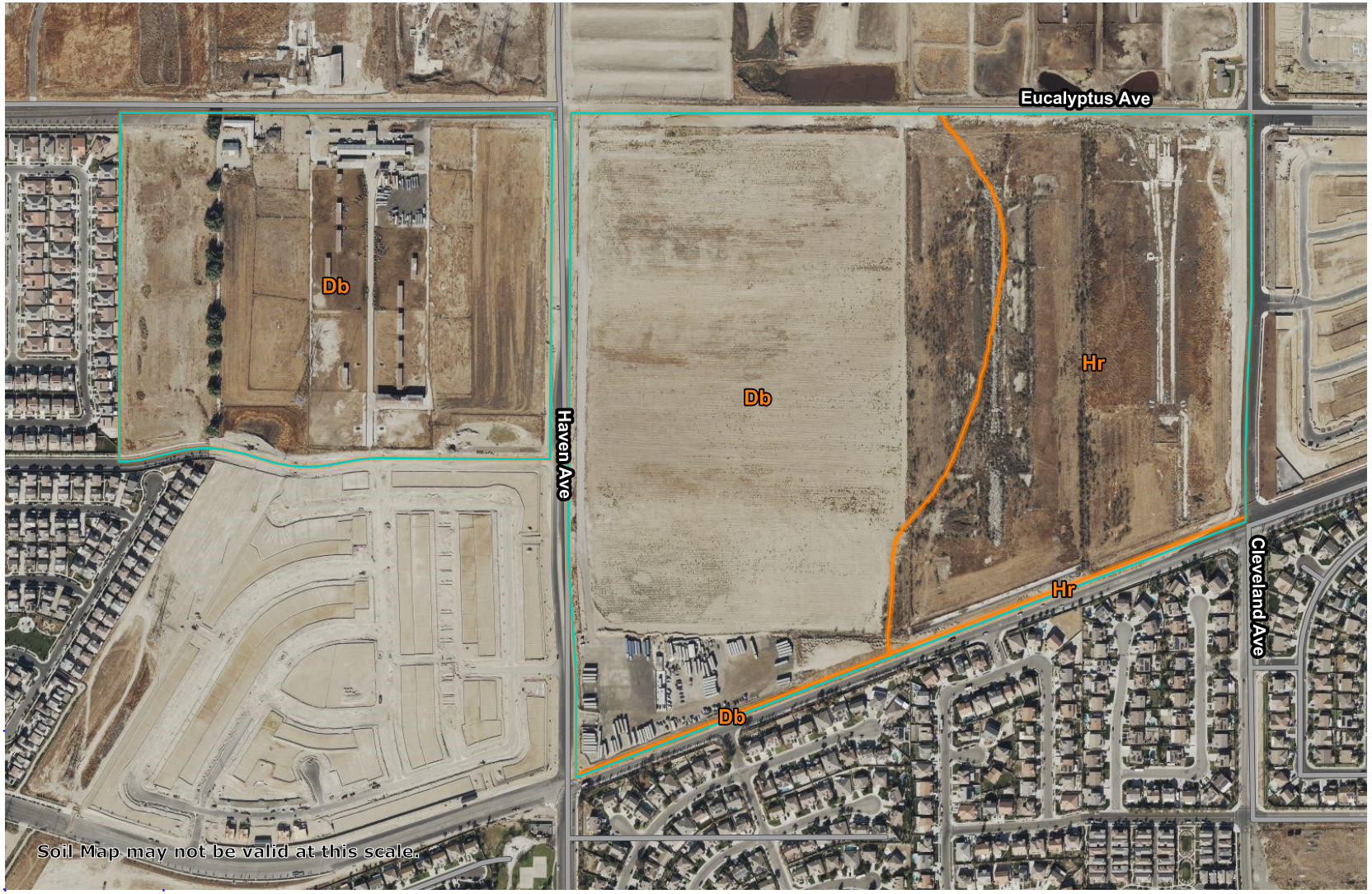
September 1, 2021

Wetlands

- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Other
- Riverine

Figure 7

117° 34' 58" W
117° 33' 56" W
33° 59' 28" N
33° 58' 54" N



Map Scale: 1:7,280 if printed on A landscape (11" x 8.5") sheet.

N

0 100 200 400 600 Meters

0 350 700 1400 2100 Feet

Map projection: Web Mercator Corner coordinates: WGS84

Figure 8

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at scales ranging from 1:15,800 to 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: San Bernardino County Southwestern Part, California
Survey Area Data: Version 12, May 27, 2020

Soil Survey Area: Western Riverside Area, California
Survey Area Data: Version 13, May 27, 2020

Your area of interest (AOI) includes more than one soil survey area. These survey areas may have been mapped at different scales, with a different land use in mind, at different times, or at different levels of detail. This may result in map unit symbols, soil properties, and interpretations that do not completely agree across soil survey area boundaries.

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Nov 19, 2020—Dec 5, 2020

MAP LEGEND

MAP INFORMATION

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
Db	Delhi fine sand	127.1	73.4%
Hr	Hilmar loamy fine sand	45.2	26.1%
Subtotals for Soil Survey Area		**172.3**	**99.5%**
Totals for Area of Interest		**173.2**	**100.0%**

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
Db	Delhi fine sand	0.3	0.2%
Hr	Hilmar loamy fine sand	0.5	0.3%
Subtotals for Soil Survey Area		**0.9**	**0.5%**
Totals for Area of Interest		**173.2**	**100.0%**

APPENDIX A

Site Photographs

Photo 1: View of agricultural – row crops land cover on the eastern portion of the Project Footprint; facing north. March 2022.

Photo 2: View of disturbed/developed area adjacent to row-crops; facing north. September 2021.

Photo 3: View of disturbed/developed land cover in the middle portion of the Project Footprint, east of Haven Avenue; facing north. March 2022.

Photo 4: Typical view of the northeastern portion of the Project Footprint (east of Haven Avenue); facing south. March 2022.

Photo 5: View of the existing earthen channel feature dominated by non-native tree tobacco stands; facing south. September 2021.

Photo 6: View of former dairy farm within the western portion of the Project, west of Haven Avenue; facing northwest. SCE easement in the background. March 2022.

Photo 7: View of non-native herbaceous forbs and grasses characterized by non-native ruderal weedy species, west of Haven Avenue; facing west. March 2022.

Photo 8: View of non-native herbaceous forbs and grasses within the western portion of the Project Footprint; facing west. March 2022.

Photo 9: View of *Tamarix* spp. Stands located within the western portion of the Project Footprint; facing southeast. September 2021.

Photo 10: View of disturbed/developed land cover within the southwestern portion of the project, east of Haven Avenue. Residential development located adjacent to the site can be seen in the background; facing northwest. March 2022.

Photo 11: View of flood control channel located south of the Project Footprint, east of Haven Avenue; facing east. March 2022.

Photo 12: View of structures/foundation from previous dairy farm activities located within the northeastern portion of the site; facing south. September 2021.

Photo 13: View of one of the agricultural holding ponds located west of Haven Avenue; facing east. March 2022.

APPENDIX B

Plant and Wildlife Species Observed within the Project Footprint

Plant Species Observed within the Project Footprint

Scientific Name	Common Name
Amaranthaceae	**Amaranth Family**
*Amaranthus albus**	Common tumbleweed
Amaranthus blitoides	Prostrate pigweed
Amaranthus palmeri	Palmer's amaranth
Arecaceae	**Palm Family**
*Washingtonia robusta**	Mexican fan palm
Asteraceae	**Sunflower Family**
Baccharis salicifolia	Mulefat
*Erigeron bonariensis**	Flax-leaved horseweed
Heterotheca grandiflora	Telegraph weed
*Lactuca serriola**	Prickly lettuce
*Oncosiphon piluliferum**	Stinknet
*Sonchus oleraceus**	Common sow thistle
*Verbesina encelioides**	Golden crownbeard
Boraginaceae	**Borage Family**
Heliotropium curassavicum	Salt heliotrope
Brassicaseae	**Mustad Family**
*Hirschfeldia incana**	Short-pod mustard
*Sisymbrium irio**	London rocket
Chenopodiaceae	**Goosefoot Family**
*Atriplex prostrata**	Fat-hen
*Atriplex semibaccata**	Australian saltbush
*Bassia hyssopifolia**	Five-horn smotherweed
*Chenopodium album**	Lamb's quarter
*Dysphania ambrosioides**	Mexican tea
*Salsola tragus**	Russian thistle
Euphorbiaceae	**Spurge Family**
Croton setigerus	Doveweed / turkey mullein
Euphorbia albomarginata	Rattlesnake sandmat
*Ricinus communis**	Castor bean
Fabaceae	**Legume Family**
Astragalus pomonensis	Pomona milk vetch

Scientific Name	Common Name
Lamiaceae	**Mint/Sage Family**
Marrubium vulgare	White horehound
Malvaceae	**Mallow Family**
*Malva parviflora**	Cheeseweed
Poaceae	**Grass Family**
*Arundo donax**	Giant reed
*Avena barbata**	Slim oat
*Bromus diandrus**	Ripgut brome
*Bromus rubens**	Red brome
Distichlis spicata	Salt grass
*Mediterranean barley**	Hordeum murinum
*Polypogon monspeliensis**	Annual beard grass
*Schismus barbatus**	Schismus
*Zea mays**	Maize
Portulacaceae	**Purslane Family**
*Portulaca oleracea**	Common purslane
Solanaceae	**Nightshade Family**
Datura wrightii	Jimsonweed
*Nicotiana glauca**	Tree tobacco
Solanum douglasii	Douglas' nightshade
Tamaricaceae	**Tamarisk Family**
*Tamarix ramosissima**	Salt cedar

* Non-native species.

Wildlife Species Observed/Detected within the Project Footprint

Scientific Name	Common Name
***Aves* - Birds**	
Accipitridae	**Kites, Eagles and Hawks**
Accipiter cooperii +	Cooper's Hawk
Buteo jamaicensis	Red-tailed hawk
Circus cyaneus +	Northern harrier

Scientific Name	**Common Name**
Alaudidae	**Larks**
Eremophila alpestris actia	California horned lark
Anatidae	**Ducks**
Anas platyrhynchos	Mallard
Corvidae	**Jays, Magpies and Crows**
Corvus brachyrhynchos	American crow
Corvus corax	Common raven
Cathartidae	**Partridges, Grouse, Turkeys and Old-World Quail**
Cathartes aura	Turkey vulture
Charadriidae	**Plovers**
Charadrius vociferous	Killdeer
Columbridae	**Pigeons and Doves**
Columba livia	Rock pigeon
*Streptopelia decaocto**	Eurasian collared dove
Zenaida macroura	Mourning dove
Falconidae	**Caracaras and Falcons**
Falco peregrinus	Peregrine falcon
Falco sparverius	American kestrel
Fringillidae	**Finches**
Haemorhous mexicanus	House finch
Spinus psaltria	Lesser goldfinch
Hirundinidae	**Swallows**
Etrochelidon pyrrhonota	Cliff swallow
Stelgidopteryx serripennis	Northern rough-winged swallow

Scientific Name	**Common Name**
Icteridae	**Blackbirds, Orioles, and Allies**
Agelaius phoeniceus	Red-winged blackbird
Icterus buockii	Bullock's oriole
Sturnella neglecta	Western Meadowlark
Mimidae	**Mockingbirds and Thrashers**
Mimus polyglottos	Northern mockingbird
Passeridae	**Old World Sparrows**
Passer domesticus	House sparrow
Passerellidae	**New World Sparrows and Towhees**
Artemisiospiza belli belli +	Bell's sage sparrow
Chondestes grammacus	Lark Sparrow
Melospiza melodia	Song sparrow
Melozone crissalis	California Towhee
Passerculus sandwichensis	Savannah sparrow
Zonotrichia leucophrys	White-crowned sparrow
Recurvirostridae	**Stilts and Avocets**
Himantopus mexicanus	Black-necked stilt
Recurvirostra americana	American avocet
Sturnidae	**Starlings and Allies**
*Sturnus vulgaris**	European starling
Threskiornithidae	**Ibises**
Plegadis chihi +	White-faced ibis
Tyrannidae	**Tyrant Flycatcher**
Sayornis nigricans	Black phoebe
Sayornis saya	Say's phoebe
Tyrannus verticalis	Western kingbird

Scientific Name	**Common Name**
Tyrannidae vociferans	Cassin's kingbird
Trochilidae	**Hummingbirds**
Calypte anna	Anna's Hummingbird
Selasphorus sasin	Allen's Hummingbird
***Mammalia* - Mammals**	
Bovidae	**Cloven-hoofed, Ruminant Mammals**
Bos spp.	Cattle
Canidae	**Dogs, Wolves, Coyotes, Foxes**
Canis latrans	Coyote
Canis lupis familiaris	Domestic dog
Felidae	**Cats**
Felis catus	Domestic cat
Leporidae	**Rabbits, Hares, and Pika**
Sylvilagus audubonii	Audubon's cottontail
Lepus californicus bennettii +	San Diego black-tailed jackrabbit
Sciuridae	**Squirrels, Chipmunks and Marmots**
Neotamias obscurus	California chipmunk
Otospermophilus beecheyi	California ground squirrel
***Reptilia* – Reptiles**	
Phrynosomatidae	**Spiny Lizards**
Sceloporus occidentalis	western fence lizard
Uta stansburiana	common side-blotched lizard

*Non-native species
+ Special Status Species

APPENDIX C

Special Status Species
Potential Occurrence Determination

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APPENDIX C

Special Status Species Potential Occurrence Determination

This table summarizes conclusions from analysis and field surveys regarding the potential occurrence of special status species within the Project Footprint. During the field surveys, the potential for special status species to occur within the site was assessed based on the following criteria:

- Present: observed on the site during the field surveys, or recorded on-site by other qualified biologists.

- High potential to occur: observed in similar habitat in the region by a qualified biologist, or habitat on the site is a type often utilized by the species and the site is within the known distribution and elevation range of the species.

- Moderate potential to occur: reported sightings in surrounding region, or the site is within the known distribution and elevation range of the species and habitat on the site is a type occasionally used by or typical of the species.

- Low potential to occur: the site is within the known distribution and elevation range of the species but habitat on the site is rarely used by the species or no suitable habitat is present, or there are no known recorded occurrences of the species within or adjacent to the site.

- Absent: a focused study failed to detect the species or the site is outside the known distribution and elevation range of the species**.**

- Unknown: the species' distributional/elevation range and habitat are poorly known.

Even with field surveys, biologists assess the *probability* of occurrence rather than make a definitive conclusion about species' presence or absence. Failure to detect the presence of the species is not definitive and may be due to variable effects associated with fire, rainfall patterns, and/or season.

Special Status Species: Potential to Occur within the Project Footprint

Scientific Name	Common Name	Status	General Habitat Description	Potential for Occurrence within the Project Footprint
PLANTS				
Abronia villosa var. aurita	Chaparral sand-verbena (also foothill sand-verbena)	CRPR: 1B.1, BLMS, FSS	Exposed sites with sandy soils, especially washes and dunes, in chaparral, sage scrub, and alluvial scrub. Elevation: 75 - 1600 meters Blooming period: (Jan)March - September	Low; nominal habitat present, however, species unlikely to occur due to the high levels of historic disturbance.
Ambrosia pumila	San Diego ambrosia	FE, CRPR: 1B.1	Range extends from Riverside County through San Diego County into Baja California. Found along drainages and areas adjacent to riparian areas. Elevation: 20 - 415 meters Blooming period: April - October	Low; site lacks suitable habitat. No species of the *Ambrosia* genus observed onsite.
Astragalus brauntonii	Braunton's milk-vetch	FE, CRPR: 1B.1	Endemic to carbonate soils (limestone outcrops) of the foothills of the southern California mountains. It commonly occurs in disturbed chaparral, coastal sage scrub, and closed-cone forests. Elevation: 6 – 640 meters Blooming period: January - August	Low; site lacks suitable habitat.
Atriplex coulteri	Coulter's saltbush	CRPR: 1B.2	Native to coastal southern California and northern Baja California, where it is quite rare. It grows in areas of saline and alkaline soils, such as ocean bluffs. Elevation: 3 - 460 meters Blooming period: March - October	Low; site lacks suitable habitat.
Berberis nevinii	Nevin's barberry	FE, SE, CRPR: 1B.1	Evergreen species of flowering shrub found in a variety of different topographical conditions ranging from nearly flat sandy washes, terraces, and canyon floors to ridges and mountain summits. Associated with mesic habitats and plant communities such as alluvial scrub, chamise chaparral, coastal sage scrub, oak woodland, and riparian scrub or woodland. Endemic to southern California, where it is known from very few occurrences in the chaparral of inland canyons and foothills. Elevation: 70 - 825 meters Blooming period: (Feb)March - June	Low; site lacks suitable habitat.
Brodiaea filifolia	thread-leaved	FT, SE,	Perennial bulbiferous herb. Found in floodplains in semi-alkaline	Low; site lacks suitable

Scientific Name	Common Name	Status	General Habitat Description	Potential for Occurrence within the Project Footprint
	brodiaea	CRPR: 1B.1,	mudflats, vernal pools, mesic southern needlegrass grassland, mixed native-nonnative grassland, alkali grassland, and alluvial fan sage scrub plant communities. Requires very heavy clay soils. The range of this species extends from the foothills of the San Gabriel Mountains at Glendora in Los Angeles County, east to Arrowhead Hot Springs in the western foothills of the San Bernardino Mountains in San Bernardino County, and south through eastern Orange and western Riverside Counties to the City of San Diego. Elevation: 25 – 1,120 meters Blooming period: March - June	habitat.
Calochortus catalinae	Catalina mariposa lily	CRPR: 4.2	The bulb is endemic to Southern California. It is native along the coastline in grasslands and open chaparral and woodlands habitats, especially on the Channel Islands and in the Santa Monica Mountains. Elevation: 15 – 700 meters Blooming period: (Feb)March - June	Low; site lacks suitable habitat.
Calochortus plummerae	Plummer's mariposa-lily	CRPR: 4.2	Perennial bulbiferous herb endemic to California. Habitat includes granitic, rocky soils within chaparral, cismontane woodland, coastal scrub, lower montane coniferous forest, and valley and foothill grassland. Threatened by development, fire suppression, foot traffic, mining, powerline construction, and recreational activities. Less common at higher elevations. Elevation: 100 - 1700 meters Blooming period: May - July	Low; site lacks suitable habitat.
Calochortus weedii var. intermedius	Intermediate mariposa-lily	CRPR: 1B.2, FSS	Dry, rocky, open slopes within chaparral, sage scrub, or grasslands. Elevation: 105 – 855 meters Blooming period: May - July	Low; site lacks suitable habitat.
Calystegia felix	lucky morning-glory	CRPR: 1B.1	Meadows and seeps (sometimes alkaline), Riparian scrub (alluvial) Elevation: 30-215 meters Blooming period: March -September	Low; site lacks suitable habitat.
Camissoniopsis lewisii	Lewis' evening-primrose	CRPR: 3	Native to southern California and Baja California, where it grows in coastal habitat and on the grasslands of the inland mountain ranges. Sandy or clay habitat including coastal bluff scrub, cismontane woodland, coastal dunes, coastal scrub, and valley and foothill grassland. Elevation: 0 - 300 meters	Low; site lacks suitable habitat.

Scientific Name	Common Name	Status	General Habitat Description	Potential for Occurrence within the Project Footprint
			Blooming period: March - May(Jun)	
Centromadia pungens ssp. laevis	smooth tarplant	CRPR: 1B.1	Suitable habitat for the smooth tarplant includes alkali scrub, alkali playas, and grasslands with alkaline affinities. Elevation: 0 – 640 meters Blooming period: April - September	Low; the site presents contaminated soils and low-quality habitat. Not observed during the September 2021 survey or previous biological surveys in 2005, 2006, 2007, and 2018.
Chorizanthe parryi var. parryi	Parry's spineflower	CRPR: 1B.1, BLMS, FSS	Parry's spineflower occurs within the alluvial chaparral and scrub of the San Gabriel, San Bernardino and San Jacinto Mountains. Elevation: 275 - 1,220 meters Blooming period: April - June	Low; site lacks suitable habitat.
Cladium californicum	California sawgrass	CRPR: 2B.2	Meadows and seeps, marshes and swamps. Alkaline or freshwater. Elevation: 60 – 1600 meters Blooming period: June – September	Low; site lacks suitable habitat.
Convolvulus simulans	small-flowered morning-glory	CRPR: 4.2	Annual herb native to California and Baja California. Found in clay substrates (occasionally serpentine) in chaparral, coastal scrub, and valley and foothill grassland. Rare in southern California. Threatened by development and vehicles. Elevation: 30 - 740 meters Blooming period: March - July	Low; site lacks suitable habitat.
Deinandra paniculata	San Diego tarplant (paniculate tarplant)	CRPR: 4.2	Occurs as a dominant or co-dominant plant in the herbaceous layer of grasslands, forblands, openings of coastal sage scrub and oak woodland. Often in sandy soils. Elevation: 25 – 950 meters Blooming period: (Mar)April – November (Dec)	Low; although the site presents potentially suitable habitat, the species was not observed during the September 2021 survey or previous biological surveys in 2005, 2006, 2007, and 2018. Additionally, the site presents contaminated

Scientific Name	Common Name	Status	General Habitat Description	Potential for Occurrence within the Project Footprint
				soils.
Dodecahema leptoceras	slender-horned spineflower	FE, SE, CRPR: 1B.1	Slender-horned spineflower is endemic to southwestern cismontane California, ranging from central Los Angeles County east to San Bernardino County, and south to southwestern Riverside County in the foothills of the Transverse and Peninsular Ranges. Slender-horned spineflower is found in sandy soil in association with mature alluvial scrub. Elevation: 200 - 760 meters Blooming period: April - June	Low; site lacks suitable habitat.
Dudleya multicaulis	many-stemmed dudleya	CRPR: 1B.2, BLMS, FSS	Many-stemmed dudleya is often associated with clay soils in barrens, rocky places, and ridgelines as well as thinly vegetated openings in chaparral, coastal sage scrub, and southern needlegrass grasslands on clay soils. Elevation: 15 – 790 meters Blooming period: April - July	Low; site lacks suitable habitat.
Eriastrum densifolium ssp. sanctorum	Santa Ana River woollystar	FE, SE, CRPR: 1B.1,	This plant is found only within open washes and early-successional alluvial fan scrub on open slopes above main watercourses on fluvial deposits where flooding and scouring occur at a frequency that allows the persistence of open shrublands. Elevation: 91 – 610 meters Blooming period: April - September	Low; site lacks suitable habitat.
Horkelia cuneata var. puberula	mesa horkelia	CRPR: 1B.1, FSS	Perennial herb native and endemic to California. Occurs in sandy or gravelly habitat within chaparral, cismontane woodland and coastal scrub. Distributed along the central to south coast of California, found in San Luis Obispo, Riverside, Santa Barbara, and Los Angeles counties. It once flourished in San Bernardino, San Diego, and Ventura counties as well, but has become locally extinct in these areas. Elevation: 70 - 810 meters Blooming period: February - July(Sep)	Low; site lacks suitable habitat.
Juglans californica	Southern California black walnut	CRPR: 4.2	Perennial deciduous tree endemic to California. Habitat includes alluvial substrates, chaparral, cismontane woodland, coastal scrub, and riparian woodland. Threatened by urbanization, grazing, non-native plants, and possibly by lack of natural reproduction. Elevation: 50 - 900 meters	Absent. The species was not observed during the survey.

Scientific Name	Common Name	Status	General Habitat Description	Potential for Occurrence within the Project Footprint
			Blooming period: March - August	
Juncus acutus ssp. leopoldii	southwestern spiny rush	CRPR: 4.2	The species range extends from Arizona to Baja and the central California coast. It is typically found in moist, saline, or alkaline areas within coastal, foothill, and desert regions. Elevation: 3 – 900 meters Blooming period: March (May) - June	Low; site lacks suitable habitat.
Lasthenia glabrata ssp. coulteri	Coulter's goldfields	CRPR: 1B.1, BLMS	Coulter's goldfields is associated with low-lying alkali habitats along the coast and in inland valleys. Most of the populations are associated with coastal salt marsh. Coulter's goldfields occur primarily in the alkali vernal plains community. Elevation: 1 – 1200 meters Blooming period: February - June	Low; site lacks suitable habitat.
Lepidium virginicum var. robinsonii	Robinson's peppergrass	CRPR: 4.3	Annual herb occurring in dry sandy or thin soils in coastal sage scrub and chaparral. Elevation: 1 – 885 meters Blooming period: January - July	Low; site lacks suitable habitat.
Lycium parishii	Parish's desert-thorn	CRPR: 2B.3	Perennial shrub within coastal scrub and Sonoran desert scrub. Sandy to rocky slopes, canyons, and washes. Elevation: 135 – 1,000 meters Blooming period: March – April	Low; site lacks suitable habitat.
Malacothamnus parishii	Parish's bush mallow	CRPR 1A	Known from a single historical record in a chaparral and coastal sage scrub wash in San Bernardino County from which it is now extirpated. Elevation: 305 – 455 meters Blooming period: June – July	Low; site lacks suitable habitat.
Microseris douglasii var. platycarpha	small-flowered microseris	CRPR:4.2	Clay soils in association with native grasslands or vernal pools. Elevation: 15 – 1070 meters Blooming period: March - May	Low; site lacks suitable habitat.
Muhlenbergia californica	California muhly	CRPR: 4.3	A perennial grass found in mesic, seeps and streambanks. Habitat includes chaparral, coastal scrub, lower montane coniferous forest, meadows and seeps. Elevation: 100 – 2,000 meters Blooming period: June - September	Low; site lacks suitable habitat.
Muhlenbergia utilis	aparejo grass	CRPR: 2B.2	Grows in wet habitats, including riverbanks and meadows, sometimes in alkaline or serpentine soils.	Low; site lacks suitable habitat.

Scientific Name	Common Name	Status	General Habitat Description	Potential for Occurrence within the Project Footprint
			Elevation: 25 – 2,325 meters Blooming period: March – October	
Navarretia prostrata	prostrate vernal pool navarretia	CRPR: 1B.2	Found in alkaline floodplains, vernal pools, meadows and seeps. Known to occur in Los Angeles, Merced, Monterey, Orange, Riverside and San Diego counties and is thought to be extirpated from Alameda and San Bernardino counties. Elevation: 3 – 1,210 meters Blooming period: April - July	Low; site lacks suitable habitat.
Phacelia stellaris	Brand's phacelia (Brand's star phacelia)	CRPR: 1B.1	Coastal dunes, coastal scrub. Elevation: 1 - 400 meters Blooming period: March - June	Low; site lacks suitable habitat.
Pseudognaphalium leucocephalum	white rabbit tobacco	CRPR: 2B.2	Sandy or gravelly benches, dry stream bottoms, and canyon bottoms. Elevation: 0 – 2,100 meters Blooming period: (July) August – November (December)	Low; site lacks suitable habitat.
Romneya coulteri	Coulter's matilija poppy	CRPR: 4.2	This poppy is native to southern California and Baja California, where it grows in dry washes and canyons below 1,200 m in open, mildly disturbed sage scrub, chaparral and along rocky drainages, sometimes in areas recently burned. It is a popular ornamental plant, kept for its large, showy flowers. Elevation: 20 – 1200 meters Blooming period: March – July (August)	Low; site lacks suitable habitat.
Senecio aphanactis	Chaparral ragwort (rayless ragwort)	CRPR: 2B.2	Alkaline flats and dry, open rocky areas of coastal bluff scrub and coastal sage scrub. Known from Central Western California and South Coast to Baja California. Elevation: 15 - 800 meters Blooming period: January – April (May)	Low; site lacks suitable habitat.
Sidalcea neomexicana	salt spring checkerbloom	CRPR: 2B.2, FSS	It can be found in a diverse number of alkaline/mesic habitat types including chaparral and coastal sage scrub, Yellow Pine Forest, and riparian zones, creosote bush scrub, and alkali flats and other salty substrates. Possibly extirpated from the Western Transverse Ranges (Baldwin et al. 2012). Elevation: 15 – 1,530 meters Blooming period: March - June	Low; site lacks suitable habitat.
Symphyotrichum	San Bernardino	CRPR: 1B.2,	Endemic to Southern California, where it is known only from the San	Low; site lacks suitable

Scientific Name	Common Name	Status	General Habitat Description	Potential for Occurrence within the Project Footprint
defoliatum	aster	BLMS, FSS	Bernardino and San Gabriel Mountains of the Transverse Ranges, and part of the Peninsular Ranges to the south. It grows in grassland and meadow habitat, often near springs, and in disturbed areas. Elevation: 0 – 2,040 meters Blooming period: May (July) – October (January)	habitat.
INVERTEBRATES				
Bombus crotchii	Crotch bumble bee	SCE	Uncommon species of coastal California east towards the Sierras; select food plan genera include *Antirrhinum, Phacelia, Clarkia, Dendromecon, Eschscholzia, Eriogonum.* Also like lotus, *Encelia* sp., milk weed, and non-native grassland. Don't prefer dense non-native vegetation. Nest in the ground but are not limited by compact soils unless no rodent burrows or crevices are present. Highly impacted by urbanization; unlikely to be found in fragmented habitats and more likely to be found in large undisturbed areas or sites with direct connections to large undisturbed areas.	Low; No food genera observed onsite. No *Bombus* species observed onsite.
Euphydryas editha quino	quino checkerspot butterfly	FE	Each phase has distinct habitat requirements. Habitat associations seem to be tied to both host plant species and topography. Larvae feed immediately upon *Plantago erecta*, *Plantago patagonia, Antirrhinum coulterianum*, *Cordylanthus rigidus* and possibly other *Plantago* species and *Collinsia concolor*, and *Castilleja exserta*. After diapause, the larvae feed again on *Plantago erecta* before metamorphosing. After metamorphose, the adults nectar mostly on small annuals. The Quino checkerspot butterfly is found in association with topographically diverse open woody canopy landscapes that contain low to moderate levels of non-native vegetation compared to disturbed habitat. Vegetation types that support the Quino checkerspot are coastal sage scrub, open chaparral, juniper woodland, forblands, and native grassland. Soil and climatic conditions, as well as ecological and physical factors, affect the suitability of habitat within the species' range.	Low; site lacks suitable habitat and host species.
Gonidea angulata	western ridged mussel	Not listed; Rank: G3, S1S2	Primarily creeks and rivers and less often lakes. Originally in most of state, now extirpated from Central and Southern California.	Low; site lacks suitable habitat.
Rhaphiomidas terminatus	Delhi Sands flower-loving fly	FE	Endemic to the Colton Dunes (Delhi series soils) in NW Riverside County and SW San Bernardino County. Fine sandy soils, often wholly or partly	2020 and 2021 habitat assessment surveys

Scientific Name	Common Name	Status	General Habitat Description	Potential for Occurrence within the Project Footprint
abdominalis			sand dunes.	concluded no suitable habitat for the species.
FISH				
Catostomus santaanae	Santa Ana sucker	FT, AFS-TH	Small to medium sized streams that flow year-round. Depth from several centimeters to over 1 meter deep. Favor cool (<22°C) water and gravel, rubble, and boulder substrates.	Absent.
Gila orcutti	arroyo chub	SSC, FSS, AFS-VU	Cool to warm (10-24°C) streams, most common in slow flowing or backwater areas with sand or mud substrate.	Absent.
Oncorhynchus mykiss irideus pop. 10	steelhead – southern CA DPS	FE, AFS-EN	Anadromous species of salmon that reproduces within southern California watersheds. Steelhead trout hatch in gravel-bottomed, fast-flowing, well-oxygenated rivers and streams.	Absent.
Rhinichthys osculus ssp. 8	Santa Ana speckled dace	SSC, FSS, AFS-TH	Predominantly occupy small streams of the second or third order. Prefer clear, oxygenated water with deep cover or overhead protection from vegetation or woody debris. Requires permanent flowing streams with summer water temps of 17-20°C. Usually inhabits shallow cobble and gravel riffles.	Absent.
AMPHIBIANS				
*Spea hammondii (*also *Scaphiopus hammondii)*	western spadefoot toad	SSC, BLMS	Prefers open areas with sandy or gravelly soils, in a variety of habitats including mixed woodlands, grasslands, coastal sage scrub, chaparral, sandy washes, lowlands, river floodplains, alluvial fans, playas, alkali flats, foothills, and mountains. Rainpools which do not contain bullfrogs, fish, or crayfish are necessary for breeding.	Low; site lacks suitable habitat.
REPTILES				
*Actinemys marmorata (*also *Emys marmorata)*	western pond turtle	SSC, BLMS, FSS	A thoroughly aquatic turtle of ponds, marshes, rivers, streams & irrigation ditches, usually with aquatic vegetation, below 2,000 meters in elevation. Need basking sites and suitable (sandy banks or grassy open fields) upland habitat up to 0.5 km from water for egg-laying.	Low; site lacks suitable habitat.
Anniella stebbinsi	Southern California Legless Lizard	SSC, FSS	Occurs in moist warm loose soil with plant cover. Moisture is essential. Occurs in sparsely vegetated areas of beach dunes, chaparral, pine-oak woodlands, desert scrub, sandy washes, and stream terraces with sycamores, cottonwoods, or oaks. Leaf litter under trees and bushes in sunny areas and dunes stabilized with bush lupine and mock heather often indicate suitable habitat.	Low; site lacks suitable habitat.

Scientific Name	Common Name	Status	General Habitat Description	Potential for Occurrence within the Project Footprint
Arizona elegans occidentalis	California glossy snake	SSC	Inhabits arid scrub, rocky washes, grasslands, chaparral. Appears to prefer microhabitats of open areas and areas with soil loose enough for easy burrowing.	Low; site lacks suitable habitat.
Aspidoscelis hyperythra	orange-throated whiptail	WL, FSS	Inhabits low-elevation coastal scrub, chaparral, and valley-foothill hardwood habitats. Prefers washes & other sandy areas with patches of brush & rocks. Perennial plants necessary for its major food-termites.	Low; site lacks suitable habitat.
Aspidoscelis tigris stejnegeri	Coastal whiptail	SSC	Found in a variety of ecosystems, primarily hot and dry open areas with sparse foliage - chaparral, woodland, and riparian areas. Generally, avoids areas of dense grass and thick shrubby growth. Requires warm and sunny areas for basking, friable soil for burrow construction and foraging, open areas for running, and cover of bushes, rocks, or both.	Low; site lacks suitable habitat.
Coleonyx variegatus abbottii	San Diego banded gecko	SSC	Occurs in a wide variety of sage scrub and chaparral habitats, where suitable cover exists associated with granitic outcrops and boulder fields where there is also ground debris (i.e., yucca stalks).	Low; site lacks suitable habitat.
Crotalus ruber	red-diamond rattlesnake	FSS, SSC	Chaparral, woodland, grassland, and desert areas from coastal San Diego County to the eastern slopes of the mountains. Occurs in rocky areas and dense vegetation. Needs rodent burrows, cracks in rocks or surface cover objects.	Low; site lacks suitable habitat.
Phrynosoma blainvillii	coast horned lizard	SSC, BLMS	The species can be found in various scrublands, grasslands, coniferous and broadleaf forests, and woodlands. It can range from the coast to elevations of 2,000 meters in the Southern California mountains. It is most common in mid-elevations of the coastal mountains and valleys within open habitat that offer good opportunities for sunning.	Low; site lacks suitable habitat.
Thamnophis hammondii	two-striped gartersnake	SSC, FSS, BLMS	Highly aquatic species; prefer habitat adjacent to permanent or semi-permanent bodies of water.	Low; site lacks suitable habitat.
BIRDS				
Accipiter cooperii	Cooper's hawk	WL	Forest and woodland birds. These lanky hawks are a regular sight in parks, quiet neighborhoods, over fields, at backyard feeders, and even along busy streets if there are trees around.	Observed during biological survey; suitable foraging and nesting habitat present within the Project Footprint.
Agelaius tricolor	tricolored blackbird	ST, SSC, BLMS, BCC	Freshwater marshes. Suitable breeding habitat includes cattails and bulrushes.	Low; site lacks suitable habitat.

Scientific Name	Common Name	Status	General Habitat Description	Potential for Occurrence within the Project Footprint
Aimophila ruficeps canescens	Southern California rufous-crowned sparrow	WL	Found on moderate to steep, dry, grass-covered hillsides, coastal sage scrub, and chaparral and often occur near the edges of the denser scrub and chaparral associations. Preference is shown for tracts of California sagebrush.	Low; site lacks suitable habitat.
Ammodramus savannarum	Grasshopper Sparrow	SSC	Breeds in open grasslands, prairies, hayfields, and pastures, typically with some bare ground. Grasshopper Sparrows usually avoid breeding in grasslands with extensive shrub cover, but are a bit more tolerant of shrubs in migration and during the winter. Nests are domed with grasses, typically well concealed in depressions at the base of grass clumps.	Low-Moderate; suitable foraging habitat occurs onsite; however the Project Footprint lacks suitable nesting habitat.
Aquila chrysaetos	golden eagle	WL, FP, BCC, BLMS	Range-wide, golden eagles occur locally in open country (*e.g.,* tundra, open coniferous forest, desert, barren areas), especially in hills and mountainous regions.	Low; site lacks suitable habitat.
Artemisiospiza belli belli (previously *Amphispiza belli belli*)	Bell's sage sparrow	WL, BCC	The species prefers semi-open habitats with evenly spaced shrubs 1 to 2 meters high. Vertical structure, habitat patchiness, and vegetation density may be more important in habitat selection by the sage sparrow than the specific shrub species, but this sparrow is closely associated with sagebrush throughout most of its range. *Amphispiza belli* consists of four subspecies, three of which breed in California (the fourth subspecies occurs in Baja California). The most widespread subspecies *A. b. belli* resides in the coast ranges from northwestern to southern California, with a small isolated population in the western foothills of the Sierra Nevada.	Observed foraging during the biological survey; however, site lacks suitable chaparral and sage scrub habitat for the species. No potential for nesting.
Asio otus	long-eared owl	SSC	Uncommon yearlong resident except the Central Valley and Southern California deserts where it is an uncommon winter visitor. Frequents dense, riparian and live oak thickets near meadow edges, and nearby woodland and forest habitats. Also found in dense conifer stands at higher elevations.	Low; site lacks suitable habitat.
Athene cunicularia	burrowing owl	SSC, BCC, BLMS	Open, dry annual or perennial grasslands, deserts and scrublands characterized by low-growing vegetation. Subterranean nester, dependent upon burrowing mammals, most notably, the California ground squirrel.	High; suitable habitat occurs onsite. Species observed previously onsite.
Buteo swainsoni	Swainson's hawk	ST, BLMS, BCC	Typical habitat includes open desert, grassland, or cropland containing large trees or small groves. Roosts on large trees or ground if none	Low; site lacks suitable habitat.

Scientific Name	Common Name	Status	General Habitat Description	Potential for Occurrence within the Project Footprint
			available. Usually found near water but also nest in arid regions. Large open areas of suitable foraging habitat with abundant and available prey base in association with suitable nesting habitat are basic requirements for successful reproduction. Due to habitat conversion, the species has shifted its foraging strategy to rely more heavily on agricultural crops. Extirpated from much of California.	
Campylorhynchus brunneicapillus sandiegensis	coastal cactus wren	SSC, BCC, FSS	Year-round resident of southern California, found in arid parts of westward-draining slopes. Obligate inhabitants of coastal sage scrub, generally below 3000 ft. Nest almost exclusively in prickly pear and coastal cholla.	Low; site lacks suitable habitat.
Circus hudsonius	northern harrier	SCC, IUCN:LC	Wide-open habitats ranging from Arctic tundra to prairie grasslands to fields and marshes. Their nests are concealed on the ground in grasses or wetland vegetation.	Low; site lacks suitable nesting habitat
Coccyzus americanus occidentalis	western yellow-billed cuckoo	FT, SE, BLMS, FSS, BCC	Woodlands, thickets, orchards, streamside groves. Breeds mostly in dense deciduous stands, including forest edges, tall thickets, dense second growth, overgrown orchards, scrubby oak woods. Often in willow groves around marshes.	Low; site lacks suitable habitat.
Coturnicops noveboracensis	yellow rail	SSC, FSS, BCC	Occur in shallow marshes with fairly short vegetation. For breeding, taller emergent vegetation like cattails does not attract Yellow Rails, but they sometimes nest nearby, where water is shallower and vegetation shorter. They often nest among sedges of the genus Carex. Yellow Rails also inhabit marshes with bulrushes of the genus Scirpus with rushes of the genus Juncus and with reedgrasses of the genus Calamagrostis. Other plants like bald spikerush, saltmarsh spikerush, red fescue, prairie cordgrass, foxtail barley, black bent, and sweet grass are also associated with Yellow Rail nesting areas. Migrating Yellow Rails turn up in wet meadows, shallow marshes, and agricultural fields with grassy cover or heavy stubble. Wintering Yellow Rails use shallow wetlands as they do in breeding areas, typically dominated by sedges, rushes, bulrushes, and grasses. Southern California is outside of the typical range for this species.	Low; site lacks suitable habitat.
Elanus leucurus	white-tailed kite	FP, BLMS	Inhabits riparian thickets of willow & other brushy tangles near watercourses. Nests in low, dense riparian, consisting of willow, blackberry, wild grape; forages and nests within 10 feet of ground.	Low; site lacks suitable habitat. Potential to occur in a foraging role.

Scientific Name	Common Name	Status	General Habitat Description	Potential for Occurrence within the Project Footprint
				No potential for nesting.
Empidonax traillii extimus	southwestern willow flycatcher	FE, SE	The southwestern willow flycatcher is present in breeding territories by mid-May. It builds nests and lays eggs in late May and early June and fledges young in early to mid-July. Between August and September, the southwestern willow flycatcher migrates to wintering grounds in Mexico, Central America, and possibly northern South America. This species is an insectivore and forages within and above dense riparian vegetation. The breeding range of the species includes southern California. The southwestern willow flycatcher breeds in relatively dense riparian tree and shrub communities associated with rivers, swamps, and other wetlands including lakes and reservoirs. Habitat patches must be at least 0.25 ac in size and at least 30 feet wide. Following modern changes to riparian communities, this subspecies still nests in native vegetation, but also uses thickets dominated by non-native tamarisk and Russian olive, or in mixed native non-native stands.	Low; site lacks suitable habitat.
Icteria virens	yellow-breasted chat	SSC	Yellow-breasted chats in southern California are primarily found in dense, relatively wide riparian woodlands and thickets of willows, vine tangles, and dense brush with well-developed understories. Nesting areas are associated with streams, swampy ground, and the borders of small ponds.	Low; site lacks suitable habitat.
Laterallus jamaicensis coturniculus	California black rail	ST, FP, BLMS, BCC	Nests in Northern California in marshes and wet meadows including riparian marshes, coastal prairies, saltmarshes, and impounded wetlands. The majority are found in the tidal salt marshes of the northern San Francisco Bay region, primarily in San Pablo and Suisun Bays. Smaller populations occur in San Francisco Bay, the Outer Coast of Marin County, freshwater marshes in the foothills of the Sierra Nevada, and in the Colorado River Area. All of its habitats have stable shallow water, usually just 1-2 inches deep at most. In California, American glasswort, various bulrush (Scirpus) species, and the alkali seaheath (*Frankenia salina*) are key plants for Black Rails. Away from tidal habitats, Black Rails nest in a variety of wet meadows, marsh edges (including along creeks and rivers), around farm ponds, and even in hayfields with standing water. Migrating birds and wintering birds select habitats with the same characteristics as	Low; site lacks suitable habitat.

Scientific Name	Common Name	Status	General Habitat Description	Potential for Occurrence within the Project Footprint
			breeding habitats, but some occur in dry rice fields, among other rail species, as well.	
Plegadis chihi	white-faced ibis	WL, IUCN:LC	The species occurs in mainly shallow marshes with islands of emergent vegetation. They occasionally occur on spoil banks created by dredging. They occur locally in flooded shoals and mangrove swamps. In the coastal areas of the southern portion of the range, the white-faced ibis nests mostly in wetlands of outer coastal plains, freshwater marshes of common reed, bulltongue, saltmeadow cordgrass and torpedo panic grass.	Low, site lacks suitable nesting habitat
Polioptila californica californica	coastal California gnatcatcher	FT, SSC	Obligate, permanent resident of coastal sage scrub below 835 meters in Southern California. Low, coastal sage scrub in arid washes, on mesas & slopes. Not all areas classified as coastal sage scrub are occupied.	Low; site lacks suitable habitat.
*Setophaga petechia (*previously *Dendroica petechia)*	yellow warbler	SSC, BCC	Found in thickets and other disturbed or regrowing habitats, particularly along streams and wetlands. Nests in the vertical fork of a bush or small tree such as willow.	Low; site lacks suitable habitat.
Spinus lawrencei	Lawrence's goldfinch	BCC	Open woodland or shrubland with water nearby. Builds nests in dense foliage of tree or shrubs- preferably oak, but also cypress, cedar or riparian thicket.	Low; site lacks suitable habitat.
Vireo bellii pusillus	least Bell's vireo	FE, SE	Summer resident of Southern California in low riparian, in vicinity of water or in dry river bottoms; below 2000 ft. Nests placed along margins of bushes or on twigs projecting into pathways, usually willow, baccharis, or mesquite.	Low; site lacks suitable habitat.
MAMMALS				
Antrozous pallidus	pallid bat	SSC, BLMS, FSS, WBWG (H)	Occurs in deserts, grasslands, shrublands, woodlands and forests but is most common in open, dry habitats. Commonly roost in rock crevices, caves, and mine tunnels but also roost in the attics of houses, under the eaves of barns, in hollow trees. Roosts must protect bats from high temperatures. This species is very sensitive to disturbance of roosting sites.	Low; site lacks suitable roosting habitat.
Chaetodipus fallax fallax	northwestern San Diego pocket mouse	SSC	This species inhabits coastal sage scrub, sage scrub/grassland ecotones, and chaparral communities. Sandy, herbaceous areas, usually in association with rocks or coarse gravel. It inhabits open, sandy areas of	Low; site lacks suitable habitat.

Scientific Name	Common Name	Status	General Habitat Description	Potential for Occurrence within the Project Footprint
			both the Upper and Lower Sonoran life-zones of southwestern California and northern Baja California.	
Dipodomys merriami parvus	San Bernardino kangaroo rat	FE, SSC	This species is typically found in Riversidean alluvial fan sage scrub and sandy loam soils, alluvial fans and flood plains, and along washes with nearby sage scrub, chaparral and even disturbed areas that are associated with alluvial processes. Soil texture is a primary factor in this subspecies' occurrence. Sandy loam substrates allow for the digging of simple, shallow burrows. The species is found in open grassland habitats where the sparse vegetation is mainly composed of shrubs, sagebrush, grasses and forbs.	Low; site lacks suitable habitat.
Dipodomys stephensi	Stephens' kangaroo rat	FE, ST	The species is found in open grassland habitats where the sparse vegetation is mainly composed of shrubs, sagebrush, grasses and forbs. Species avoids dense grasses (for example, non-native bromes) and are more likely to inhabit areas where the annual forbs disarticulate in the summer and leave more open areas.	Low; site lacks suitable habitat.
Eumops perotis californicus	western mastiff bat	SSC, BLMS, WBWG (H)	Open, semi-arid to arid habitats, including conifer and deciduous woodlands, coastal scrub, annual and perennial grasslands, palm oases, chaparral, desert scrub, and urban. Suitable habitat consists of extensive open areas with abundant roost locations provided by crevices in rock outcrops and buildings.	Low; site lacks suitable roosting habitat.
Lasiurus xanthinus	western yellow bat	SSC, WBWG (H)	Year-round resident of southern CA, found below 2000 ft in or near foothill or desert riparian habitats. Roosts in trees, including palm trees, in and near palm oases and riparian habitats.	Low; site lacks suitable roosting habitat.
Lepus californicus bennettii	San Diego black-tailed jackrabbit	SSC	This species is found in western Riverside County in suitable grassland, sage scrub and chaparral (openings) habitat. It is also found in substantial numbers in agricultural and rural residential settings.	Observed onsite. Project Footprint could provide foraging habitat for the species.
Neotoma lepida intermedia	San Diego desert woodrat	SSC	Abundant in rock outcrops and rocky cliffs and slopes with moderate to dense canopies preferred. Habitats include Joshua tree, pinyon-juniper, mixed chaparral, sagebrush, and most desert habitats.	Low; site lacks suitable habitat.
Nyctinomops femorosaccus	pocketed free-tailed bat	SSC, WBWG (M)	Year-round resident of southern CA. Habitats used include pinyon-juniper woodlands, desert scrub, desert succulent shrub, desert riparian, desert wash, alkali desert scrub, Joshua tree, and palm oasis. Roosts in rock crevices, caverns, or buildings.	Low; site lacks suitable roosting habitat.

Scientific Name	Common Name	Status	General Habitat Description	Potential for Occurrence within the Project Footprint
Nyctinomops macrotis	big free-tailed bat	SCC, WBWG (MH)	This species roosts in buildings, caves, and occasionally in holes in trees. They also roost in crevices in high cliffs or rock outcrops.	Low; site lacks suitable roosting habitat.
Perognathus longimembris brevinasus	Los Angeles pocket mouse	SSC	Inhabits lower elevation grassland, alluvial sage scrub, and coastal sage scrub. Extirpated from most or all of the San Fernando and San Bernardino valleys.	Low; site lacks suitable roosting habitat.

Legend

Federal Endangered Species Act (ESA) Listing Codes: federal listing is pursuant to the Federal Endangered Species Act of 1973, as amended (ESA).
FE = federally listed as endangered: any species, subspecies, or variety of plant or animal that is in danger of extinction throughout all or a significant portion of their range.
FT = federally listed as threatened: any species, subspecies, or variety of plant or animal that is considered likely to become endangered throughout all or a significant portion of its range within the foreseeable future.

California Endangered Species Act (CESA) Listing Codes: state listing is pursuant to § 1904 (Native Plant Protection Act of 1977) and §2074.2 and §2075.5 (California Endangered Species Act of 1984) of the Fish and Game Code, relating to listing of Endangered, Threatened and Rare species of plants and animals.
SE = state listed as endangered: any species, subspecies, or variety of plant or animal that are in serious danger of becoming extinct throughout all, or a significant portion, of their range.
ST = state listed as threatened: any species, subspecies, or variety of plant or animal that, although not presently threatened with extinction, is likely to become an endangered species in the foreseeable future.
SCE = state listed as candidate endangered.
SD = state delisted species.

California Department of Fish and Wildlife (CDFW):
SSC = species of special concern: status applies to animals which 1) are declining at a rate that could result in listing, or 2) historically occurred in low numbers and known threats to their persistence currently exist. The CDFW has designated certain vertebrate species as "species of special concern" because declining population levels, limited ranges, and/or continuing threats have made them vulnerable to extinction.
CE= Candidate Endangered.
FP = fully protected: animal species may not be taken or possessed at any time and no licenses or permits may be issued for their take except for collecting these species for necessary scientific research and relocation of the bird species for the protection of livestock.
WL = watch list: these birds have been designated as "Taxa to Watch" in the *California Bird Species of Special Concern report* (Shuford and Gardali 2008). The report defines "Taxa to Watch" as those that are not on the current special concern list that (1) formerly were on the 1978 (Remsen 1978) or 1992 (CDFG 1992) special concern lists and are not currently listed as state threatened and endangered; (2) have been removed (delisted) from either the state or federal threatened and endangered lists (and remain on neither), or (3) are currently designated as "fully protected" in California.

United States Forest Service (USFS):
FSS = Forest Service sensitive: those plant and animal species identified by a Regional Forester that are not listed or proposed for listing under the ESA and for which population viability is a concern, as evidenced by: (a) significant current or predicted downward trends in population numbers or density or (b) significant current or predicted downward trends in habitat capability that would reduce a species' existing distribution."

United States Fish and Wildlife Service (USFWS):
BCC = USFWS bird of conservation concern: listed in the USFWS'S 2008 *Birds of Conservation Concern* report. The report identifies species, subspecies, and populations of all migratory non-game birds that, without additional conservation actions, are likely to become candidates for listing under the ESA. While all of the bird species included in the report are priorities for conservation action, the list makes no finding with regard to whether they warrant consideration

for ESA listing.

United States Bureau of Land Management (BLM):
BLMS = BLM sensitive: those plant and animal species on BLM administered lands and that are (1) under status review by the USFWS/NMFS; or (2) whose numbers are declining so rapidly that federal listing may become necessary, or (3) with typically small and widely dispersed populations; or (4) those inhabiting ecological refugia or other specialized or unique habitats. BLM policy is to provide the same level of protection as USFWS candidate species.

American Fisheries Society: Listing of imperiled freshwater and diadromous fishes of North America prepared by the American Fisheries Society's Endangered Species Committee.
AFS-E= Endangered
AFS-TH= Threatened
AFS-V= Vulnerable

California Rare Plant Ranks (Formerly known as CNPS Lists): the CNPS is a statewide, non-profit organization that maintains, with CDFG, an Inventory of Rare and Endangered Plants of California. In the spring of 2011, CNPS and CDFG officially changed the name "CNPS List" or "CNPS Ranks" to "California Rare Plant Rank" (or CPRP). This was done to reduce confusion over the fact that CNPS and CDFG jointly manage the Rare Plant Status Review Groups and the rank assignments are the product of a collaborative effort and not solely a CNPS assignment.

CRPR: 1A - California Rare Plant Rank of 1A: Plants presumed extirpated in California and either rare or extinct elsewhere. Plants with a California Rare Plant Rank of 1A are presumed extirpated or extinct because they have not been seen or collected in the wild in California for many years. All of the plants constituting California Rare Plant Rank 1A meet the definitions of the California Endangered Species Act of the California Fish and Game Code, and are eligible for state listing. Should these taxa be rediscovered, and impacts proposed to individuals or their habitat, they must be analyzed during preparation of environmental documents relating to CEQA, or those considered to be functionally equivalent to CEQA, as they meet the definition of Rare or Endangered under CEQA Guidelines §15125 (c) and/or §15380.

CRPR: 1B - California Rare Plant Rank 1B: Plants Rare, Threatened, or Endangered in California and Elsewhere. All of the plants constituting California Rare Plant Rank 1B meet the definitions of Sec. 1901, Chapter 10 (Native Plant Protection Act) or Secs. 2062 and 2067 (California Endangered Species Act) of the California Department of Fish and Game Code, and are eligible for state listing. It is mandatory that they be fully considered during preparation of environmental documents relating to CEQA.

CRPR: 2A - California Rare Plant Rank 2A: Plants presumed extirpated in California but common elsewhere. Plants with a California Rare Plant Rank of 2A are presumed extirpated because they have not been observed or documented in California for many years. This list only includes plants that are presumed extirpated in California, but more common elsewhere in their range. All of the plants constituting California Rare Plant Rank 2A meet the definitions of the California Endangered Species Act of the California Fish and Game Code, and are eligible for state listing. Should these species be rediscovered, any impacts proposed to individuals or their habitat must be analyzed during preparation of environmental documents relating to CEQA, or those considered to be functionally equivalent to CEQA, as they meet the definition of Rare or Endangered under CEQA Guidelines §15125 (c) and/or §15380.

CRPR: 2B - California Rare Plant Rank 2B: Plants rare, threatened, or endangered in California but more common elsewhere. All of the plants constituting California Rare Plant Rank 2 meet the definitions of Sec. 1901, Chapter 10 (Native Plant Protection Act) or Secs. 2062 and 2067 (California Endangered Species Act) of the California Department of Fish and Game Code, and are eligible for state listing. It is mandatory that they be fully considered during preparation of environmental documents relating to CEQA.

CRPR: 3 – California Rare Plant Rank 3: Review List: Plants about which more information is needed. Plants with a California Rare Plant Rank of 3 are united by one common theme – there is a lack of necessary information to assign them to one of the other ranks or to reject them. Nearly all of the plants constituting California Rare Plant Rank 3 are taxonomically problematic. Many of the plants constituting California Rare Plant Rank 3 meet the definitions of the California Endangered Species Act of the California Fish and Game Code, and are eligible for state listing. Impacts to these species or their habitat should be analyzed during preparation of environmental documents relating to CEQA, or those considered to be functionally equivalent to CEQA, as they may meet the definition of Rare or Endangered under CEQA Guidelines §15125 (c) and/or §15380.

CRPR: 4 - California Rare Plant Rank 4: Plants of Limited Distribution - A Watch List. Very few of the plants constituting California Rare Plant Rank 4 meet the definitions of Sec. 1901, Chapter 10 (Native Plant Protection Act) or Secs. 2062 and 2067 (California Endangered Species Act) of the California Department of Fish and Game Code, and few, if any, are eligible for state listing. Nevertheless, many of them are significant locally, and CNPS and CDFG strongly recommend that California Rare Plant Rank 4 plants be evaluated for consideration during preparation of environmental documents relating to CEQA.

California Native Plant Society (CNPS) Threat Ranks: The CNPS Threat Rank is an extension added onto the California Rare Plant Rank (CRPR) 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.

0.1 = seriously endangered in California (over 80% of occurrences threatened / high degree and immediacy of threat)
0.2 = fairly endangered in California (20-80% occurrences threatened / moderate degree and immediacy of threat)

Sources:

- CNPS Inventory of Rare and Endangered Plants (CNPS 2021)
- The Jepson Manual: *Vascular Plants of California,* second edition (Baldwin *et al.* 2012).
- RareFind, CDFW, California Natural Diversity Database (CNDDB) (CDFW 2021).
- State and Federally Listed Endangered, Threatened, and Rare Plants of California (CDFW, July 2021).
- State and Federally Listed Endangered and Threatened Animals of California (CDFW, July 2021).
- Special Animals List (CDFW, July 2021).
- Life History Accounts (CDFW).
- Sensitive List (BLM)

APPENDIX D

Delhi Sands Flower-loving Fly Habitat Assessments (October 2021 & March 2022) Prepared by Osborne Biological Consulting)

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March 28, 2022

Attn: Mr. Sage McCleve
Vice President - Planned Communities
Lewis Management Corp.
1156 N. Mountain Avenue
Upland, CA 91786

RE: Habitat conditions for Delhi Sands Flower-loving Fly on portions of the Subarea 29 Specific Plan Amendment Area, Ontario, CA.

To Whom It May Concern:

The Lewis Management Corporation has requested my evaluation of habitat suitability for the federally endangered Delhi Sands Flower-loving Fly (DSF, *Rhaphiomidas terminatus abdominalis*), for portions of the Subarea 29 Specific Plan Amendment Area (herein referred as the project site) in Ontario, San Bernardino County, California. Approximately 120 acres within Planning Areas 32, 33 and 34 of the Subarea 29 Specific Plan Amendment, located northeast of the intersection of Bellegrave Avenue and Haven/Sumner Avenue, south of Eucalyptus Avenue and west of Scholar Way/Millcreek Avenue has been subjected to my previous evaluations. I have undertaken an evaluation of an additional, 47.69 acres within Planning Areas 30 and 31 and the SCE Easement Area of the Subarea 29 Specific Plan Amendment Area located in the southwestern corner of Haven/Sumner Avenue and Eucalyptus Avenue. These areas are indicated on the attached maps (Figures 1 and 2). The southern boundary of the project site (the portion east of Haven/Sumner Avenue) is also the jurisdictional boundary between the cities of Ontario and Eastvale, and the counties of San Bernardino and Riverside. For the purpose of this habitat assessment, I have evaluated site conditions for DSF suitability in terms of site characteristics on the basis of a detailed grading system I have developed in recent years.

Summary Conclusions: Planning Areas 32-34: Conditions remain essentially unchanged from those found in 2020 and early 2021 with previous habitat evaluations. The entire site remains unsuitable for DSF. The southerly approximately 8.8 acres of Planning Area 34 is unsuitable because it has long been gravel paved and used for equipment and truck parking. The remaining 54.83acres of Planning Areas 32 and 34 has been in active agricultural (irrigated crops) use for the last two years at least. Planning Area 33 is on Hilmar loamy fine sands highly contaminated with organic materials.

Although mapped with Delhi sands, Planning Areas 30, 31 and the SCE easement , west of Haven/Sumner Avenue is found entirely *Unsuitable* for DSF. Due to portions developed and paved for dairy operations, active horse corral, extensive contamination with organic materials (manure) produced with a long history of dairy use, and the recent condition of open fields (western and eastern portions of this area) used as irrigated pastures and/or crop use. The western

approximately 10 acre field within Planning Area 30 is additionally extensively contaminated with manure in places as well as a patchy distribution of exotic soils.

Qualifications: Although I possess USFWS 10(a) permitting to survey for the federally endangered Delhi Sands Flower-loving Fly, such permitting is generally awarded to biologists only on the basis of a biologist's experience with and/or ability to identify adult DSF, such permitting not awarded on the basis of any real understanding of DSF biology, ecology, or habitat requirements. Traditionally, USFWS considered any land (within the known range of DSF) to have been mapped with Delhi Sands soils (Woodruff 1980) as subject to formal survey for the DSF. Thus, my additional qualifications in this regard include BS, MS, degrees in entomology, 55 years general entomological experience, over thirty-five years' experience with research and discoveries in *Rhaphiomidas* life history, biology, and ecology, such that I am now a leading expert in this narrow field of study.

Methods: On October 23, 2021, I visited the project sites in order to investigate habitat suitability for the DSF. I have reviewed soil maps covering the subject site, prepared by the California Department of Agriculture (Woodruff 1980, Knecht 1971). Aerial imagery covering the site, dating from 1993 to 2021 (Google Earth) was reviewed in order to gain an understanding of land use regimens in recent years. Other reports of habitat evaluations and DSF surveys in the vicinity of the project site have been reviewed. Photographs were taken of the site along with field notes on vegetation and soil conditions. I examined the subject site to rate its potential to support DSF, the rating based on the following scale of 1 to 5, with 5 being the best quality and most suitable habitat in my judgment:

1. Developed areas, non-Delhi sands soils with high clay, silt, and/or gravel content. Delhi sands extensively and deeply covered by dumping of exotic soils, rubble, trash, manure, or organic debris. *Unsuitable.*

2. Delhi sands are present but the soil characteristics include a predominance of exotic soils such as alluvial materials, or predominance of other foreign contamination as gravels, manure, or organic debris. Severe and frequent disturbance (such as a maintenance yard or high use roadbed). *Very Low Quality.*

3. Moderately contaminated Delhi sands. Delhi sands with moderate to high disturbance (such as annual disking). Sufficient Delhi Sands are present to prevent soil compaction (related to contamination by foreign soils). Some sandy soils exposed on the surface due to fossorial animal activity. *Low Quality.*

4. Abundant clean Delhi Sands with little or no foreign soils (such as alluvial material) present. Moderate abundance of exposed sands on the soil surface. Low vegetative cover. Evidence of moderate degree of fossorial animal activity by vertebrates and invertebrates. May represent high quality habitat with mild or superficial disturbance. *Moderate Quality*

5. Sand dune habitat with clean Delhi Sands. High abundance of exposed sands on the soil surface. Low vegetative cover. Evidence (soil surface often gives under foot) of high degree of fossorial animal activity by vertebrates and invertebrates. Sand associated plant and arthropod species may be abundant and vegetation species composition is often indicative of low disturbance. *High Quality*

It should be noted that habitat qualities often vary spatially within a site so that conditions on a site fall within a range of qualities. Further, overall habitat quality is affected by the overall habitat area on a site, such that very small areas diminish the overall habitat value of a site. Habitat conditions rated from *Very Low Quality* up to *High Quality*, are formally considered as representing *Suitable* conditions for the DSF. Use of this habitat rating system is somewhat subjective and best undertaken by a biologist who has extensive experience with *Rhaphiomidas* species. It must be noted that these ratings do not infer or imply actual occupancy by DSF, only relative potential to harbor the species, and relative conservation value of the land should DSF be found.

Results: Planning Areas 32-34 of the Subarea 29 Specific Plan Amendment Area east of Haven/Sumner Avenue:

All portions of the Subarea 29 Specific Plan Amendment Area were in active dairy operations until at least 2005, long precluding the DSF from the area. The entire 120-acre portions of Planning Areas 32 through 34 of the Subarea 29 Specific Plan Amendment remain unsuitable for DSF. In Planning Areas 32 and 34 , dairy operations phased out after 2005, transitioned form dairy operations to irrigated crop cultivation in the mid 2000's and remain with this use through 2021. Department of Agriculture, Soil Conservation Service map (Woodruff 1980) and associated web based resources (https://casoilresource.lawr.ucdavis.edu/gmap/) show the site to have Delhi fine sand soils on the approximate western half of the site (this area now in irrigated cultivation, Figure 5). The eastern half of the site is mapped with approximately 8 acres of Delhi fine sands (along the western edge of this area) with the eastern remainder of the site on Hilmar loamy very fine sands (Woodruff 1980, Figure 3). Soil conditions on eastern half of the site are highly contaminated by fine silty materials (Hilmar soils, Figure 3) and manure – the contamination likely the result of decades of associated dairy operations. Plant species normally associated with Delhi sands ecosystems do not occur on the site. Aerial imagery available on Google Earth, shows that the project site has been in active dairy operations from before 1994 to 2007, with irrigated crop activities beginning about 2009 and increasing over time to the present. Planning Area 33has been in dairy operations up to 2007 after which the land has been abandoned. The field investigation determined that this eastern portion of the site, mapped with both Delhi sand and Hilmar loamy very fine sandy soils, is highly contaminated with organic content derived from the former dairy operations, and supports ruderal vegetation. The southern portion of Planning Area 34 (approximately 8.8 acres) has been used for equipment or truck and trailer storage (Figure 4) and has been gravel paved in that time to present. The lands on the adjacent north of the study area have been and continue to be in dairy operations since at least 1994. The project site has been surrounded to a radius of two or three kilometers by lands in agricultural/dairy use since at least 1993 (and probably over previous decades to that). Residential housing development have been expanding south of the project site (Eastvale, Riverside County) since the early 2000's so that all areas south of Bellegrave Avenue are now residential.

Planning Areas 30 & 31 and SCE Easement of the Subarea 29 Specific Plan Amendment Area west of Haven/Sumner Avenue:

The department of Agriculture, Soil Conservation Service map (Woodruff 1980) and associated web based resources (https://casoilresource.lawr.ucdavis.edu/gmap/) show this entire site mapped with Delhi fine sand soils. The site has been in dairy operations since at least the 1980's through to at least February 2021. My site investigation of October 2021 found the dairy operations

recently discontinued. A central 25 acre portion of the site, the heart of the dairy operations has paved corrals, drives, and work areas, dairy buildings and a residence (with a horse corral still in use). All of these areas either developed or with deep cover and contamination with manure (Figure 6) are unsuitable for DSF. A few small areas (totaling less than an acre) near the dairy buildings have exposed Delhi sands that were not subject to exposure to the cattle pens, now going to weed in abandonment (with *Verbesina,* Figure 9). Similarly, a half-acre area of recently stockpiled sands along Eucalyptus Avenue supports *Verbesina*. These areas by themselves are too small to support DSF. An 11-acre field on the eastern end of this site (southwestern corner of Haven/Sumner Avenue and Eucalyptus Avenue, has been an irrigated pasture until early this year, and the recipient of extensive manure dumping (Figure 7). This area has been and remains unsuitable for DSF due to the combined irrigated conditions and manure contamination. If allowed to remain fallow, manure will likely dry out and blow away (to some extent) and this area may subsequently become suitable for DSF in the future. Similar to the field on the east, a western approximately 10-acre field (Figure 8) has a history of receiving manure as well as exotic soils in piles. The result is a patchy distribution of organic contaminated Delhi sands and patches of other soils or refuse. As southern part of this 10-acre field has also been in irrigated crop use (Google Earth 2016). These conditions (soil contamination with exotic soils and manure) and uses (cultivation of agricultural crops) also render the site Unsuitable for DSF, but here again, left abandoned for more than a year, conditions may improve for potential DSF. When agricultural uses are discontinued on lands with Delhi sands, the fallow conditions often allow a reversion to conditions apparently suitable for DSF. Gophers and winds exhume and distribute clean sands onto and over the soil surface. Non-native weeds and native plants associated with sandy soils can invade and exploit the open, sandy, non-irrigated conditions, leading eventually over some period of time (usually within one to three years on the basis of my personal observations). Sites previously unsuitable for DSF have become again suitable and resource agencies such as USFWS may require a formal, two year survey for DSF in order to determine presence or absence of the species.

Discussion and Conclusions: Left fallow and unused, conditions on portions of the area, particularly the 54.83-acre agricultural field within Planning Areas 32 and 34, an 11-acre field within Planning Area 31, and a 10-acre field within Planning Area 30, may revert to conditions suitable for DSF as burrowing animals and winds expose Delhi sands and natural vegetation succession continues. A change in habitat suitability may result in requirements for presence/absence surveys for DSF and associated project delays. The project site is surrounded by a densely packed matrix of irrigated croplands and dairy operations (and recently residential developments as now on the adjacent south) out for some two or three, or more kilometers in all directions. The nearest DSF occurrence of which I am aware was found just north of the Hwy 60 some 4.2 kilometers away from the site (where the DSF is likely now extinct [Osborne 2016]). The nearest extant DSF population appears some 5.2 kilometers to the northeast, within the Ontario Recovery Unit. It is my understanding that the DSF has never been documented on any site southwest of the Hwy 60, Interstate 15 interchange – and area which with its long history of agricultural use, may have long ago extirpated any DSF population there. Similar findings have previously been made on similar agricultural and dairy lands of southern Ontario (Osborne 2004) and areas with active irrigated agriculture (Osborne 2016b). On the basis of my experience, conditions on the entire Subarea 29 Specific Plan Amendment Area are currently *Unsuitable* for DSF.

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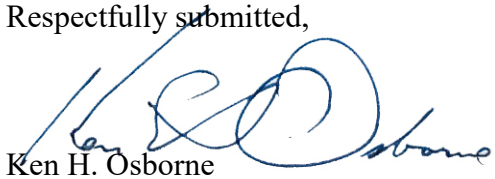
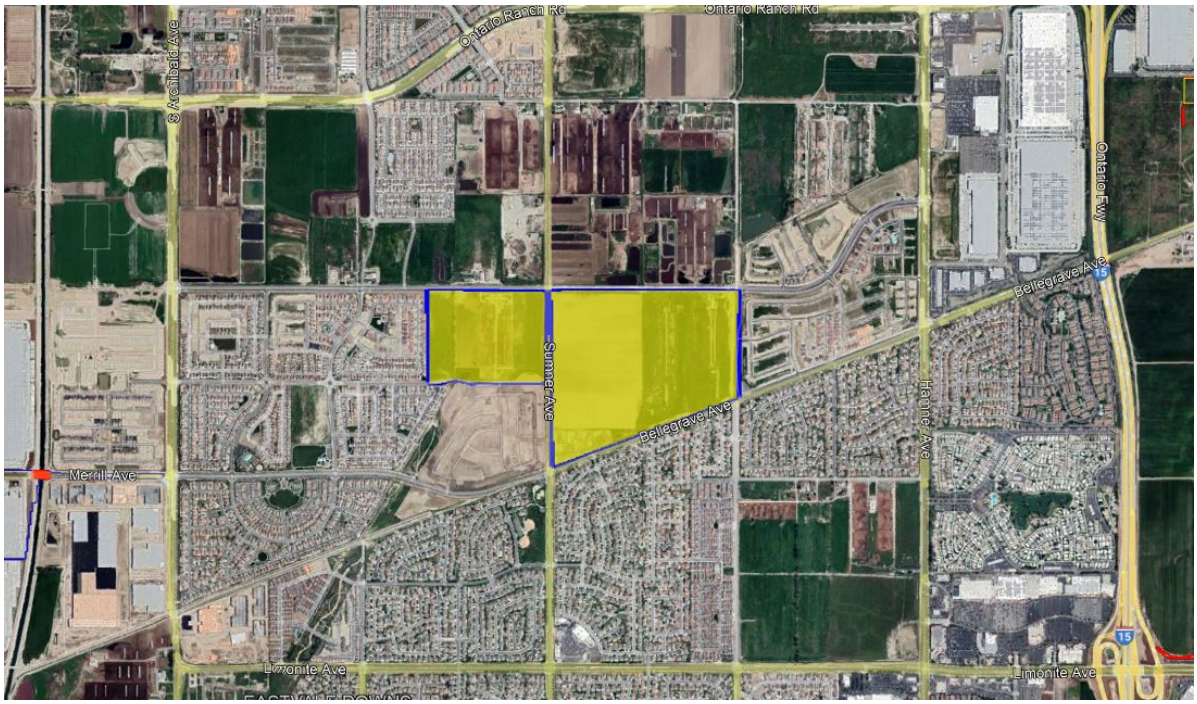
Respectfully submitted,



Ken H. Osborne



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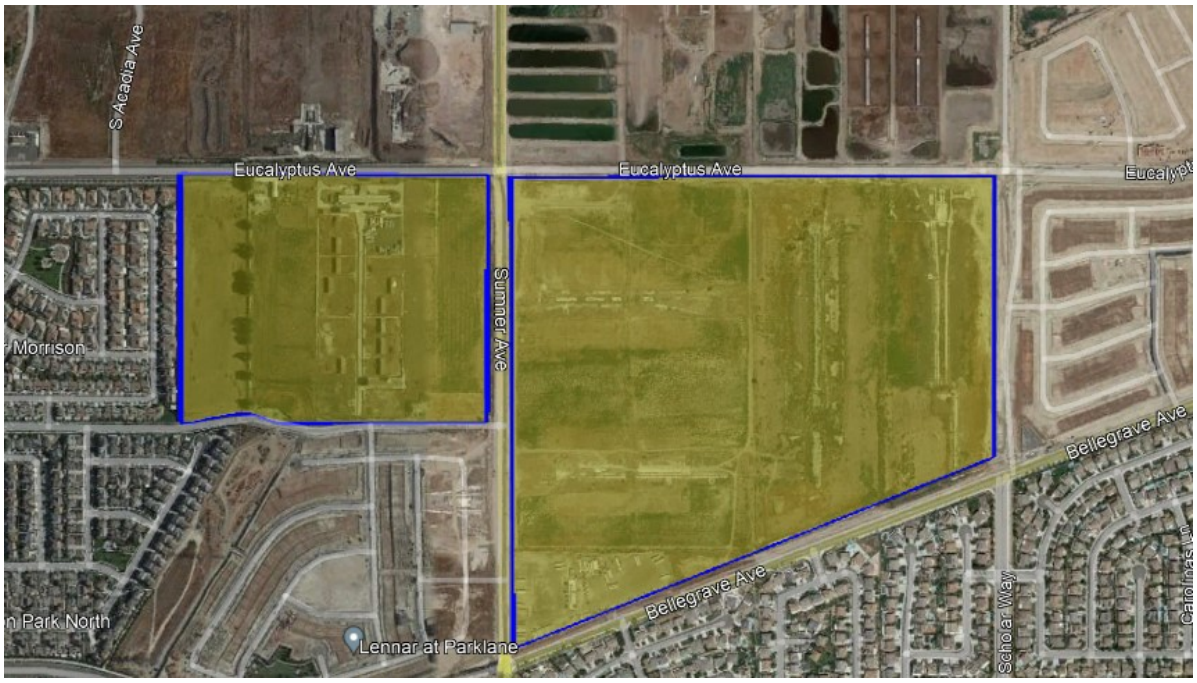

Figure 2. Aerial image (Google Earth 2020) showing the subject site (outlined in blue).

Figure 3. Soil types on the subject site (outlined in blue): Yellow lines separate soils: DB = Delhi sands; Hr = Hilmar loamy very fine sands.

Figure 4. Photograph (May 2020) of the southern 8.8-acre part of Planning Area 34 with gravel paved work area representing habitat Unsuitable for DSF.

Figure 5. Photograph of irrigated agricultural land within Planning Areas 32 and 34, immediately east of Haven/Sumner Avenue (over Delhi sands soils). View looking to the east from Haven/Sumner Avenue.

Figure 6. Photograph of central portion of Planning Area 31 west of Haven/Sumner Avenue showing recently abandoned dairy pens with piles of manure.

Figure 7. Photograph of field recently in irrigated pasture, heavily contaminated with manure, within Planning Area 31 immediately west of Haven/Sumner Avenue (over Delhi sands soils). View looking to the southeast from within the study area.

Figure 8. Photograph of manure and soil contaminated 10-acre field within Planning Area 30.

Figure 9. Photograph of buildings and drives with fragments of open sand with *Verbesina* (yellow flowers) on the northern central portions of Planning Areas 30& 31 and the SCE easement area west of Haven/Sumner Avenue. A few small patches of sand too small by themselves to support a population of DSF.

Ken H. Osborne
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6675 Avenue Juan Diaz
Riverside, CA 92509

October 25, 2021

Attn: Mr. Sage McCleve
Vice President - Planned Communities
Lewis Management Corp.
1156 N. Mountain Avenue
Upland, CA 91786

RE: Habitat conditions for Delhi Sands Flower-loving Fly on portions of the Subarea 29 Specific Plan Amendment Area, Ontario, CA.

To Whom It May Concern:

The Lewis Management Corporation has requested my evaluation of habitat suitability for the federally endangered Delhi Sands Flower-loving Fly (DSF, *Rhaphiomidas terminatus abdominalis*), for portions of the Subarea 29 Specific Plan Amendment Area (herein referred as the project site) in Ontario, San Bernardino County, California. An approximately 122-acre portion of the Subarea 29 Specific Plan Amendment Area, located northeast of the intersection of Bellegrave Avenue and Sumner Avenue, south of Eucalyptus Avenue and west of Scholar Way has been subjected to my previous evaluations. I have undertaken an evaluation of an additional western, approximately 50-acre portion of the Subarea 29 Specific Plan Amendment Area located in the southwestern corner of Sumner Avenue and Eucalyptus Avenue. These areas are indicated on the attached maps (Figures 1 and 2). The southern boundary of the project site (the portion east of Sumner Avenue) is also the jurisdictional boundary between the cities of Ontario and Eastvale, and the counties of San Bernardino and Riverside. For the purpose of this habitat assessment, I have evaluated site conditions for DSF suitability in terms of site characteristics on the basis of a detailed grading system I have developed in recent years.

Summary Conclusions: 122-acre plan area portions east of Sumner Avenue: Conditions remain essentially unchanged from those found in 2020 and early 2021 with previous habitat evaluations. The entire site remains unsuitable for DSF. A southern approximately 8.8-acre triangular shaped parcel is unsuitable because it has long been gravel paved and used for equipment and truck parking. The western approximately 50-acre area has been in active agricultural (irrigated crops) use for the last two years at least. The eastern approximately 50-acre portion is on Hilmar loamy fine sands highly contaminated with organic materials.

Although mapped with Delhi sands, the approximately 50-acre western portion west of Sumner Avenue is found entirely *Unsuitable* for DSF. Due to portions developed and paved for dairy operations, active horse corral, extensive contamination with organic materials (manure) produced with a long history of dairy use, and the recent condition of open fields (western and eastern portions of this area) used as irrigated pastures and/or crop use. The western approximately 10

acre field is additionally extensively contaminated with manure in places as well as a patchy distribution of exotic soils.

Qualifications: Although I possess USFWS 10(a) permitting to survey for the federally endangered Delhi Sands Flower-loving Fly, such permitting is generally awarded to biologists only on the basis of a biologist's experience with and/or ability to identify adult DSF, such permitting not awarded on the basis of any real understanding of DSF biology, ecology, or habitat requirements. Traditionally, USFWS considered any land (within the known range of DSF) to have been mapped with Delhi Sands soils (Woodruff 1980) as subject to formal survey for the DSF. Thus, my additional qualifications in this regard include BS, MS, degrees in entomology, 55 years general entomological experience, over thirty-five years' experience with research and discoveries in *Rhaphiomidas* life history, biology, and ecology, such that I am now a leading expert in this narrow field of study.

Methods: On October 23, 2021, I visited the project sites in order to investigate habitat suitability for the DSF. I have reviewed soil maps covering the subject site, prepared by the California Department of Agriculture (Woodruff 1980, Knecht 1971). Aerial imagery covering the site, dating from 1993 to 2021 (Google Earth) was reviewed in order to gain an understanding of land use regimens in recent years. Other reports of habitat evaluations and DSF surveys in the vicinity of the project site have been reviewed. Photographs were taken of the site along with field notes on vegetation and soil conditions. I examined the subject site to rate its potential to support DSF, the rating based on the following scale of 1 to 5, with 5 being the best quality and most suitable habitat in my judgment:

1. Developed areas, non-Delhi sands soils with high clay, silt, and/or gravel content. Delhi sands extensively and deeply covered by dumping of exotic soils, rubble, trash, manure, or organic debris. *Unsuitable.*

2. Delhi sands are present but the soil characteristics include a predominance of exotic soils such as alluvial materials, or predominance of other foreign contamination as gravels, manure, or organic debris. Severe and frequent disturbance (such as a maintenance yard or high use roadbed). *Very Low Quality.*

3. Moderately contaminated Delhi sands. Delhi sands with moderate to high disturbance (such as annual disking). Sufficient Delhi Sands are present to prevent soil compaction (related to contamination by foreign soils). Some sandy soils exposed on the surface due to fossorial animal activity. *Low Quality.*

4. Abundant clean Delhi Sands with little or no foreign soils (such as alluvial material) present. Moderate abundance of exposed sands on the soil surface. Low vegetative cover. Evidence of moderate degree of fossorial animal activity by vertebrates and invertebrates. May represent high quality habitat with mild or superficial disturbance. *Moderate Quality*

5. Sand dune habitat with clean Delhi Sands. High abundance of exposed sands on the soil surface. Low vegetative cover. Evidence (soil surface often gives under foot) of high degree of fossorial animal activity by vertebrates and invertebrates. Sand associated plant and arthropod species may be abundant and vegetation species composition is often indicative of low disturbance. *High Quality*

It should be noted that habitat qualities often vary spatially within a site so that conditions on a site fall within a range of qualities. Further, overall habitat quality is affected by the overall habitat area on a site, such that very small areas diminish the overall habitat value of a site. Habitat conditions rated from *Very Low Quality* up to *High Quality*, are formally considered as representing *Suitable* conditions for the DSF. Use of this habitat rating system is somewhat subjective and best undertaken by a biologist who has extensive experience with *Rhaphiomidas* species. It must be noted that these ratings do not infer or imply actual occupancy by DSF, only relative potential to harbor the species, and relative conservation value of the land should DSF be found.

Results: The 122-acre portions of the Subarea 29 Specific Plan Amendment Area east of Sumner Avenue:

All portions of the Subarea 29 Specific Plan Amendment Area were in active dairy operations until at least 2005, long precluding the DSF from the area. The entire 122-acre portions of the Subarea 29 Specific Plan Amendment Area remain unsuitable for DSF. On the western 54 acre portion of this area, dairy operations phased out after 2005, transitioned form dairy operations to irrigated crop cultivation in the mid 2000's and remain with this use through 2021. Department of Agriculture, Soil Conservation Service map (Woodruff 1980) and associated web based resources (https://casoilresource.lawr.ucdavis.edu/gmap/) show the site to have Delhi fine sand soils on the approximate western half of the site (this area now in irrigated cultivation, Figure 5). The eastern half of the site is mapped with approximately 8 acres of Delhi fine sands (along the western edge of this area) with the eastern remainder of the site on Hilmar loamy very fine sands (Woodruff 1980, Figure 3). Soil conditions on eastern half of the site are highly contaminated by fine silty materials (Hilmar soils, Figure 3) and manure – the contamination likely the result of decades of associated dairy operations. Plant species normally associated with Delhi sands ecosystems do not occur on the site. Aerial imagery available on Google Earth, shows that the project site has been in active dairy operations from before 1994 to 2007, with irrigated crop activities beginning about 2009 and increasing over time to the present. The Eastern, 50-acre portion of the project site has been in dairy operations up to 2007 after which the land has been abandoned. The field investigation determined that this eastern portion of the site, mapped with both Delhi sand and Hilmar loamy very fine sandy soils, is highly contaminated with organic content derived from the former dairy operations, and supports ruderal vegetation. The southwestern corner of the site (approximately 8.8 acres) has been used for equipment or truck and trailer storage (Figure 4) and has been gravel paved in that time to present. The lands on the adjacent north of the study area have been and continue to be in dairy operations since at least 1994. The project site has been surrounded to a radius of two or three kilometers by lands in agricultural/dairy use since at least 1993 (and probably over previous decades to that). Residential housing development have been expanding south of the project site (Eastvale, Riverside County) since the early 2000's so that all areas south of Bellegrave Avenue are now residential.

The 50-acre portion of the Subarea 29 Specific Plan Amendment Area west of Sumner Avenue:

The department of Agriculture, Soil Conservation Service map (Woodruff 1980) and associated web based resources (https://casoilresource.lawr.ucdavis.edu/gmap/) show this entire site mapped with Delhi fine sand soils. The site has been in dairy operations since at least the 1980's through to at least February 2021. My site investigation of October 2021 found the dairy operations

recently discontinued. A central 25 acre portion of the site, the heart of the dairy operations has paved corrals, drives, and work areas, dairy buildings and a residence (with a horse corral still in use). All of these areas either developed or with deep cover and contamination with manure (Figure 6) are unsuitable for DSF. A few small areas (totaling less than an acre) near the dairy buildings have exposed Delhi sands that were not subject to exposure to the cattle pens, no going to weed in abandonment (with *Verbesina,* Figure 9). Similarly, a half-acre area of recently stockpiled sands along Eucalyptus Avenue supports *Verbesina*. These areas by themselves are too small to support DSF. An 11-acre field on the eastern end of this site (southwestern corner of Sumner Avenue and Eucalyptus Avenue, has been an irrigated pasture until early this year, and the recipient of extensive manure dumping (Figure 7). This area has been and remains unsuitable for DSF due to the combined irrigated conditions and manure contamination. If allowed to remain fallow, manure will likely dry out and blow away (to some extent) and this area may subsequently become suitable for DSF in the future. Similar to the field on the east, a western 10-acre field (Figure 8) has a history of receiving manure as well as exotic soils in piles. The result is a patchy distribution of organic contaminated Delhi sands and patches of other soils or refuse. As southern part of this 10-acre field has also been in irrigated crop use (Google Earth 2016). These conditions and uses also render the site Unsuitable for DSF, but here again, left abandoned for more than a year, conditions may improve for potential DSF as weedy or otherwise natural vegetation prevails, manure dries and blows away, and fossorial animals exhume Delhi sands to the surface.

Discussion and Conclusions: Left fallow and unused, conditions on portions of the area, particularly the 50-acre agricultural field easts of Sumner Avenue, an 11-acre field west of Sumner Avenue, and a 10-acre field on the western end of the study area, may revert to conditions suitable for DSF as burrowing animals and winds expose Delhi sands and natural vegetation succession continues. The project site is surrounded by a densely packed matrix of irrigated croplands and dairy operations (and recently residential developments as now on the adjacent south) out for some two or three, or more kilometers in all directions. The nearest DSF occurrence of which I am aware was found just north of the Hwy 60 some 4.2 kilometers away from the site (where the DSF is likely now extinct [Osborne 2016]). The nearest extant DSF population appears some 5.2 kilometers to the northeast, within the Ontario Recovery Unit. It is my understanding that the DSF has never been documented on any site southwest of the Hwy 60, Interstate 15 interchange – and area which with its long history of agricultural use, may have long ago extirpated any DSF population there. Similar findings have previously been made on similar agricultural and dairy lands of southern Ontario (Osborne 2004) and areas with active irrigated agriculture (Osborne 2016b). On the basis of my experience, conditions on the entire Subarea 29 Specific Plan Amendment Area are currently *Unsuitable* for DSF.

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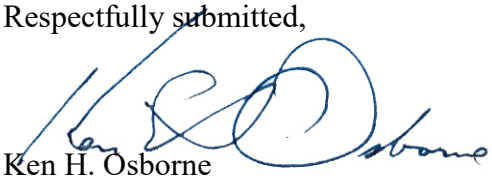
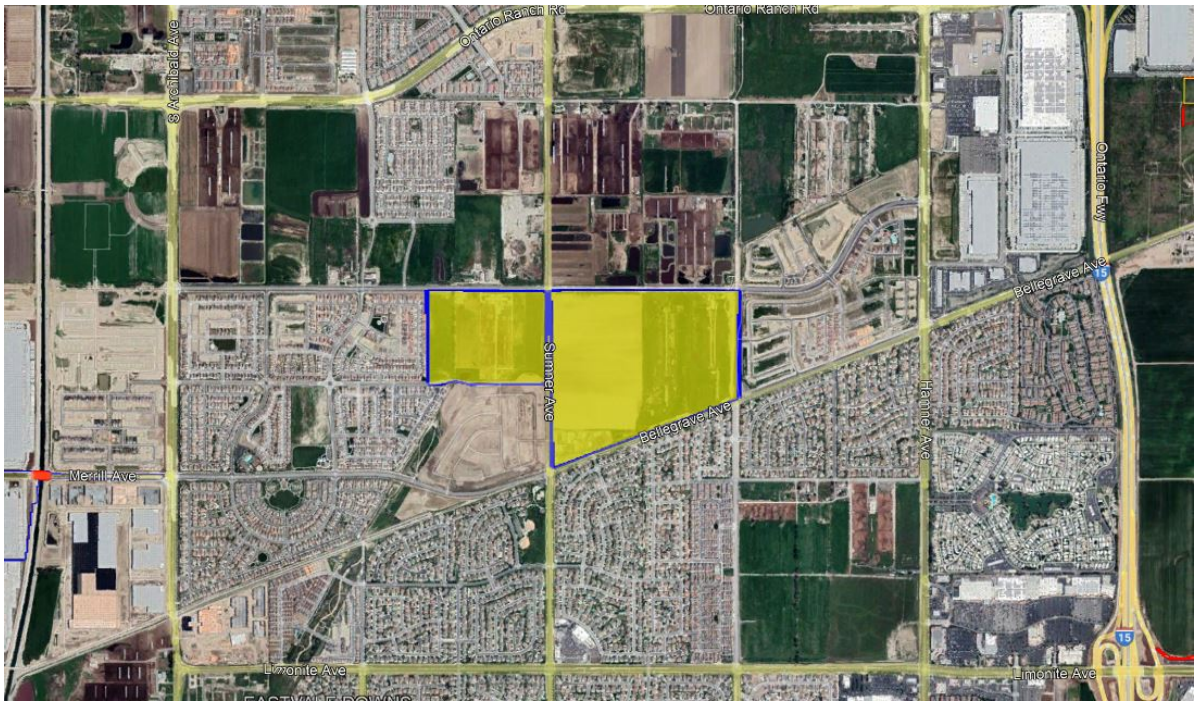
Respectfully submitted,



Ken H. Osborne



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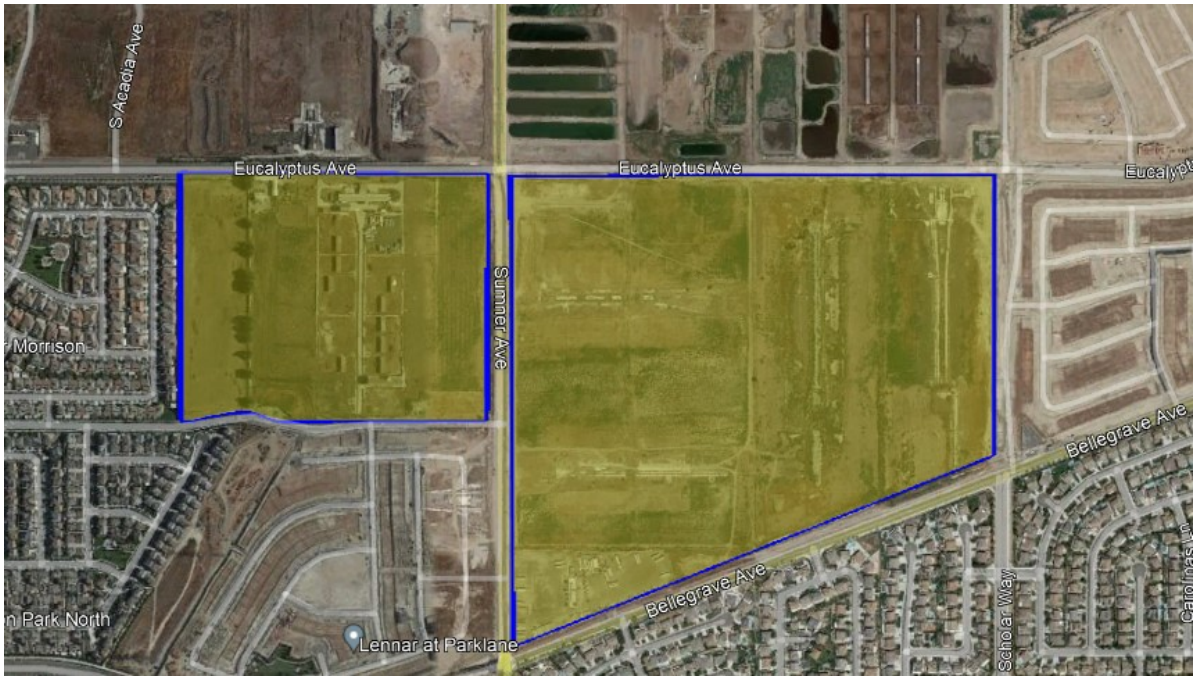

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