

**BIOLOGICAL ASSESSMENT, BOTANICAL, AND BURROWING OWL SURVEY
FOR THE CAJON BOULEVARD WAREHOUSE PROJECT,
SAN BERNARDINO COUNTY, CALIFORNIA**

±20 Acre Property, ±20 Acres Surveyed

APN's: 026-204-109, 026-204-113, 026-204-118, 026-204-120
USGS 7.5-minute topographic Devore Quadrangle
Township 1 North, Range 5 West, Section 2

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SUMMARY

Alere Property Group is proposing to develop the Cajon Boulevard Warehouse project on ±20.03 acres of vacant and disturbed land in the County of San Bernardino, California. L&L conducted a biological resources assessment, botanical survey and burrowing owl survey and incorporates data from a 2018 small mammal trapping survey conducted by Philippe Vergne of Natural Resources Assessment, Inc. on a total of ±21.2 acres.

The survey area consists of disturbed and undisturbed native habitat south of the intersection of Interstate 15 and Interstate 215 at Cajon Pass. The project site supports a combination of alluvial fan sage scrub (*Lepidospartum squamatum* Alliance) (AFSS), disturbed/mown land with native species still sparsely present, and developed parking and storage area. The northwestern half of the project area has been developed into a compacted and graveled parking area, storage area, and location to stockpile or extract sand. The southeastern half has been disturbed regularly over the past 20 years by mowing and/or clearing, with islands of native alluvial fan sage scrub habitat remaining. The AFSS appears to be transitioning into an upland community due to a lack of flooding and scouring.

Focused botanical surveys identified no special status species in the survey area. A focused survey for burrowing owl (*Athene cunicularia*) and a San Bernardino kangaroo rat (*Dipodomys merriami parvus*) (SBKR) small mammal trapping survey were also negative. Two (2) special status wildlife species were observed within the survey area, California horned lark (*Eremophila alpestris actia*) and the Los Angeles pocket mouse (*Perognathus longimembris brevinasus*) (LAPM). Six (6) additional species have moderate potential of occurring in the survey area, California glossy snake (*Arizona elegans occidentalis*), northern red-diamond rattlesnake (*Crotalus ruber*), coast horned lizard (*Phrynosoma blainvillii*), southern California rufous-crowned sparrow (*Aimophila ruficeps canescens*), Bell's sage sparrow (*Artemisiospiza belli belli*), and Crotch bumble bee (*Bombus crotchii*).

No federally listed threatened or endangered species were observed or are expected to be impacted by the proposed development. However, impacts to special status species observed or that have moderate or high potential for occurrence could occur as a result of project implementation. These impacts are considered adverse, but not significant with mitigation incorporated.

Although no burrowing owl or burrowing owl sign was observed on the subject property during the focused survey or any of the other surveys conducted in the survey area, a 30-day

preconstruction clearance survey is recommended due to the presence of suitable habitat and burrows suitable for use by the owl. If burrowing owl is identified in the impact area or buffer zone during the preconstruction clearance survey, mitigation measures will help avoid nests and minimize and prevent impacts to burrowing owls.

Trees suitable for raptor nesting and vegetation suitable for migratory bird nesting are present within and around the site. A red-tail hawk and red-shouldered hawk were observed flying over the survey area and on adjacent lands. Mitigation measures are recommended, including avoiding vegetation clearing or grubbing during the nesting season to prevent impacts to raptors and migratory birds. If clearing and grubbing cannot be avoided during the nesting season (January 1 and September 1, annually) mitigation measures require that a nesting bird survey be conducted by a qualified biologist no more than three (3) days prior to vegetation clearing or ground disturbing activities. If active nests are located during preconstruction surveys, a qualified biologist will develop and implement a plan to avoid nests and minimize and prevent impacts to nesting birds.

San Bernardino County regulates the removal of mature significant trees. Five (5) trees onsite will qualify under the size requirements. A permit from the County will be required to remove these trees. Mitigation, if required, will be determined in coordination with the County.

Mitigation Measures outlined in Section 4.0 are designed to reduce, minimize, and mitigate project-related impacts to the lowest practicable alternative and to a level less than significant.

1.0) INTRODUCTION

The following report has been prepared for Tracy Zinn of T&B Planning, Inc. (Tustin, California) by L&L Environmental, Inc. It describes the Cajon Boulevard Warehouse project site and potential impacts on biological resources. The Cajon Boulevard survey area consists of APNs 026-204-109, 026-204-113, 026-204-118, and 026-204-120 located on a narrow band of land within San Bernardino County that falls between lands within the City of San Bernardino. The parcel is within the area of influence of the City of San Bernardino.

L&L's assessment consisted of (1) a records search, conducted to verify special status species or habitats addressed, (2) an evaluation of available resources (aerial photography and topographic maps) with field visits to verify and document current site conditions and habitat suitability for sensitive and common biological species, (3) a focused burrowing owl survey, and (4) a focused botanical survey.

1.1) Project Location

The survey area discussed in this report is located adjacent to the northwesternmost limits of the City of San Bernardino, between the 5th and 6th Wards on a narrow band of San Bernardino County land that juts into the City of San Bernardino (Figure 1). The survey area is located within the San Bernardino Meridian-baseline in Section 2 of Township 1 North, Range 5 West in San Bernardino County, California (Figure 2). This location is shown on the Devore, California 7.5-minute U. S. Geological Survey (USGS) quadrangle.

The survey area is located between Cajon Boulevard to the southwest and railroad tracks to the northeast, with Kendall Drive just beyond. It is generally bounded to the northeast and southwest by commercial and industrial development, with Cajon Wash beyond to the southwest. Undeveloped disturbed land is immediately adjacent to the site to the northwest and southeast with industrial and commercial land beyond (Figure 3). The approximate center of the survey area is located at 34°12'1.94" N/117°22'44.33" W.



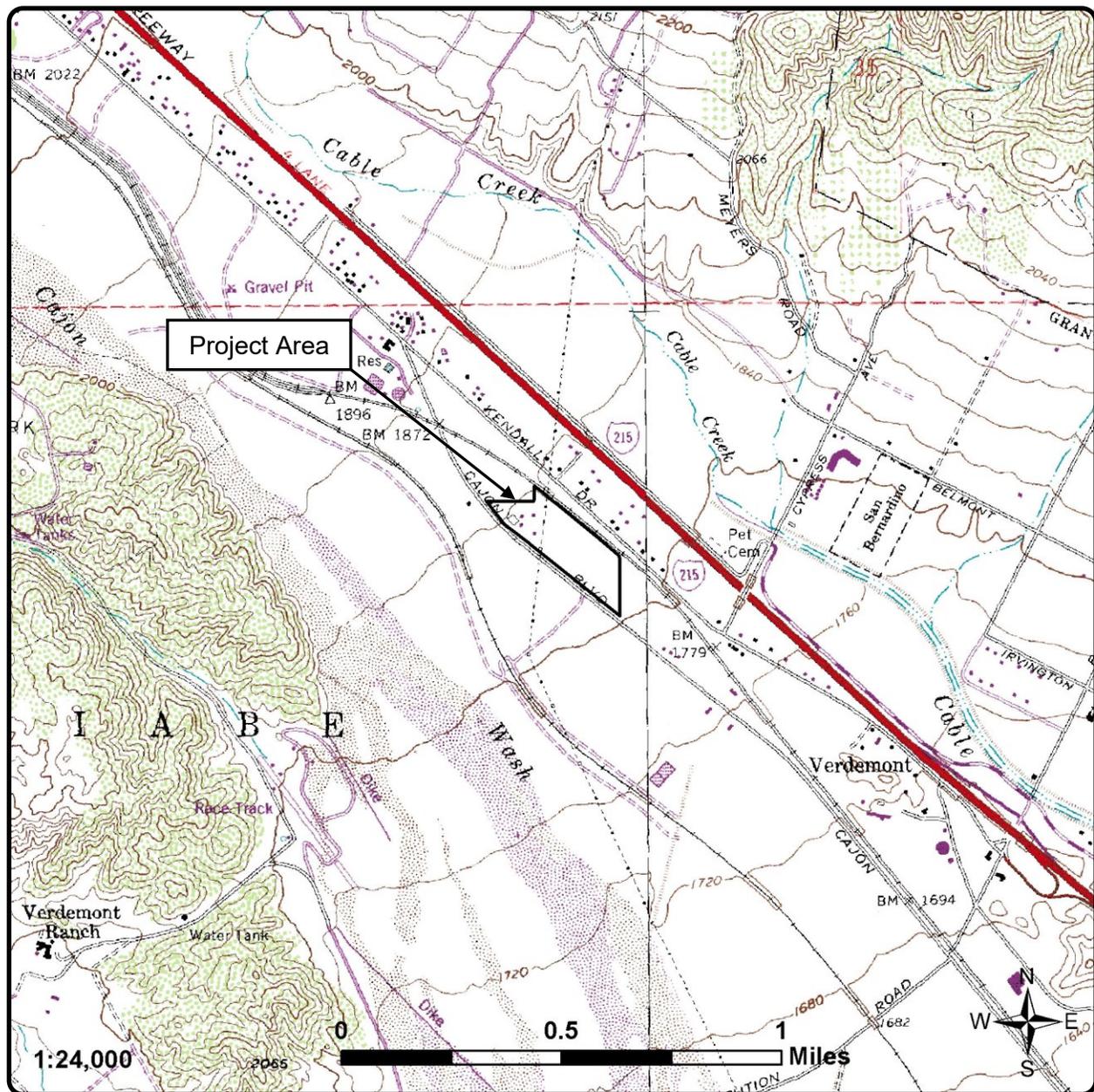
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Figure 1
Project Vicinity Map

Cajon Blvd. Project, San Bernardino Area
County of San Bernardino, California



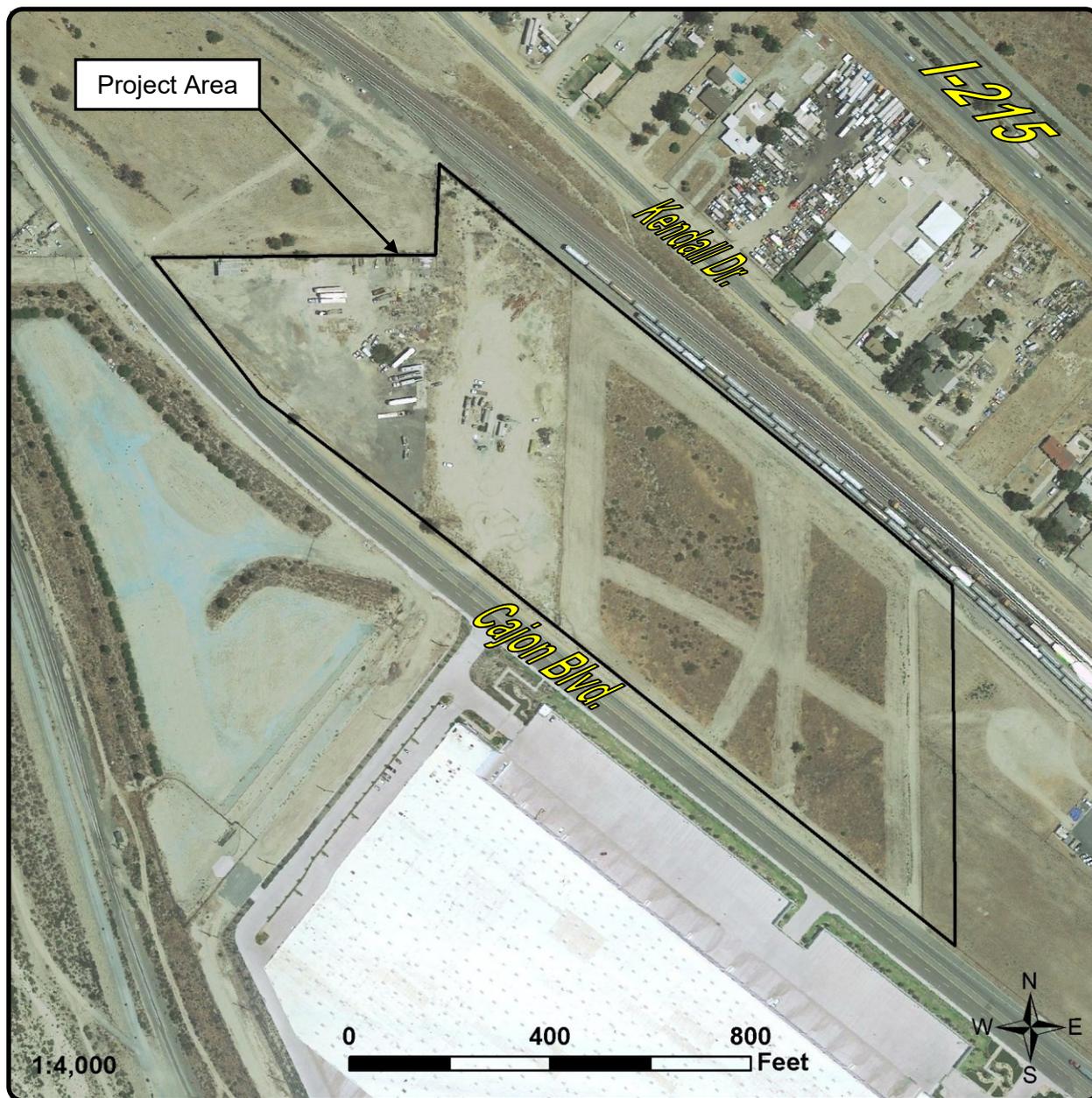
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Figure 2
Project Location Map
(USGS Devore [1988] quadrangle,
Section 2, Township 1 North, Range 5 West)

Cajon Blvd. Project, San Bernardino Area
County of San Bernardino, California



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Figure 3

Aerial Photograph

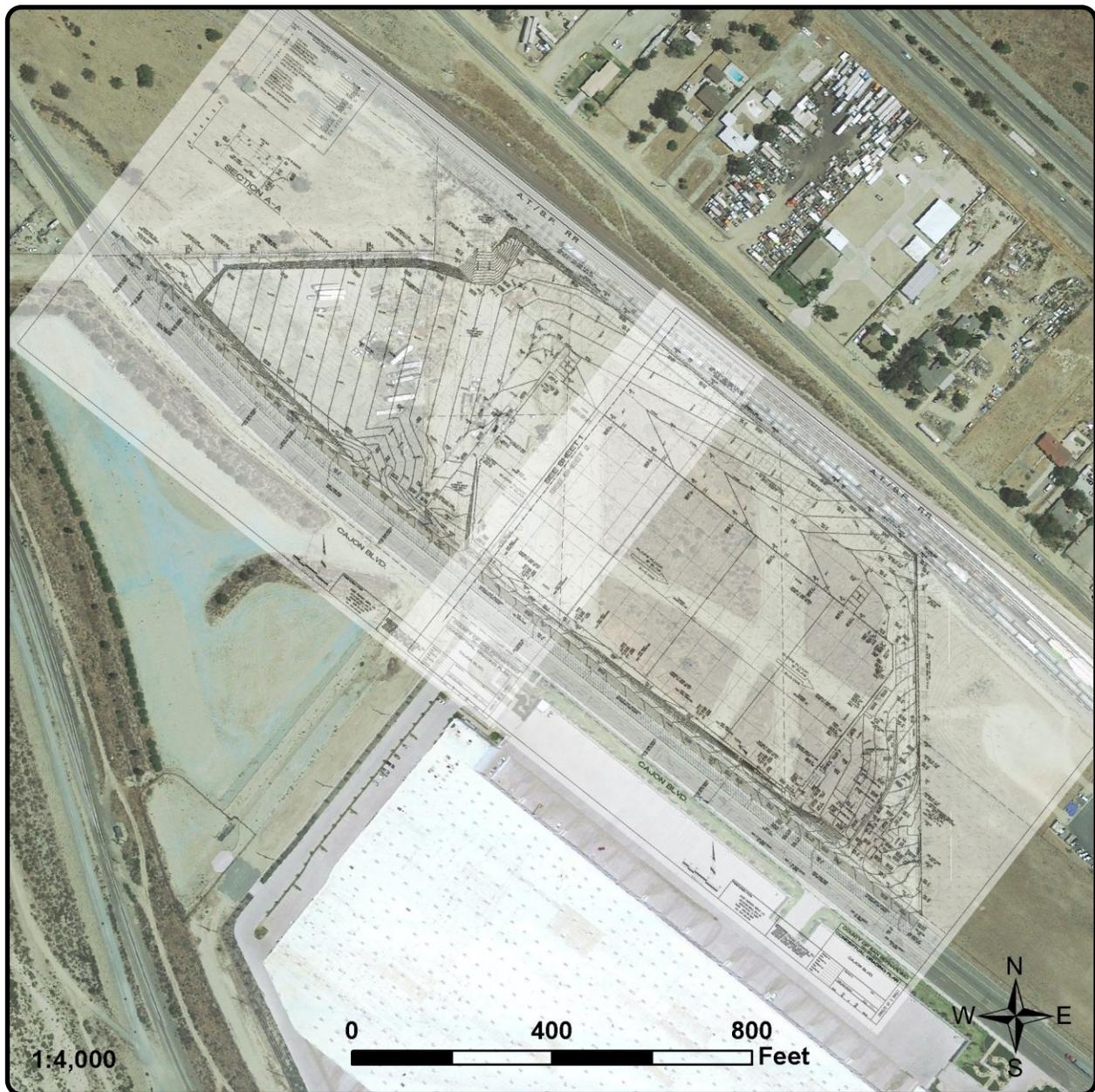
(Photo obtained from Google Earth, June 2017)

Cajon Blvd. Project, San Bernardino Area
County of San Bernardino, California

L&L utilized San Bernardino County parcel maps and shapefiles for our document. According to county parcel maps the area totals ± 20.96 acres, county shapefiles total 21.2 acres, and the architectural drawings provided by the proponent total ± 20.03 acres. For this study L&L surveyed the maximum area to guarantee all potentially developable area was covered. Therefore, the study area was 21.2 acres, which extends beyond the architectural drawings to the east. Onsite, the area extends approximately 80 feet beyond the eastern fence into an adjacent cleared field. As mapped on Google Earth Pro, the area east of the fence totals 1.1 acres.

1.2) Project Description

A Site Plan, dated October 31, 2017 and revised December 21, 2017, has been prepared for the Project and consists of a single industrial warehouse with an office totaling 321,496 square feet and associated parking on three sides (Figure 4). The zoning is light industrial.



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Figure 4

Development Grading Plan

(Photo obtained from Google Earth, June 2017)

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2.0) METHODOLOGY

2.1) Literature Review

Preliminary investigations included a review of information obtained from the U. S. Fish and Wildlife Service (USFWS) and California Department of Fish and Wildlife (CDFW); literature searches; examination of aerial photographs; and database searches, including California Native Plant Society (CNPS), Calflora, California Natural Diversity Database (CNDDDB) records (CDFW 2018) for the USGS Cajon, Cucamonga Peak, Devore, Fontana, Guasti, San Bernardino North, San Bernardino South, Silverwood Lake, and Telegraph Peak 7.5' minute topographic quadrangles, and sensitive species accounts for San Bernardino County. A search was made of the CNPS Electronic Database (CNPS 2018) to determine those sensitive plant species known to occur within the nine (9) USGS topographic quadrangles adjacent to and containing the survey area. Current literature was reviewed to identify local occurrences and habitat requirements of special status species and communities occurring in the region.

Special status species information from standard reference works, field guides, existing literature, and unpublished reports were also included as part of the background research. A list of special status species was compiled, including all species in the Project vicinity that were:

- Listed as endangered or threatened, proposed for listing, or candidates for listing under the Federal Endangered Species Act (FESA);
- Included in one of the CDFW publications on species of special concern;
- “Fully protected” by the State of California;
- Included in the CNPS compilation; or
- Identified as plants meeting the definition of rare or endangered under CEQA.

The information provided by these agencies included both regional and site-specific data on sensitive species. These species are detailed in Table 9, Appendix A.

2.2) General Biological Field Methods

L&L biologist Guy Bruyeyea visited the project area on December 11, 2017 to describe vegetation and habitat, evaluate probabilities that special status animals and plants might occur within the project site, and assess onsite habitat for burrowing owl. A total of two (2) person-hours were spent onsite. The site was surveyed by conducting a series of transects across the subject property where possible, stopping periodically for observations and notations. Meandering

transects were conducted in areas where obstacles prevented straight transects. Field work was conducted using checklists of biological information developed via record searches. A general habitat map and field notes were completed at the time of the survey. Digital photographs were taken to record the condition of the site during the present survey.

All habitat types within the survey area were visited on foot. This project site did not include areas that were inaccessible based on terrain or dense vegetation; however, debris and parked equipment/vehicles were present in the northern half of the survey area and did limit some maneuvering. All species observed were recorded.

This field survey was conducted during daylight hours (Table 1). Temperatures recorded during the survey ranged from 72° to 78° F and conditions were clear with light to moderate wind (5-10 mph) and higher wind gusts (15 mph).

Table 1. General biological survey information.

Date	Time	Person Hours	Temp Start/End	Wind Start/End	Cloud Cover	Biologist	Purpose
12/11/2017	0930-1130	2	72/78	5-10, gusts 15	Sunny/Clear	G. Bruyea	General Bio/Hab. Assessment

2.2.1) Vegetation

Aerial photography and digital vegetation maps were reviewed to determine potential community types within the survey area. This was followed by field surveys to define community or assemblage types and boundaries. All habitat types within the survey area were visited on foot. No habitat type was excluded from the survey.

Habitats were evaluated, identified, and mapped in the field. Once habitats and their limits were finalized, L&L then transferred field data into Google Earth and to our GIS system for calculations. This was accomplished by drawing polygons for each habitat type and calculating the area of habitat. The resulting digital layer was used to produce habitat figures included in this report.

2.2.2) Wildlife Survey and Habitat Assessment

General reconnaissance and habitat assessment surveys were completed to determine habitat suitability for listed species and special status plant, wildlife, and aquatic species potentially occurring in the survey area. Suitable habitat for listed and special status species was

determined by the presence of specific habitat elements. An inventory of species observed during the survey is included in Table 8 (Appendix A).

Habitat potential for specific wildlife and plant species was classified as: not expected/absent, low, moderate, high, or occurs. These classifications were based on the quality of the habitat for each species and the proximity of the habitat to a known occurrence of a species obtained from CNDDDB data. The definition for each classification follows:

- **Not Expected, Absent:** Species not previously reported in the vicinity of the site and suitable habitat is absent or very marginal due to disturbances, fragmentation, and/or isolation.
- **Low:** Species previously reported from the vicinity of the site, but suitable habitat is absent or marginal due to disturbances, fragmentation, and/or isolation.
- **Moderate:** Species previously reported from the vicinity of the site and large areas of contiguous high-quality habitat present; or species previously reported in the vicinity of the site, but suitable habitat quality is moderate due to disturbances, fragmentation, and/or isolation.
- **High:** Species previously reported from the regional vicinity of the site and large areas of contiguous high-quality habitat are present.
- **Occurs:** Species was observed onsite or immediately adjacent during surveys.

Based on the results of the habitat assessments and evaluation of special status species, some focused surveys were determined to be appropriate for the survey area and adjacent lands (where warranted by protocol).

2.3) Focused Botanical Field Methods

Information on special status rare plant species within the project vicinity was gathered from several sources, including California Native Plant Society (CNPS) Inventory of Rare and Endangered Plants of California (CNPS 2017), CNDDDB (CDFW,2017) and CalFlora (CalFlora 2017). Maps depicting all known sensitive plant species locations within the project vicinity were produced to aid in determining target species for survey.

L&L conducted a habitat assessment for the species in Table 9 (Appendix A). The habitat assessment followed the recommendations of the California Native Plant Society (CNPS 2001). The survey area's suitability to support the identified species was determined using indicators, including the presence of suitable habitat, moisture, and soil conditions.

A floristic study of the survey area, as required for a CEQA analysis, was conducted between December 2017 and June 2018 (Table 2). Focused plant surveys are conducted throughout the

year (early, mid, and late season) to provide coverage during the typical blooming period for each species with potential to occur in the survey area. This report is being produced prior to completion of the final late season survey. The report will be amended if the results of the final survey change the conclusions or recommendations.

Plant surveys followed protocols recommended in USFWS, CDFW (CDFG 2009), and CNPS guidelines for rare plant surveys. All plants encountered were identified to a level necessary to ensure detection of covered or special status species. Plants of uncertain identity were collected and subsequently identified from keys, descriptions, and illustrations in Abrams (1923, 1944, 1951, & 1960), Abrams and Ferris (1960), Hickman (1993), Munz (1974), and Parker (1999).

Table 2. Botanical and burrowing owl survey dates and conditions.

Date	Time	Person Hours	Temp Start/End	Wind Start/End	Cloud Cover	Biologist	Purpose
12/11/17	0930-1130	2	72/78	5-10, gusts 15	Sunny/Clear	Bruyea	General Bio/Hab. Assessment
3/06/18	1030-1430	4	65/72	2-8	Sunny/Clear	Bruyea	BUOW/Botanical
3/24/18	1000-1200	2	66/70	1-5	Partly Cloudy	Bruyea	Botanical
4/16/18	1115-1315	2	61/68	4-10	Partly Cloudy	Bruyea	BUOW/Botanical
4/26/18	1130-1330	2	68/74	2-6	Sunny/Clear	Bruyea	Botanical
5/15/18	0930-1330	4	63/75	0-3	Partly Cloudy	Bruyea	BUOW/Botanical
5/23/18	1100-1300	2	68/75	3-6	Cloudy	Bruyea	Botanical
6/05/18	1000-1200	2	75/84	1-4	Sunny/Clear	Bruyea	Botanical
6/16/18	0800-1000	2	64/68	0-3	Cloudy	Bruyea	BUOW

This methodology is consistent with recommendations by the California Native Plant Society (CNPS 2001) because it provides more than a "reasonable coverage" of all habitat types and was "floristic in nature." Systematic field techniques in all habitats of the site (transects) were employed to ensure thorough coverage of potential impact areas that is sufficient to provide comprehensive reporting.

A floral inventory of all botanical species observed during the surveys is included in Table 8 (Appendix A).

Rainfall in southern California has been in drought conditions for multiple years, with the exception of the 2016-2017 season. This survey season (2017-2018) saw below average rainfall, but annuals appeared in good numbers on the project site. It is possible that conditions may have affected growth and germination cycles. Drought conditions can take more than one

year to recover from and not all seeds germinate every year. Surveys conducted over multiple years and at varying times throughout the year provide the most comprehensive data.

Those species that could not be identified on the property at the time of this report are included in the analysis based on probability of occurrence. No species known from the area from available records or comment letters was left out of the analysis.

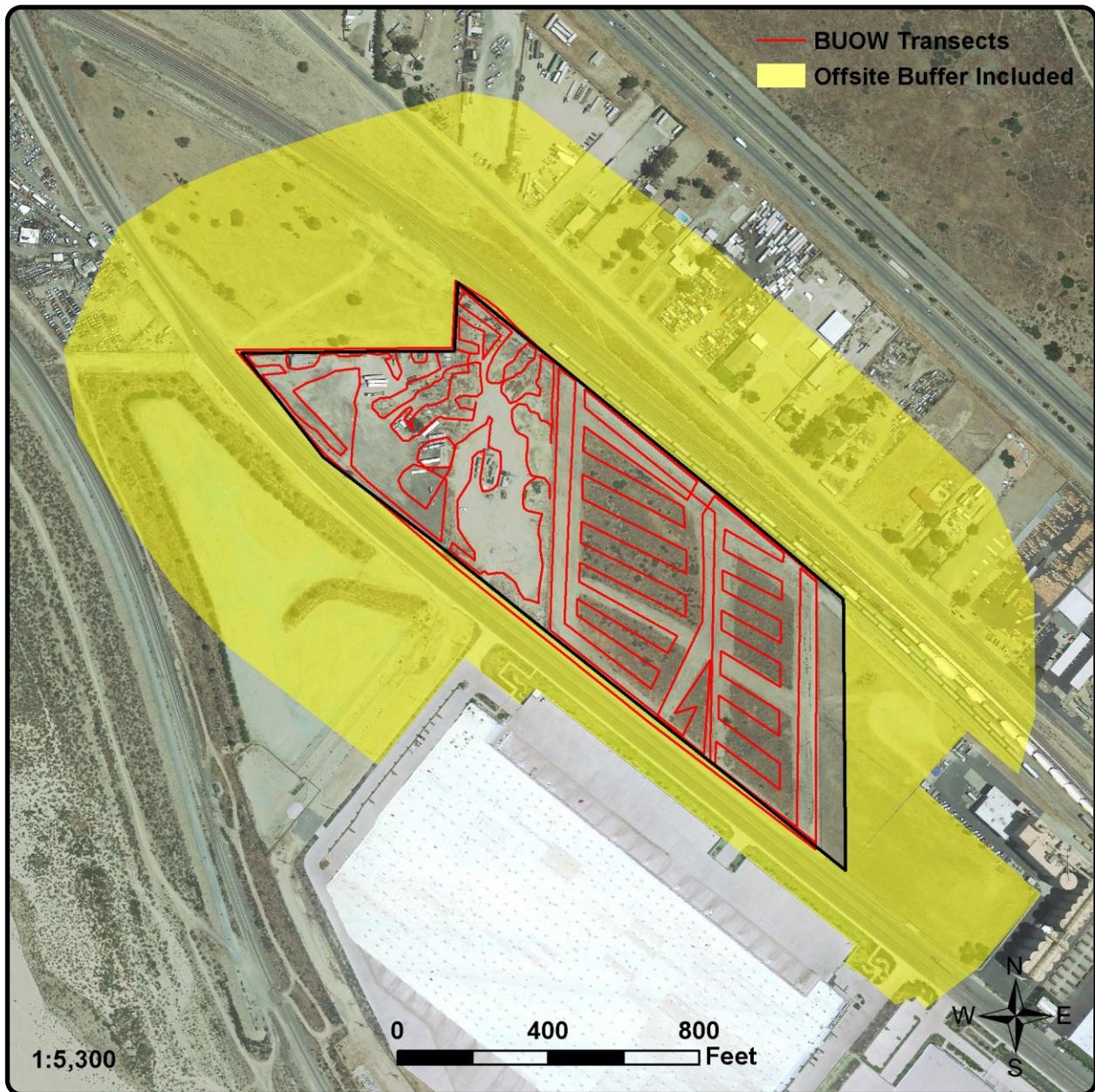
2.4) Focused Burrowing Owl Field Methods

The project site and a 500-foot buffer were evaluated for the presence of burrowing owl habitat. The project area and buffer zone were examined and potential habitat areas were mapped. Once potentially suitable habitat was identified, a focused burrowing owl survey was initiated using transects onsite and transects and/or binoculars as needed offsite to allow for visual coverage and habitat identification. This survey was conducted in accordance with the Burrowing Owl Survey Instructions (2006).

Surveys for BUOW must be conducted during the breeding season for BUOW, March 1 – August 31. However, surveys are best performed during the peak BUOW breeding season, which is generally considered to be from April 15 to July 15 in southern California. Protocol guidelines specify that BUOW surveys should be conducted during weather that is conducive to observing owls outside their burrows. Because BUOW is considered mostly crepuscular in its activities, these guidelines suggest that surveys be conducted from one hour before sunrise to two hours after (morning) or from two hours before sunset to one hour after (evening).

Based on protocols, surveys should be conducted on separate days and should not be conducted under any of the following weather conditions: wind speeds in excess of 20 mph, heavy rain, or dense fog. In addition, survey instructions indicate that surveys will not be accepted if they are conducted within five (5) days following rain, during rain, during high winds, or in temperatures exceeding 90° F. Furthermore, those instructions state that focused surveys conducted during the winter season only are not conclusive proof that BUOW is absent from a given site.

Surveys were performed between March and June of 2018. Surveys were conducted over the entire site and buffer where potential habitat is present (Figure 5). Focused surveys were conducted in the early morning (near dawn) or late afternoon (near dusk) hours in accordance with current BUOW survey protocols.



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Figure 5

Burrowing Owl Survey Area

(Photo obtained from Google Earth, June 2017)

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2.5) Small Mammal Trapping Methods

2.5.1) Literature Review and Records Check

The literature review and records check included a review of standard field guides and texts on sensitive and non-sensitive biological resources potentially onsite, as well as the following sources:

- List of sensitive biological resources provided by the California Natural Diversity Database (CNDDB).
- The Status and Known Distribution of the San Bernardino Kangaroo Rat (*Dipodomys merriami parvus*). Field surveys conducted between 1987 and 1996 (McKernan 1997).
- Endangered and Threatened Wildlife and Plants; Final Rule to List the San Bernardino Kangaroo Rat as Endangered; and Notice of Public Hearing (U. S. Fish and Wildlife Service 1998).

2.5.2) Habitat Evaluation Surveys

Philippe Vergne, a certified kangaroo rat biologist holding U. S. Fish and Wildlife Permit No. TE831207-4 and current CDFW Memorandum of Understanding, inventoried and evaluated the condition of the soils and plant communities onsite in order to assess potential trapping locations for SBKR. Notes of all plant and animal species observed were taken during the surveys.

An intensive search was conducted in all potential habitat areas for such diagnostic kangaroo rat sign as habitat, scat, tracks, dust bowls, and burrows (Photo 20, Appendix B). All species identified by sight, call, or sign (burrows, scat, tracks, etc.) and visual observation were recorded. Sign belonging to one or more kangaroo rat species was identified.

In addition, site characteristics such as soils, topography, the condition of the plant communities, and evidence of human use of the site were noted by the biologist as it relates to or affects the presence or absence of the SBKR. A list of plant and wildlife species observed during the survey is included in Table 8 (Appendix A).

2.5.3) Trapping Surveys

The current trapping surveys for SBKR were conducted according to USFWS protocols established for SBKR. The current protocol calls for five (5) nights of trapping, preferably during a new moon phase. One (1) trapping session was conducted from April 5 to 9, 2018.

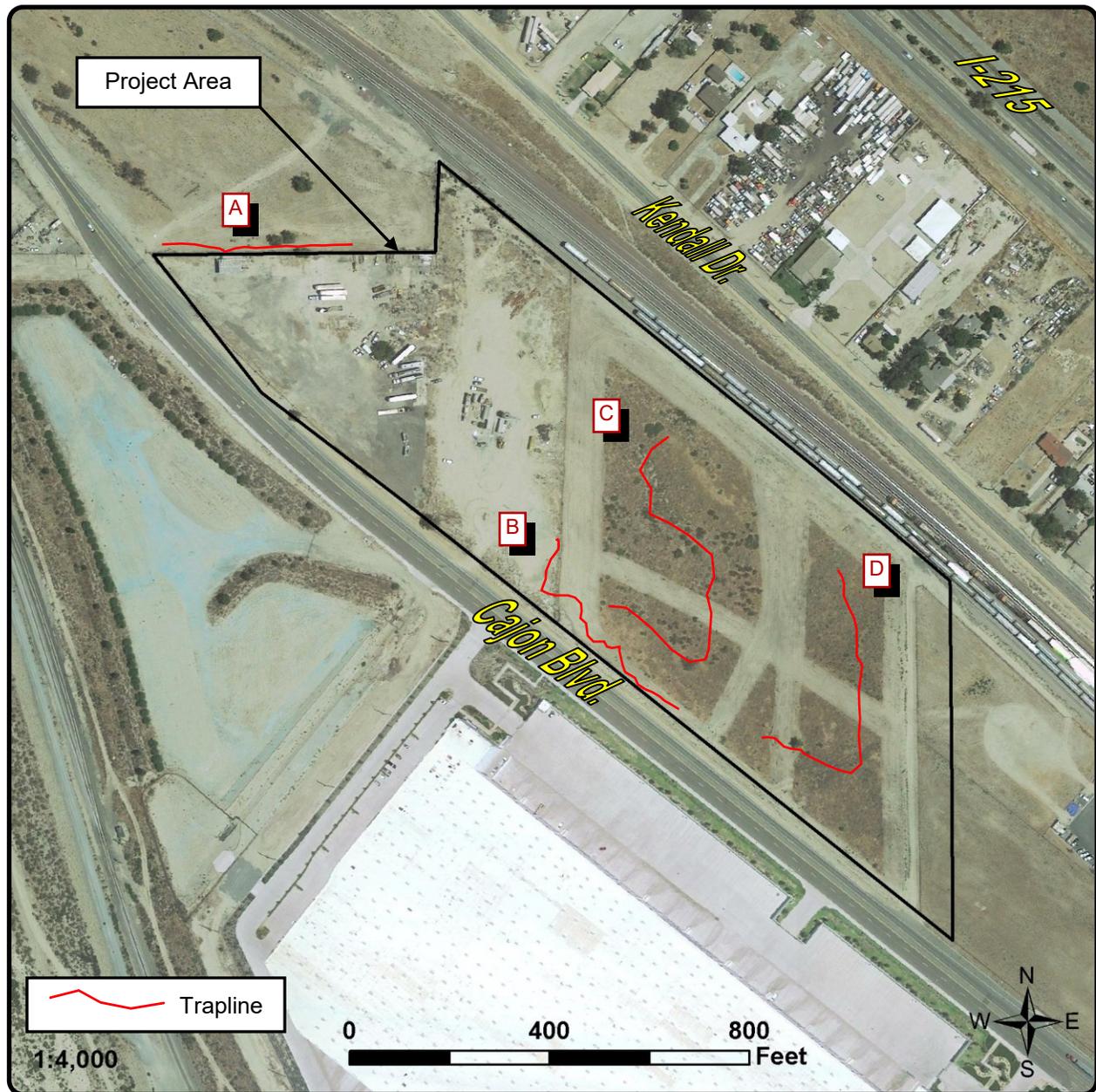
Table 3. San Bernardino kangaroo rat trapping survey dates and conditions.

Date	Morning Temp (°F)	Wind Speed	Cloud Cover	Biologist	Purpose
04/05/2018	53	0	Clear	P. Vergne	SBKR Trapping Survey
04/06/2018	54	0	Clear	P. Vergne	SBKR Trapping Survey
04/07/2018	55	0-3	Clear	P. Vergne	SBKR Trapping Survey
04/08/2018	55	0	Fog	P. Vergne	SBKR Trapping Survey
04/09/2018	54	0	Clear	P. Vergne	SBKR Trapping Survey

Five (5) areas on the property were trapped. Trap lines of 20-40 traps (approximately 12 meters apart) were set in trapping areas A through D (Figure 6). Traps were placed in areas containing sandy loam soils showing sign of small mammal use.

Each trap was baited with birdseed placed at the back of the traps. The traps were left in place each day. Each trap was set at dusk each night and inspected once during the night and at dawn each morning. All animals were identified and released at the point of capture.

Notes were taken on the habitat conditions where the traps were placed. Weather conditions during the trapping surveys included morning temperatures in the mid-sixties to low seventies degrees Fahrenheit, with clear to partly cloudy skies and winds of less than five (5) miles per hour. With night/early morning fog occurring on one (1) day of the survey period. The moon was new during the protocol survey. Daily weather conditions for each day are summarized in Table 3 above.



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Figure 6

SBKR Trapping Line Locations

(Photo obtained from Google Earth, June 2017)

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3.0) RESULTS

3.1) Soils and Topography

Soils data for the survey area were obtained from the U. S. Department of Agriculture, Natural Resource Conservation Service and Soil Survey Geographic (SSURGO) Database. The survey area is a mixture of Soboba gravelly loamy sand (0-9% slopes) and Tujunga gravelly loamy sand (0-9% slopes, Figure 7). The overwhelming majority of the survey area is characterized as Tujunga gravelly loamy sand.

Located on a slightly raised bench within the flood plain between Cajon Wash and Cable Creek, the survey area is relatively flat, with a slight slope that drops downward to the southeast. Soils observed within the developed portion of the site were compacted or had imported gravel. The undeveloped portion of the site had soils that were compacted where there are roadways or cleared areas cut across the site, but appeared sandy in less disturbed areas and adjacent to the railroad tracks to the north and east.

The survey area has a combined vertical relief of roughly 45 feet, with elevation ranging from approximately 1,800 feet AMSL at the southeasternmost point of the site to 1,845 feet AMSL at the northwestern boundary.

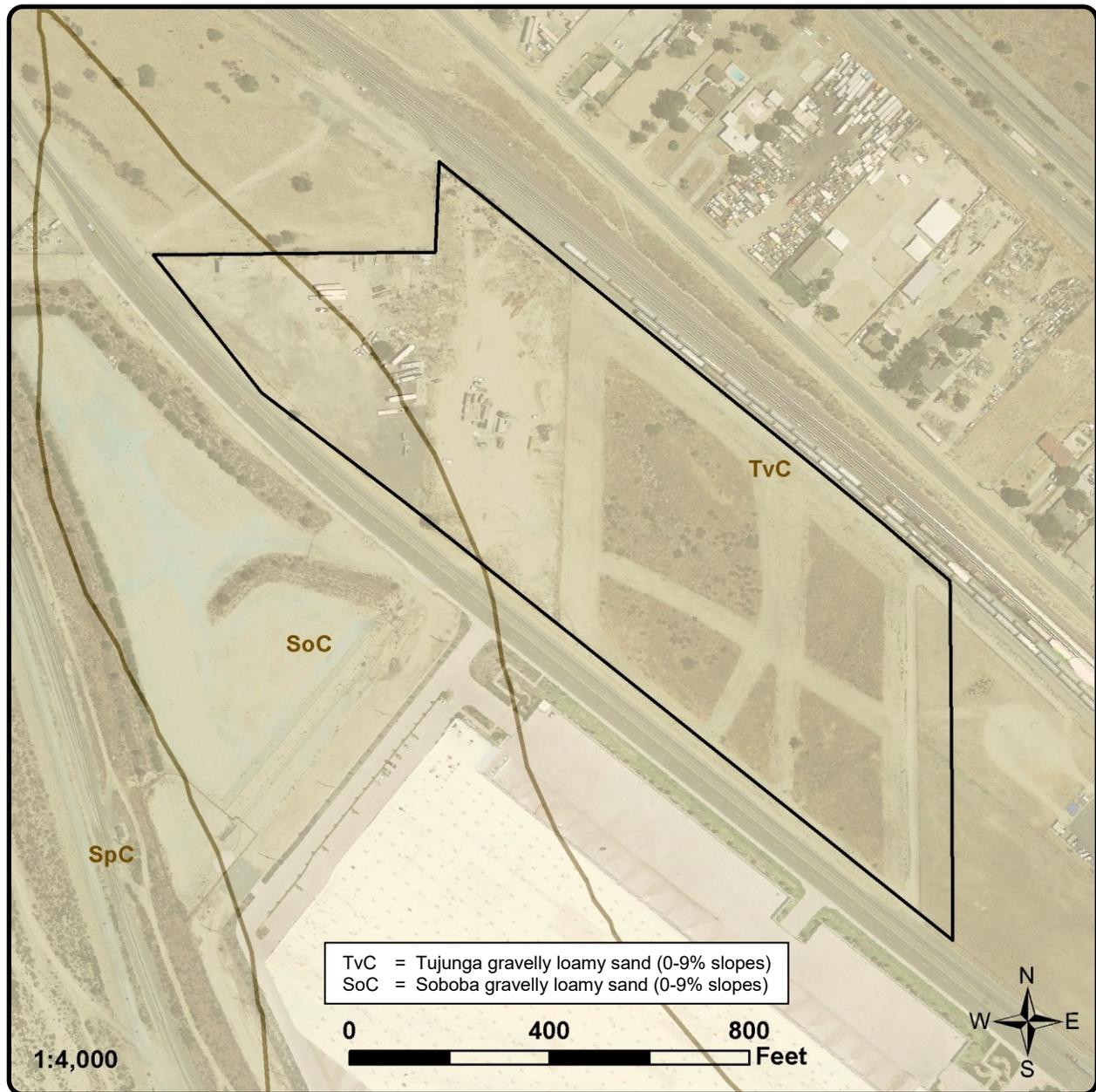
3.2) Vegetation

Survey limitations during the biological work were minimal and were mainly due to vehicle parking and storage bin placement within the more developed portion of the survey area. However, this area was almost completely disturbed and soils were either compacted or covered with gravel. Habitat under and around foreign objects was likely the same.

Three (3) vegetation types currently exist in the survey area: Alluvial Fan Sage Scrub (AFSS), disturbed alluvial fan sage scrub, and unvegetated/developed (Figure 8).

Table 4. Habitat in the survey area.

Habitat		Acreages Onsite
Alluvial Fan Sage Scrub/ Scale Broom Scrub	<i>Lepidospartum squamatum</i> Alliance	5.7
Disturbed AFSS	<i>Disturbed Lepidospartum squamatum</i> Alliance	8.3
Disturbed/Developed		7.2
TOTAL		21.2



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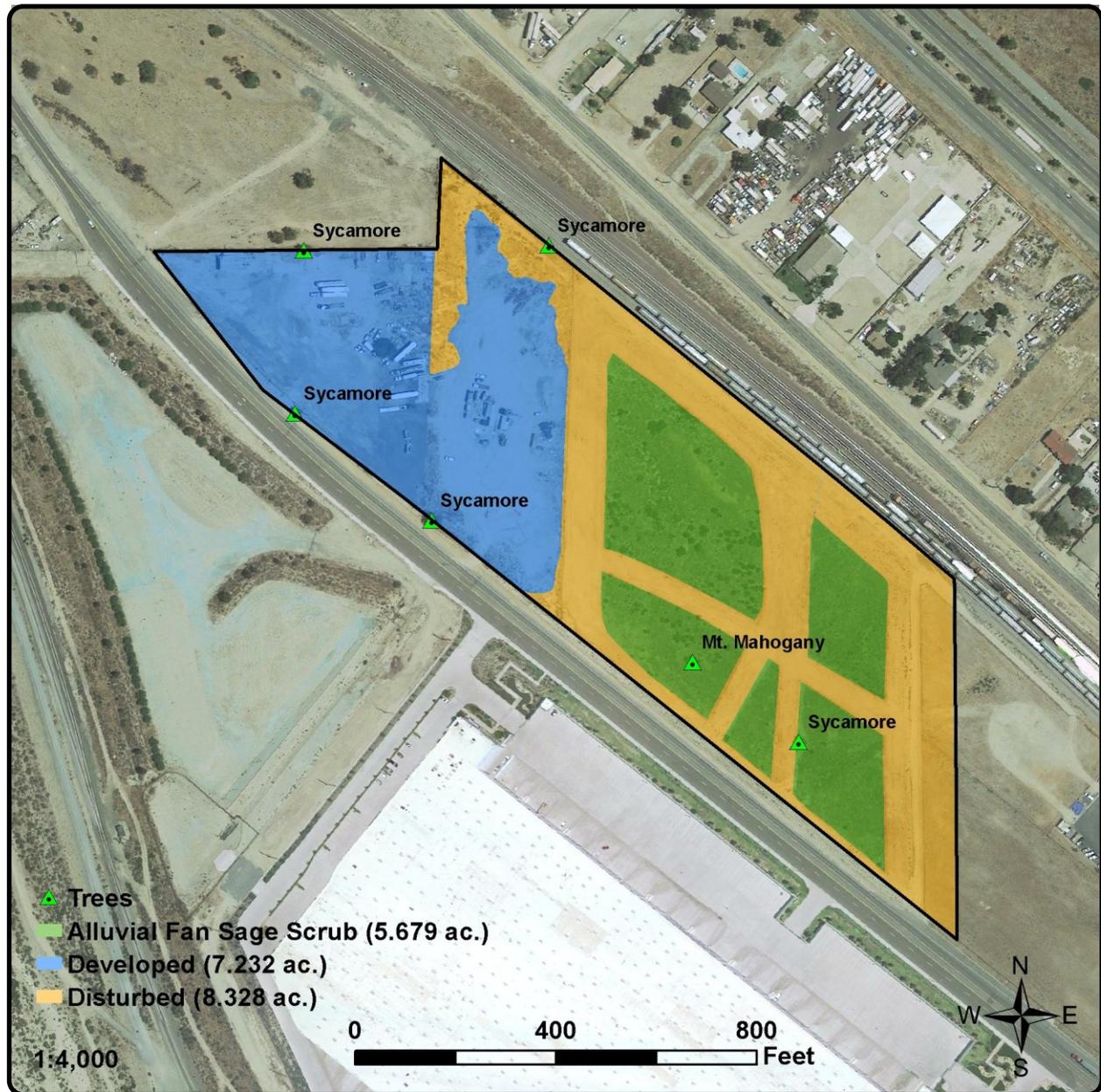
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Figure 7

Soils Map

(Photo obtained from Google Earth, June 2017,
USDA Nat. Res. Cons. Serv. SSURGO Data)

Cajon Blvd. Project, San Bernardino Area
County of San Bernardino, California



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Figure 8

Habitat Map

(Photo obtained from Google Earth, June 2017)

Cajon Blvd. Project, San Bernardino Area
County of San Bernardino, California

The northwestern half of the survey area has been impacted by development/use of the site as a parking area for commercial trucks, other vehicles, storage bins, individual structures, and other debris. The majority of this area has no vegetation. The soils are heavily compacted and gravel has been distributed in some areas. Aerial photographs show this portion of the site being used for parking for at least 20 years and was almost completely cleared of vegetation approximately 10 years prior. What vegetation exists along the periphery is recovered AFSS.

The southeastern half of the site has been mown or disked around the exterior boundaries and in a cross pattern through the center of the site, possibly as a firebreak. Although the mown area is heavily disturbed, remnants in the form of native annuals, grasslands, and small plants typical of the habitat were present and soils were not overly compacted. Areas not mown still support good quality AFSS, although nonnative grass species are dense throughout the understory and along the margins.

Five (5) western sycamore (*Platanus racemosa*) trees and a very large mountain mahogany (*Cercocarpus betuloides*) were observed scattered over the survey area.

3.2.1) Alluvial Fan Sage Scrub/Scale Broom Scrub (*Lepidospartum squamatum* Alliance, 32.070.00)

Scale broom scrub, also called alluvial fan sage scrub (AFSS), occurs along washes and drainages on low gradient alluvial fans and terraces that may be periodically or rarely flooded. Soils are usually sandy or rocky and well drained. AFSS has both the drought-deciduous, low-growing, soft-leaved shrubs of sage scrubs and the larger perennial species found in chaparral habitats, but the presence of scale broom (*Lepidospartum squamatum*) as a dominant, codominant, or conspicuous shrub (at greater than 1% cover) is required.

Other plants in AFSS can be varied, but in the survey area it is found in association with California buckwheat (*Eriogonum fasciculatum* var. *foliolosum*), yerba santa (*Eriodictyon trichocalyx*), chamise (*Adenostoma fasciculatum*), twiggy wreath plant (*Stephanomeria virgata*), California croton (*Croton californicus*), and deerweed (*Acmispon glaber*). In the survey area AFSS is located in the southern/southeastern half of the survey area. The habitat was not dense and allowed for non-native grass and other low-growing annual growth in the understory and areas between.

Although the habitat appears to qualify as AFSS with the presence of $\geq 1\%$ scale broom, very few scale broom plants were observed in the survey area. The lack of periodic flooding and

scouring appears to be resulting in a transition from AFSS to California buckwheat scrub (*Eriogonum fasciculatum* Alliance). The relatively undisturbed portions of the site support moderate quality habitat.

3.2.2) Disturbed

Disturbed habitat is present in mown areas in the southeastern half of the site and around the boundary of the southern parking area (located in the southern portion of the northern half of the survey area). The habitat in these areas has been previously and repeatedly disturbed but native plants are present in these areas in small numbers and soils are open and sandy. Along the margins of the southern parking area habitat is beginning to recover, in particular in the northeast corner. Habitat succession is the slow process of reestablishing original plant communities, but successional habitats are readily invaded by ruderal grass and forb species. Limited vegetation occurs in the area identified as disturbed and the species that are present tend to be mostly weedy and invasive, including species such as non-native grasses (*Schismus* and *Bromus* spp.), annual sunflower (*Helianthus annuus*), Russian thistle (*Salsola tragus*) and shortpod mustard (*Hirschfeldia incana*).

3.2.3) Developed

Developed describes land or habitat that has been negatively altered (in a more permanent way) by human activities for building and commercial purposes. In the survey area this altered land is bare ground where the soils have been heavily compacted and/or gravel has been placed to accommodate parking large transportation and construction vehicles. Also, in these areas are small or temporary structures, storage bins, and scattered debris associated with commercial use of the site. The parking areas have been fenced. Possible evidence of sand extraction was noted on the aerial photograph and sand piles are present within the parking area.

3.2.4) Sensitive Vegetation Communities

Of the special status habitats listed for the area based on published literature, literature readily available on the internet, and CNDDDB record searches, one (1) special status habitat was found in the survey area. *Lepidospartum squamatum* Alliance (32.070.00) or Alluvial Fan Sage Scrub is identified as a G3S3 ranked community. This is a global and state rank of vulnerable. This habitat is present onsite, but has been inundated by non-native grasses and isolated from similar habitat or other native habitats. Based upon lack of flooding and scouring, the habitat appears to be slowly transitioning into a more upland community.

3.3) Botanical

A total of 68 botanical species were observed on or adjacent to the survey areas during the general biological, focused botanical, burrowing owl, and small mammal trapping surveys conducted onsite. Portions of the site are relatively undisturbed and support native habitat. However, much of this habitat is choked with non-native grasses, which inhibit low-growing native annuals. The diversity in these areas is low. Sensitive botanical species documented by the CNDDDB as potentially occurring in the area are briefly described and occurrence probability is determined in Table 9 (Appendix A). No special status plant species were observed in the survey area. Based upon presence or absence of specific native habitats, other sensitive species evaluated were determined to have varied potential for occurrence in the survey area.

None of the weather stations close to the survey area had consistent data for the past several years, therefore L&L had to utilize two stations further away. One is to the southwest further into the valley and one is to the north further up into Cajon Pass. Rainfall totals reflect that difference and the rainfall in the survey area would likely fall in between. Rosena Ranch recorded 5.79 inches of rainfall southwest of the survey area and North San Bernardino recorded 11.96 inches of rainfall for the Cajon area (www.weatherunderground.com) between September 2017 and May 2018. This falls well short of last year's increase in rains and is similar to recent drought years (Table 11, Appendix A). A list of all observed botanical species is included as Table 8 (Appendix A).

3.3.1) Endangered, Threatened, Proposed, and Candidate Botanical Species

Eight (8) botanical species listed as threatened, endangered, proposed, or candidate species for listing as endangered or threatened (TEPC) were evaluated as part of this assessment. They are briefly described and occurrence probability is determined in Table 9 (Appendix A). These species were either documented by the CNDDDB as occurring within the same quadrangle as the survey area or in adjacent quadrangles, addressed in previous reports, or were identified by the USFWS or other agency as potentially occurring in the area.

None of the species listed as threatened or endangered were observed in the survey area during the general biological or botanical survey. Three (3) species, Nevin's barberry (*Berberis nevinii*), slender-horned spineflower (*Dodecahema leptocerus*), and Santa Ana River woollystar (*Eriastrum densifolium* ssp. *sanctorum*) have potentially suitable habitat in the survey area and are discussed below.

Nevin's Barberry: Nevin's barberry is a federally endangered species, state endangered species, and a California CNPS 1B.1 plant (rare or endangered in California and elsewhere; seriously threatened in California). This species occurs in sandy or gravelly soils in coastal sage scrub, chaparral, oak woodland or riparian scrub. At least one population (Bachelor Mountain) is reported to be associated with pyroxenite outcrops instead of clay (RCIP 2003). Nevin's barberry is known from 31 locations in the CNDDDB and 48 in Calflora, scattered throughout southwestern California in Santa Barbara, Ventura, Los Angeles, San Bernardino, Riverside, Orange, and San Diego Counties. The closest occurrence is in Crestline, but this location is identified as a transplanted specimen. The closest natural occurrence is 14 miles southeast near the San Bernardino and Riverside County boundary in the Box Springs mountains. Although the basic habitat requirements are present in the survey area there are no known occurrences of this species in the area. It is possible that the site is on the margin of the species range. A focused survey was conducted and this species was not observed. This species is absent from the survey area.

Slender-horned Spineflower: Slender-horned spineflower is endemic to California. It is both a federal and California endangered species and a CNPS 1B.1 plant (rare, threatened, or endangered in California and elsewhere; seriously threatened in California). It is found on open, sandy alluvial benches in valleys and canyons, typically vegetated by chaparral, coastal sage scrub, alluvial fan sage scrub, and cismontane woodlands. Slender-horned spineflower is known from 43 locations in the CNDDDB and 124 in Calflora. It is found in Los Angeles, San Bernardino, Riverside, and Orange Counties. The closest occurrences are two (2) locations 1.75 miles northwest near the Interstate 15 and 215 interchange. These records occurred on old wash terraces or benches. The populations were observed in the 1980s but were not present during a 2005 survey. This may be the result of drought conditions or alteration of natural water flows and introduction of non-native species.

Although habitat onsite has been isolated from the wash and is partially disturbed, the survey area was a part of the historic alluvial bench between Cajon Wash and Cable Creek and was likely scoured and flooded in the past. Potentially suitable habitat is considered present within alluvial fan sage scrub. However, the habitat onsite is crowded with non-native grasses in the understory. No slender-horned spineflower was observed, during the focused survey. This species has low potential to occur.

Santa Ana River woollystar: Santa Ana River woollystar is endemic to California, is a federal and California endangered species, and a CNPS 1B.1 plant (rare, threatened, or endangered in California and elsewhere; seriously threatened in California). Habitat for this species is sandy or

gravelly alluvial fans and plains vegetated by chaparral, coastal sage scrub, and alluvial fan sage scrub. Santa Ana River woollystar is known from 31 locations in the CNDDDB and 63 in California. It is restricted to San Bernardino, Riverside, and Orange Counties, with the clear majority occurring in San Bernardino County. The closest occurrences are two (2) locations identified within the past 10 years, 1.2 miles south within the main Cajon Wash alluvial fan. A third much older population is located 1.8 miles southeast within the old wash terrace. The alteration of natural water flow may affect the persistence of this species on the site.

Although habitat onsite has been isolated from the wash and is partially disturbed, potentially suitable habitat is present within alluvial fan sage scrub onsite. The survey area was a part of the alluvial bench between Cajon Wash and Cable Creek and is located within the historic flood zone. However, this species is most common and abundant on benches subject to recent flow, which no longer occurs on this site as a result of development and alteration of water flow. The habitat is crowded with non-native grasses in the understory. No Santa Ana River woollystar were observed during the focused survey. This species has low potential to occur.

3.3.2) Sensitive Botanical Species

Fifty-three (53) sensitive botanical species were evaluated as a part of this assessment because they are known from or expected to occur within the Project vicinity. They are briefly described and their potential to occur in the survey area is detailed in Table 9 (Appendix A). These species were either documented by the CNDDDB as occurring within the same or adjacent quadrangles as the survey area or were identified by the USFWS or other agency as potentially occurring in the area.

The final survey was not completed at the time of the publication of this report; however, those species that have probability of occurring and are late bloomers and would be observed between June and October either have low probability or are absent because the property is outside of their range or does not support suitable habitat.

Observed

No sensitive botanical species were observed in the survey area during general biological, botanical, and burrowing owl surveys.

Sensitive Species with High or Moderate Probability to Occur

Following focused surveys, no sensitive botanical species have moderate or high potential to occur in the survey area based on presence of suitable habitat, species range, proximity to known occurrences, and survey results.

3.3.3) Native Tree Species

Five (5) sycamore trees and one (1) large mountain mahogany tree were documented onsite.

Table 5. Native tree data.

Tree #	Species	Latitude (N)	Longitude (W)	Height (feet)	DBH (inches)	Health	Notes
1	Sycamore	34.199196	-117.377925	±28'	±11"	Good	Within natural habitat.
2	Mt. Mahogany	34.199649	-117.378591	±13'	±10"	Good	Within natural habitat.
3	Sycamore	34.200380	-117.380303	±40'	±15"	Good	No natural habitat adjacent. Tallest tree onsite.
4	Sycamore	34.201002	-117.381183	±20'	±13"	Good	No natural habitat adjacent. Grouping of four trunks or trees that appear to be offshoots of a central tree (now gone). DBH is of largest trunk.
5	Sycamore	34.201913	-117.381155	±15'	±14"	Good (but tree is topped to avoid power lines, not natural height)	Adjacent to developed lot. Natural (partially disturbed) habitat north. Tree is offsite or right at the edge, but the canopy overhangs the fence. It is with a group of two or three other sycamores just north of the site.
6	Sycamore	34.201923	-117.379533	±8'	±8"	Good (but tree has been trimmed, probably done regularly by the RR company to avoid limbs getting near or over the tracks)	The tree is growing right at the fence line.

3.4) Wildlife

A total of 32 wildlife species were observed onsite during the general biological, focused botanical, burrowing owl, and small mammal trapping surveys. Focused surveys were not conducted for any wildlife species other than those specified. A list of all observed wildlife species is included as Table 8 (Appendix A).

Sensitive wildlife species documented by the CNDDDB as potentially occurring in the area are briefly described and occurrence probability is determined in Table 9 (Appendix A). Based upon

presence or absence of specific native habitats, the sensitive species were determined to have varied potential of occurring in the survey area.

The survey area is generally located in the vicinity of upper Cajon Wash where a large portion is designated by San Bernardino County as Open Space Area 52. Much of the habitat in the project vicinity has been identified as high-quality, with a generally diverse and abundant wildlife community. However, the survey area is mostly disturbed or developed with ongoing human activities. The site is separated from the natural habitat of Cajon Wash by a large commercial facility and a gravel parking lot and from Cable Creek by railroad tracks, a mix of residential and commercial properties, and Interstate 215. Wildlife would be expected to be lower within the survey area than in large tracts of native habitat in the vicinity.

3.4.1) Fish

Rivers, creeks, and drainages of varying inundation can support native fish populations that have adapted to perennial waterways; however, no perennial aquatic habitat suitable to support fish species, either common or sensitive, was observed in the survey area.

3.4.2) Reptiles and Amphibians

Two (2) reptiles and no amphibian species were observed onsite during surveys, side-blotched lizard (*Uta stansburiana*) and coachwhip (*Masticophis flagellum*). Amphibians require wet or generally wet environments which were not present in the survey area and are therefore not expected onsite. Reptiles are found in a variety of habitats. Due to relatively heavy disturbances in the survey area and the disjointed blocks of habitat, it is likely that the variety of reptiles is lower than within similar undisturbed habitat in the vicinity and species present are more adapted to human presence and disturbances.

3.4.3) Birds

Twenty-two (22) avian species were observed during the surveys. Scrub habitat in the survey area can provide foraging and cover habitat for year-round residents, seasonal residents, and migrating song birds. In addition, individual trees in the survey area can provide raptor perching or nesting locations.

3.4.4) Mammals

Eight (8) mammal species were observed onsite during general biological, botanical, and burrowing owl surveys or were trapped during the small mammal trapping survey. Evidence of

small rodents was observed throughout the site, but concentrated along the margins of the developed portion of the site and where soils were a little more compacted within the undeveloped portion of the site. A few burrows with ramps (typical of kangaroo rat species) were observed and were determined by the trapping study to reflect occupation of the site by *Dipodomys* kangaroo rat (*Dipodomys simulans*).

It is likely that bat species at least occasionally pass through the site while foraging in the greater Cajon Pass open space area. Although no bat identifications were made during this study, a variety of common and sensitive bats likely utilize habitat in the vicinity of the survey area. A list of observed wildlife is included in Table 8 (Appendix A).

3.4.5) Endangered, Threatened, Candidate, and Fully Protected Wildlife Species

Twenty (20) wildlife species listed as endangered, threatened, candidates for listing as endangered or threatened, and fully protected species were evaluated as a part of this assessment. They are briefly described and occurrence probability is determined in Table 9 (Appendix A). These species were either documented by the CNDDDB as occurring within the same or adjacent quadrangles as the survey area or were identified by the USFWS or other agency as potentially occurring in the area.

None of the species listed as threatened, endangered, candidate, or fully protected were observed in the survey area. One (1) species, San Bernardino kangaroo rat (*Dipodomys merriami parvus*) has potentially suitable habitat in the survey area and was determined to have high or moderate potential of occurrence within the survey area during the general biological survey. A small mammal trapping study was done to determine presence or absence of this species in the survey area. The full report is included in this report as Appendix E and details included in this Section are taken directly from that document.

Due to the presence of potentially suitable habitat, coastal California gnatcatcher (*Poliioptila californica californica*) and arroyo toad (*Anaxyrus californicus*) are also discussed in more detail below.

San Bernardino Kangaroo Rat: San Bernardino kangaroo rat is a federal endangered species, a California species of special concern, and a CNDDDB S1 (critically imperiled) species. It is primarily associated with a variety of sage scrub vegetation, where common elements are presence of sandy soils and relatively open vegetation structure (McKernan 1997). Flood events break out of the main river channel in a complex pattern, resulting in a braided

appearance to the flood plain. This dynamic nature to the habitat leads to a situation where not all alluvial scrub habitat is suitable for the kangaroo rat at any point in time.

SBKR prefers open habitat characterized by low stature open scrub canopy cover of less than 22 percent. Occupied SBKR habitat also typically exhibits reduced herbaceous cover with low abundance of European grasses, such as brome species. This type of habitat is best described as early to intermediate phase alluvial sage scrub communities that are subject to frequent flooding/scouring. Open vegetation structure in these communities supports the highest densities of SBKR.

Mature phase alluvial chaparral (which are usually located above the active channel or on higher benches) are not usually occupied by SBKR, although individuals have been trapped in dense upland scrub adjacent to open habitat and SBKR populations (Vergne 2008).

Alluvial soils are easy to dig in but can still support tunneling without collapsing. Shallow burrow systems are dug in loose soils, with entrances usually near or beneath shrubs. SBKR is confined to inland valley scrub communities along rivers streams and drainages. Critical habitat for the species follows and surrounds the two washes found to the east/southeast and north/northwest of the site, but excludes the narrow, partially developed bench between the drainages upon which the survey area is located.

The CNDDDB has a single record that includes the survey area. The record is from 1951 and is recorded as an unspecific location within the mapped area. However, there are nine (9) additional records within 2.5 miles, including four (4) recorded since 2000.

The survey area is considered marginally suitable habitat for this species, as it supports mature alluvial sage scrub that is transitioning to upland and the understory is inundated with non-native grasses. The habitat is no longer subject to frequent flooding or scouring. The habitat is not connected to other areas of undisturbed alluvial fan sage scrub, but the survey area is located within 800 (to the north) to 1,200 (to the west) feet of large expanses of alluvial fan sage scrub. Native habitat in the survey area is not fenced or in any way prevent small mammal movement. Small mammal activity is evident in the survey area, including at least one (1) kangaroo rat species burrow.

Focused Trapping Study

A small mammal trapping study was conducted to determine presence or absence of SBKR in the survey area. Traps were set within open areas onsite that had small fossorial mammal sign or that were near less disturbed areas adjacent to the property.

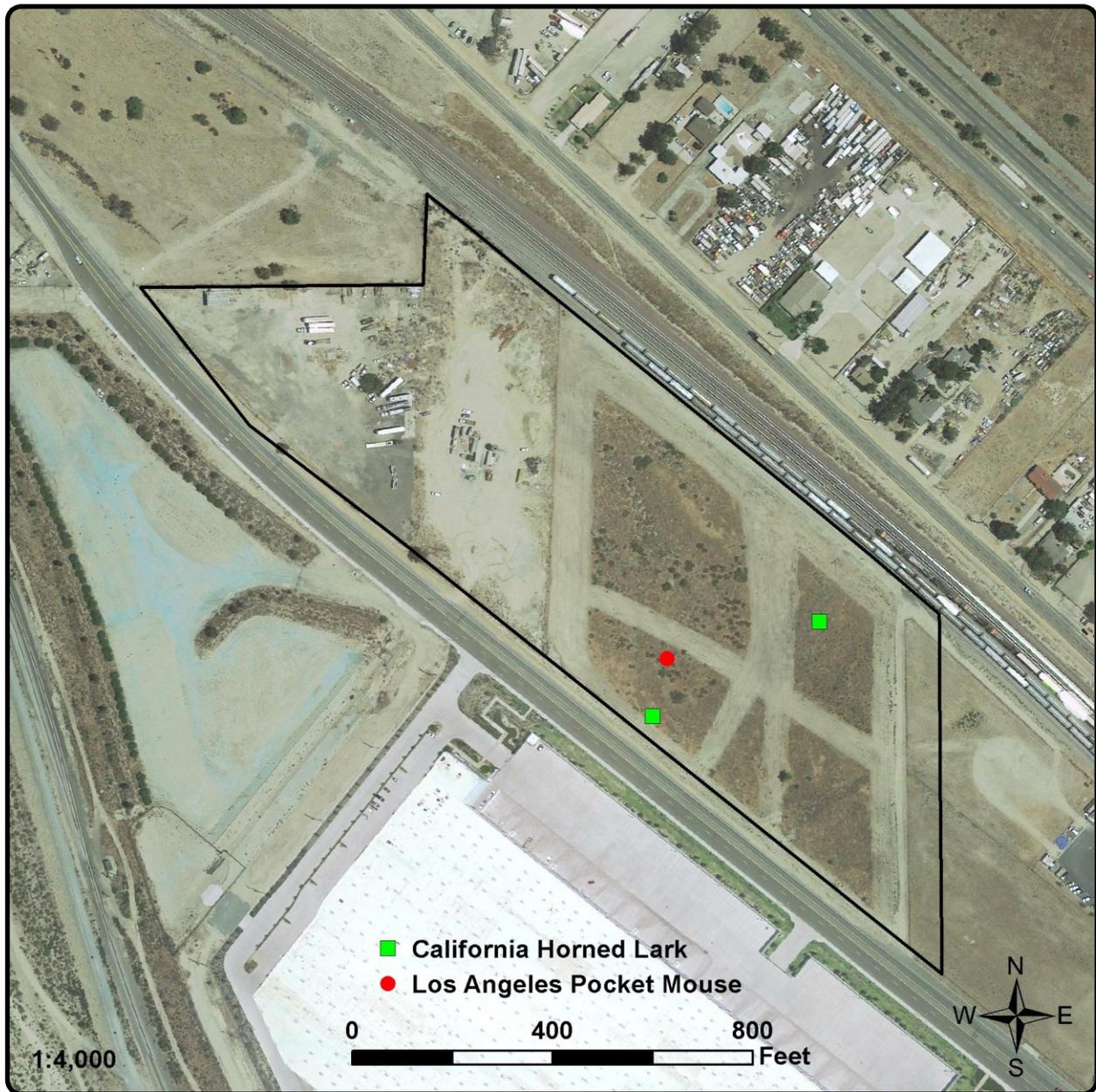
Trapping success was low over the entire trapping period. A total of four (4) small mammal species were trapped during the survey period. Table 6 provides summary information on the species trapped per trapping location.

Table 6. Trapping Survey Results.

Trap Site	Number of Trap Nights	Dulzura Kangaroo Rat	Cactus Mouse	Deer Mouse	Los Angeles Pocket Mouse
		<i>Dipodomys simulans</i>	<i>Peromyscus eremicus</i>	<i>Peromyscus maniculatus</i>	<i>Perognathus longimembris brevinasus</i>
A	80	2	1	4	0
B	125	0	0	3	1
C	150	11	2	7	3
D	150	14	0	6	0
Totals	505	27	3	20	4

SBKR were not captured during the protocol survey. Based on survey results, SBKR does not currently occupy the survey area. One (1) sensitive mammal species, Los Angeles pocket mouse (*Perognathus longimembris brevinasus*) (LAPM), was captured during the focused survey (Figure 9).

Coastal California Gnatcatcher: There are three (3) subspecies of California gnatcatchers. The coastal California gnatcatcher (CAGN) subspecies is listed as Threatened under the Federal Endangered Species Act and it is a state species of special concern. This small insectivorous song bird occurs almost exclusively in several distinctive sub-associations of the coastal sage scrub plant community (USFWS 1993). The survey area does provide potentially suitable sage scrub habitat for this species, but this species typically uses land with a more varied rolling topography, such as in the foothills. In addition, the habitat was considered marginal and somewhat isolated. Local records are restricted to the foothills of the San Bernardino and San Gabriel Mountains. The species was determined to have low potential to occur during general biological surveys and after lack of sighting by a CAGN permitted biologist who conducted numerous field visits relating to the focused burrowing owl and botanical surveys, probability was reassessed as low-absent.



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Figure 9

Special Status Species

(Photo obtained from Google Earth, June 2017)

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County of San Bernardino, California*

Arroyo Toad: Arroyo toad (AT) is a federal-listed endangered species and a California species of special concern that has become extremely rare in southern California. The range of AT is from the coastal plain and mountains of central and southern California into northwestern Baja California. The AT is found at elevations between near sea level and 8,000 feet in Baja California, but in California most are found between 1,000 and 4,600 feet. They are typically found in coastal drainages, but have been found at several locations on the desert slopes of the Transverse and Peninsular Mountain ranges (USFWS 1999).

AT uses a variety of areas, including various aquatic, riparian, and upland habitats. AT breeding habitat is within rivers and creeks with a consistent water flow in spring and early summer. They need shallow sandy or fine gravel pools in slow-moving stream habitats with little current and vegetation, adjacent to sandy terraces. Suitable habitat is disturbed naturally, primarily by flooding (USFWS 1999). Preferred habitat adjacent to the drainage can be sparse to heavily vegetated with mulefat, sycamore, cottonwood, coast live oak, and willow and with an understory from bare ground to grasses, herbs, and leaf litter.

Relative to the subject study area, there is no active wash or drainage that supports aquatic and riparian habitats arroyo toad needs to breed. Outside of the breeding season, they are known to use a variety of upland habitats. During the non-breeding season, arroyo toads seek shelter during the day and other periods of inactivity by burrowing into the sandy areas of upland terraces. The nearest recorded occupied location is 6 miles north-northwest further upstream in Cajon Wash (NDDDB 2018). Almost all arroyo toad records in this area are from higher elevations in the San Bernardino Mountains.

This site does support marginal/poor habitat for this species in the form of non-breeding upland terraces near a river or drainage. However, the site is separated from the wash by a developed industrial building and large parking lot and no arroyo toad have previously been found in this part of Cajon Wash. Although this does not absolutely preclude the presence of an arroyo toad, the likelihood of this species utilizing the site is very low.

3.4.6) Sensitive Species

Seventy-five (75) sensitive wildlife species were evaluated as a part of this assessment because they are known from or might be expected to occur within the project vicinity. They are briefly described and their potential to occur in the survey area is detailed in Table 9 (Appendix A). These species were either documented by the CNDDDB as occurring within the same quadrangle

as the survey area, adjacent quadrangles, or were identified by the USFWS or other agency as potentially occurring in the area.

Two (2) sensitive wildlife species were observed/trapped during the 2018 biological surveys, LAPM (see the Focused SBKR Trapping Survey in this section above) and California horned lark (*Eremophila alpestris*). Six (6) sensitive wildlife species were determined to have high or moderate potential to occur in the survey area, based on presence of suitable habitat, species range, and proximity to known occurrences. These species are: California glossy snake (*Arizona elegans occidentalis*), northern red-diamond rattlesnake (*Crotalus ruber*), coast horned lizard (*Phrynosoma blainvillii*), southern California rufous-crowned sparrow (*Aimophila ruficeps canescens*), Bell's sage sparrow (*Artemisospiza belli belli*), and Crotch bumble bee (*Bombus crotchii*).

California Horned Lark: California horned lark is a state watch list species and CNDDDB S3 (vulnerable) species. The species is a common to abundant resident in a variety of open habitats, usually where trees and large shrubs are absent (Zeiner, et al. 1990). Within southern California, this bird breeds primarily in open fields, (short) grasslands, and rangelands (Garrett and Dunn 1981; Hamilton and Willick 1996). Grasses, shrubs, forbs, rocks, litter, clods of soil, and other surface irregularities provide cover. On the ground, this bird walks rather than hops. It occurs year-round in California and most of North America. Suitable habitat for this species occurs onsite. The species was observed during field surveys.

Los Angeles pocket mouse: Los Angeles pocket mouse (LAPM) is a CDFW California species of special concern and a CNDDDB S1S2 species (between critically imperiled and imperiled). This mouse inhabits annual grassland, sage scrub, and alluvial sage scrub at lower elevations. It is adapted to arid and semi-arid regions, gaining all of its water requirements from seeds and insects in its diet. Its range includes Los Angeles, southwestern San Bernardino, and western Riverside counties.

Suitable habitat for this species occurs onsite. Four (4) individual LAPM were trapped during small mammal trapping surveys. Within the survey area, LAPM was observed in open degraded habitat near the vehicle storage and repair yard. Although the area was likely ideal for this species prior to existing development (sandy terraces associated with rivers and creeks) the site no longer supports good habitat for this species. The species prefers open ground within native habitat, often provided by infrequent flood events that remove excess vegetation. Where native habitat occurs onsite, the habitat is dominated by a dense grass thatch understory

and typical alluvial flood events no longer occur here. Likely, this is why the species was trapped near more degraded and developed portion of the site.

California glossy snake: The California glossy snake is a CDFW California species of special concern and a CNDDDB S2 species (imperiled). This species inhabits arid scrub, rocky washes, grassland, and chaparral. It appears to prefer microhabitats of open areas and areas with soil loose enough for easy burrowing (Nafis 2018). The California glossy snake ranges from the San Francisco Bay Area south into Baja California, Mexico. Within central California this species is found in the inland valley, not on the coast. It is found from sea level to around 7,218 feet (Nafis 2018). Suitable habitat for this species occurs onsite. The species was not observed during field surveys, but has been recorded in the CNDDDB as a single yearling observed in the vicinity of the site in March of 2016. Probability that this species occurs onsite is moderate.

Northern red-diamond rattlesnake: Red-diamond rattlesnake is a CDFW California species of special concern and a CNDDDB S3 species (vulnerable). It inhabits desert scrub, thorn scrub, chaparral, oak and pine woodlands, and rocky grasslands below approximately 4,000 feet. It is found in southwestern California from Morongo Valley west and from San Bernardino County south through most of Baja California, Mexico (Stebbins 1985, www.californiaherps.com). The closest recorded observation is 13 miles southeast of the project, east of San Bernardino International Airport. Suitable habitat for this species occurs onsite. The species was not observed during field surveys. Probability that this species occurs onsite is moderate.

Coast horned lizard: Coast horned lizard is a CDFW California species of special concern and a CNDDDB S3S4 species (between vulnerable and apparently secure). It is found in open sandy areas of coastal sage scrub, low elevation chaparral, annual grassland, oak and riparian woodlands, and coniferous forests (Jennings and Hayes 1994). Lowlands near sandy washes and scattered shrubs are especially preferred. This lizard feeds on ants and various other insects, but harvester ants in particular (Stebbins 1985). It is distributed predominately throughout cismontane regions of the Transverse Ranges in Kern, Los Angeles, Santa Barbara, San Bernardino, and Ventura Counties, southward to the Peninsular Ranges in Orange, Riverside, and San Diego Counties (Hollingsworth and Beaman). Suitable habitat for this species occurs in the survey area. The CNDDDB records coast horned lizard over a very large area immediately adjacent to the survey area in 2008. This species was not observed during field surveys, but there is moderate probability it occurs in the survey area.

Southern California rufous-crowned sparrow: Southern California rufous-crowned sparrow is a CDFW California watch list species and a CNDDDB S3 species (vulnerable). This reddish-orange-capped sparrow is a common resident of sparse, mixed chaparral and scrub habitats, rocky, brushy slopes in particular. It is monogamous and nests on or near the ground or in scrub bushes. This species is active year-round. The range of this species is from southern California to northwestern Baja California, Mexico (NGS 1987). The CNDDDB documents this species as occurring six (6) miles east of the survey area in the foothills of the San Bernardino Mountains. Suitable habitat for this species occurs onsite. The species was not observed during field surveys. Probability that this species occurs onsite is moderate.

Bell's sage sparrow: Bell's sage sparrow is a CDFW California watch list species and a CNDDDB S3 species (vulnerable). This gray, white, and black sparrow is found in sage scrub and chaparral communities throughout the coastal slope of California. This bird builds a cup-shaped nest in shrubs or in a depression on the ground. The range of this species includes southern and central California to northwestern Baja California, Mexico. The CNDDDB documents this species as occurring two (2) miles southwest. Suitable habitat for this species occurs onsite. The species was not observed during field surveys. Probability that this species occurs onsite is moderate.

Crotch bumble bee: Crotch bumble bee is a CNDDDB S1S2 species (between Imperiled and Critically Imperiled). It occurs in open grassland and scrub habitats with nests underground. Food plants include *Asclepias*, *Chaenactis*, *Lupinus*, *Medicago*, *Phacelia*, and *Salvia* (Williams et al. 2014). The range of this species includes all of California, but most records are south of San Francisco along the coast and western desert into southern California. CNDDDB records include a single record from 1945 that overlaps the site; however, the exact location of the collection is unknown. Suitable habitat for this species occurs onsite. The species was not observed during field surveys. Probability that this species occurs onsite is moderate.

Burrowing Owl: Burrowing owl (BUOW) is a state listed Species of Special Concern, a USFWS Migratory Nongame Bird of Management Concern, and a CNDDDB S3 species (Vulnerable). The project area is located within a portion of the County of San Bernardino Biotic Resources Map that indicates a potential for the BUOW to occur. BUOW historically occurred throughout much of California; however, many former populations have vanished.

BUOW occurs as a resident in open areas of the lowlands across much of the southern California region (Garrett and Dunn 1981). They may also occur in forb and open shrub stages of pinyon-juniper and ponderosa pine habitats (Zeiner et al. 1990). They require large open

expanses of sparsely vegetated areas on gently rolling or level terrain with an abundance of active small mammal burrows. As a critical habitat feature need, they require the use of rodent or other burrows for roosting and nesting cover. They may also dig their own burrow in soft, friable soil (as found in Florida) and may also use pipes, culverts, and nest boxes where burrows are scarce (Robertson 1929). Mammal burrows are modified and enlarged. One burrow is typically selected for use as the nest; however, satellite burrows are usually found in the immediate vicinity of the nest burrow within the defended territory of the owl. Open habitats and small rodent burrows were identified in the study area.

The closest CNDDDB records are located approximately five (5) miles south from 2007. A closer record is included in the ebird.com database from approximately 3.5 miles southeast from 2007. Records show that no burrowing owl have been recorded this far north in the San Bernardino Valley.

Portions of the site with heavily compressed soils and gravel within the parking area have low probability of being utilized by this species. Undisturbed alluvial fan sage scrub habitat in the southeastern half of the site and those areas around the margins of the parking area and railroad tracks where vegetation remains (and soils are slightly compacted) provide better burrow locations and are attractive to this species. These areas would provide moderate to good habitat for BUOW. In addition, small mammal burrows required by this species are present throughout the survey area.

Focused Burrowing Owl Survey

A focused burrowing owl survey was undertaken to determine presence or absence of BUOW in the survey and buffer area. Onsite, the majority of potentially suitable habitat is along the margins of the developed area, within the relatively undisturbed habitat in the southeastern half and, particularly, adjacent to the railroad tracks to the northwest. Debris piles within the developed area were also examined, as this owl can utilize manmade features. Surveys consisted of slowly walking the survey area and the 150-meter buffer zone or utilizing binoculars where access was restricted. All existing fossorial mammal burrows were thoroughly examined for evidence of BUOW, including molted feathers, prey remains, cast pellets, eggshell fragments, and excrement. No sign of BUOW was observed at or adjacent to any small mammal burrows or potential manmade burrows/holes. Surveys did not locate any BUOW in the survey area.

Raptor and Migratory Bird Nesting

No active raptor nest sites were observed during general biological, focused burrowing owl, or botanical surveys. Five (5) sycamores are present onsite, which may be suitable for nesting raptors and other birds, but no nest sites (either active or inactive) were observed during this study. Several mountain mahogany and other large bushes along with the scrub habitat can also provide potential habitat for migratory birds.

A few raptors were observed during surveys, including red tailed hawk (*Buteo jamaicensis*), red-shouldered hawk (*Buteo lineatus*), and American kestrel (*Falco sparverius*), but observations were sporadic and relatively uncommon.

Other Sensitive Species

Five (5) additional species were determined to have low or no potential for nesting or roosting in the survey area, but moderate or high potential to forage onsite: Cooper's hawk (*Accipiter cooperii*), sharp-shinned hawk (*Accipiter striatus*), prairie falcon (*Falco mexicanus*), western mastiff bat (*Eumops perotis californicus*), and western yellow bat (*Lasiurus xanthinus*).

3.5) Jurisdictional Delineation

The project site was evaluated using aerial and topographic maps and by field biologists. Cajon Wash runs parallel to the site and is located approximately 1,500 feet to the southwest. Cable Creek is located approximately 1,450 feet to the northeast. The survey area is located on an alluvial bench associated mainly with Cajon Wash, which would have historically flooded and scoured the site by high velocity flows. Channelization and flood control efforts upstream appear to have stopped these scouring events from occurring, except in the most extreme cases. There is no evidence of any kind of water conveyances, ditches, streams, overland flow or ponding onsite. No wetlands, hydric soils, riparian habitats, drainages, or recent surface flows were observed onsite during surveys.

3.6) Wildlife Corridors

Wildlife corridors link together areas of suitable wildlife 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. Various studies have concluded that in the absence of habitat linkages that allow movement to adjoining open space areas, some wildlife species (especially larger and more mobile mammals) will not likely persist

over time. Such fragmented or isolated habitat areas hinder the movement of new individuals and genetic information.

Corridors mitigate the effects of this fragmentation by:

- Allowing animals to move between remaining habitats, thereby permitting depleted populations to be replenished and promoting genetic exchange;
- Providing escape routes from fire, predators, and human disturbances, thus reducing the risk that catastrophic events (fire, disease, etc.) will result in population or local species extinction; and
- Serving as travel routes for individual animals as they move in their home ranges in search of food, water, mates, and other necessary resources.

Wildlife movement activities usually fall into one (1) of three (3) movement categories: dispersal (e.g., juvenile animals from natal areas or individuals extending range distributions), seasonal migration, and movements related to home range activities (e.g., foraging for food or water, defending territories, or searching for mates, breeding areas, or cover).

3.6.1) Survey Area

The survey area is bordered to the south by two (2) large industrial facilities, to the northeast by individual parcels of industrial and scattered residential properties, and to the northwest and southeast by disturbed undeveloped land. The survey area does support native habitat; however, this habitat is separated from outside native habitats by varied levels of disturbance and development. The survey area does not provide or fall within a movement corridor.

Cajon Wash (to the west) provides the closest major corridor, aiding wildlife movement from the San Bernardino and San Gabriel Mountains south all the way to the Santa Ana River. Water from Cajon Wash is funneled into a cement drainage at Foothill Boulevard, but returns to natural habitat where it empties into the Santa Ana River.

4.0) MITIGATION MEASURES

L&L recommends mitigation measures to minimize impacts to native wildlife and habitats, as well as sensitive species where impacts are considered significant. The project proponent will be responsible for the successful completion of the mitigation measures. Mitigation will occur concurrent with initial clearing and grubbing of the site.

The following Mitigation Measures (MM) have been developed for the Cajon Warehouse Project to minimize and mitigate potential impacts to natural resources onsite.

Vegetation

MM1. Prior to construction activities, work areas shall be fenced with highly visible fencing (e.g., orange construction fencing) to ensure impacts do not occur outside of the project footprint. Fencing locations shall be approved by a qualified biologist and verified in the field.

MM2. Five (5) sycamore trees and one (1) mountain mahogany were identified as of sufficient size to be regulated under the County of San Bernardino Development Code Section 88.01.070. As required under this code, a permit from the County will be required to remove these trees. Mitigation, if required, will be determined in coordination with the County. If required, replacement trees shall be planted prior to issuance of the Certificate of Occupancy.

MM3. Prior to first ground disturbance, the project Applicant shall prepare and implement a Storm Water Pollution Prevention Plan or SWPPP, employing all standard best management practices (BMPs) to prevent discharges from entering waters of the U. S. during construction. BMPs shall include but not be limited to:

- use of erosion control or sedimentation prevention methods, such as fiber rolls, sand bags, rice mats, straw wattles or similar measures, where appropriate;
- proper use and disposal of oil, gasoline, diesel fuel, antifreeze, and other toxic substances will be enforced; and
- use of silt fence and other measures will be required adjacent to any protected (jurisdictional) drainage.

Wildlife

- MM4. To prevent impacts to sensitive migratory and nesting birds, including raptors, clearing, or other work in native habitats, should be avoided during the critical nesting period of January 1 – September 1. If work cannot be avoided during this timeframe, a nesting bird survey will be conducted within three (3) days prior to clearing and/or grading, by a qualified biologist. If present, a nesting bird plan will be developed and implemented to include appropriate measures to mitigate potential impacts, including maintaining a buffer area until fledging has occurred. Active bird nests should be mapped utilizing a hand-held global positioning system (GPS) (getting as close as possible without disturbing the nest) and a buffer will be flagged around the nest (typically 300 feet for most species, 500-foot buffer for raptor nests, as determined appropriate by the biologist). Construction should not be permitted within the buffer areas while the nest continues to be active (eggs, chicks, etc.) Once fledging has occurred or the nest is determined to be inactive, no further avoidance is required.
- MM5. A pre-construction burrowing owl clearance survey shall be conducted no more than 30 days before soil disturbance (construction). The surveys will be conducted as close to the actual construction initiation date as possible. If burrowing owls are present, the project biologist will consult with local and state agencies, as appropriate, and develop a mitigation plan to follow the CDFW burrowing owl relocation protocol.

Invasive Vegetation Control

- MM6. All heavy equipment used will be washed, particularly the wheels and under carriage, prior to bringing it onto the Project site from other construction sites to prevent the spread of weedy species.
- MM7. Staging areas shall be placed in areas that have been previously disturbed or have degraded habitat within the project footprint, but do not show an infestation of non-native species. Staging areas will be maintained in a weed/noxious weed-free condition.

Construction Site

- MM8. All refuse created or brought onsite by clearing personnel or contractors must be placed in covered containers, removed from the site regularly, and disposed of properly.
- MM9. Field crews should maintain the speed limit on posted roads and limit vehicle/truck speeds on unpaved surfaces to 15 miles per hour.

5.0) ANALYSIS OF POTENTIAL EFFECTS

Direct impacts of the proposed Project are those that result from any ground-disturbing activities (i.e., vegetation removal, grading, paving, building of structures, installing landscaping, fuel modification, etc.) associated with the Cajon Warehouse Project designs. Impacts were calculated based on the Cajon Boulevard Site Plan by HPA Architecture (October 31, 2017, revised December 21, 2017) (Figure 4).

Direct impacts were evaluated with respect to general biological impacts, state and federal listed endangered or threatened species, species of Special Concern, and sensitive habitats. Direct impacts to jurisdictional features, including drainages and wetlands, and issues of local concern, such as the County of San Bernardino Municipal Code, were also evaluated. Indirect impacts can result from artificial lighting introduced by the proposed Project into native habitats, increased noise, dust, trash and vibrations, introduction of invasive plants, and intrusion into native vegetation during construction and following development.

5.1) Vegetation Impacts

This section includes impacts to habitats present in the project area. Long-term effects result mainly from permanent removal of habitat and direct and indirect impacts by construction and personal vehicles associated with the development.

5.1.1) Direct Effects

General Vegetation Impacts:

Due to an inconsistency in the site acreage listed on the parcel and project maps, L&L is evaluating the project as having the maximum amount of impacts possible so that if it is later determined one of the maps is incorrect or any project designs change this report will have included any possible impacts. Therefore, we are including the 1.1 acres of disturbed habitat east of the eastern fence line in the impact calculations.

Implementation of the proposed project would result in the estimated direct permanent loss of 21.2 acres (Figure 8). Impacts to 5.7 acres of native habitat, 8.3 acres of partially disturbed, and 7.2 acres of heavily disturbed or developed habitat adds to reduced availability of nest/den sites and foraging habitats for species that utilize alluvial fan sage scrub and disturbed habitats.

Table 7. Vegetation Communities Impacts.

Habitat	Acres	Impact Acres
<i>Lepidospartum squamatum</i> Alliance (Alluvial Fan Sage Scrub)	5.7	5.7
<i>Disturbed Lepidospartum squamatum</i> Alliance	8.3	8.3
Disturbed/Developed	7.2	7.2
Total	21.2	21.2

Tree Impacts:

San Bernardino County requires the issuance of a permit for removal of mature native trees and palm trees, including those that are not considered sensitive individually. Trees are present onsite that exceed six-inches diameter or 19 inches in circumference, as measured 4.5 feet above natural grade level. Impacts to these trees are unavoidable under the proposed project.

The following mitigation measures are proposed for impacts to habitat and vegetation. Each mitigation measure refers to the corresponding measure number detailed in Section 4.0.

- MM1. Prior to construction activities, work areas shall be fenced with highly visible fencing (e.g., orange construction fencing) to ensure impacts do not occur outside of the project footprint. Fencing locations shall be approved by a qualified biologist and verified in the field.
- MM2. Five (5) sycamore trees and one (1) mountain mahogany were identified as of sufficient size to be regulated under the County of San Bernardino Development Code Section 88.01.070. As required under this code, a permit from the County will be required to remove these trees. Mitigation, if required, will be determined in coordination with the County. If required, replacement trees shall be planted prior to issuance of the Certificate of Occupancy.

With the mitigation measures incorporated, impacts to vegetation communities and trees are considered less than significant.

5.1.2) Indirect Effects

Indirect impacts to habitat in the immediate project vicinity could potentially occur as a result of fugitive dust and invasive species. No indirect effects will occur to vegetation within the survey area, as all habitats are proposed for direct impacts. Indirect impacts to habitats adjacent to the survey area could occur.

Use of heavy equipment, exposing soils, and driving the site on unpaved surfaces will all result in higher than usual fugitive dust and emission levels during clearing and grading, which can affect the health of local wildlife and plants. Dust particles settling directly on vegetation can

produce physical shading, thereby reducing photosynthesis, blocking leaf stomata, and/or uptake into leaf tissues (Farmer 1993). These impacts can most notably reduce vegetation growth rates. Long-term impacts are expected to be similar to current levels. Normal BMPs require watering, when necessary, to reduce fugitive dust. Mitigation Measure 9 recommends limiting vehicle/truck speeds within the active construction site and on unpaved roads.

A potential increase in non-native species, which could impact native plant species, could occur along Project margins; however, the project margins are all currently heavily disturbed or developed and are already adjacent to disturbed or developed lands. An incremental increase in invasive species would be expected. New invasive and noxious weed species seed could be spread or introduced into the area by vehicles or machinery. Mitigation Measures 6 and 7 reduce potential to spread of noxious and non-native species by washing equipment prior to arriving at the Project site and limiting staging of equipment to areas not occupied by noxious weeds.

With the mitigation measures incorporated, indirect impacts to vegetation communities are considered less than significant.

5.2) Botanical Species

The site was evaluated for potential presence or absence of suitable habitat to support TEPC botanical resources. Prior to focused surveys, only Plummer's mariposa-lily (*Calochortus plummerae*), Parry's spineflower (*Chorizanthe parryi* var. *parryi*), slender-horned spineflower, and Santa Ana River woollystar were determined to have potential to occur in the survey area. They were not observed during the 2018 focused botanical survey. Following focused surveys, these species were determined to have a low or no probability of occurring in the survey area.

CNPS Inventory is considered an important resource supplementing CDFW and USFWS rankings on plants, because it focuses specifically on botanical species and ranks species to a more detailed level than state and federal agencies. Therefore, apart from state and federal listed threatened, endangered, and candidate species, CNPS ranking is generally used to evaluate significance. CNPS ranks species in three ways using 1-4, followed by an A or B (only for levels 1 or 2), and ending with 0.1-0.3 with the rarest as 1A.1 and the most common 4.3. Species ranked List 4 generally have a widespread distribution and few are eligible for state listing. Impacts to these species would likely only be considered significant on a local level, depending on distribution and population data. However, no sensitive botanical species were determined to have moderate or high probability of occurring or were observed during the botanical survey.

5.2.1) Direct Effects

No TEPC species were observed in the survey area during surveys. There are no recorded occurrences of TEPC species, nor does any designated or proposed critical habitat occur in the survey area. No impacts are expected to TEPC botanical species as a result of this proposed Project.

No sensitive species were observed in the survey area during surveys. There are no recorded occurrences of sensitive species in the survey area, although Parry's spineflower was previously recorded adjacent to the site in 1994. Based on the focused survey findings and the current condition of the site, no impacts are expected to sensitive botanical species as a result of this proposed Project.

5.2.2) Indirect Effects

Indirect impacts to sensitive botanical species in the immediate Project vicinity could result from "edge effects" similar to those outlined under vegetation above, including chemical emissions, fugitive dust, human presence, and invasive species; however, no indirect effects are expected within the survey area, as all habitats/plants are proposed for direct impacts. Indirect impacts to sensitive botanical species adjacent to the survey area could occur; however, habitats immediately adjacent to the site are already heavily disturbed or developed.

With the mitigation measures incorporated and due to lack of recorded sensitive species immediately adjacent to the site, indirect impacts to sensitive botanical species are considered less than significant.

5.3) Wildlife Species

No occurrences of listed TEPC wildlife were recorded or observed in the survey area, nor were any determined to have high or moderate potential to occur in the survey area. During the initial general biological survey, San Bernardino kangaroo rat was determined to have moderate potential of occurrence in the survey area, based on habitat and proximity to known populations; however, following a small mammal trapping study it was determined the species is not currently utilizing the survey area.

Two (2) sensitive wildlife species were observed during biological surveys, California horned lark and Los Angeles Pocket Mouse. A focused survey was conducted for BUOW after an initial habitat assessment determined species potential to occur in the survey area. No BUOW were

detected. Six (6) sensitive wildlife species were determined to have moderate potential of occurring onsite: California glossy snake, red-diamond rattlesnake, coast horned lizard, southern California rufous-crowned sparrow, Bell's sage sparrow, and Crotch bumble bee. Five (5) other sensitive wildlife species were determined to have high or moderate potential of foraging onsite, but did not have nesting or roosting habitat onsite: Cooper's hawk, sharp-shinned hawk, prairie falcon, western mastiff bat, and western yellow bat. Due to long-term disturbance and partial development of the site, no other species was determined to have suitable habitat onsite and high or moderate potential of occurring.

5.3.1) Direct Impacts

Surveys

SBKR is not currently occupying the survey area. No direct impacts are expected to this species. Although BUOW did not occupy the survey area at the time of focused surveys, the species is migratory and could move into the survey area where suitable habitat is present. Direct impacts to BUOW are not expected with the implementation of Mitigation Measure 4 (MM4), avoiding clearing and grubbing between January 1 and September 1 or conducting a nesting bird clearance, and MM5, conducting a pre-construction burrowing owl clearance survey.

Sensitive Species

In evaluating the rarity of the remaining species, the CNDDDB ranks species from S1 to S5 and 0.1-0.3 with the rarest as S1.1 and most common as S5. The definitions of these rankings identify S4 and S5 as secure in California and S3 as vulnerable, but not currently rare. Species ranked S4 and S5 typically exhibit relatively widespread distribution and species ranked S3 have not reached a level of threat and numbers or populations have not declined to a point that would cause them to be considered "rare". S3 species are either uncommon or require more data to monitor their status.

For purposes of determining significance in this analysis, only wildlife ranked S1 or S2 are considered "imperiled" or "endangered". Species ranked S3 need additional data, but they are generally limited in number or distribution. Impacts to Species S4 and S5 are considered less than significant. Appendix A includes the legend for species designations and outlines the definitions for each ranking. Only LAPM, California glossy snake, and Crotch bumble bee are ranked S1 or S2.

Larger mammal and bat species in the area are not expected to be directly impacted and are considered to have low potential for impacts, based on their high mobility levels and lack of roosting or denning habitat observed. Although, it is possible that potential roosting or denning habitat does occur in the Project impact area or that burrows went unobserved. In addition, the possibility cannot be eliminated that these species could be hit by construction vehicles or trapped in a roost/den location. Take of these species is possible; however, the wide territories of these species, open habitat just beyond the adjacent development, and the nocturnal habits of many species reduce potential for impacts.

Avian species have low-moderate potential of being directly impacted, based on their mobility and relatively slow-moving construction equipment, but if active nests are present within the Project area, eggs and juveniles have high potential of being impacted. The proposed project will directly impact 5.68 acres of occupied California horned lark habitat and could potentially impact southern California rufous-crowned sparrow and Bell's sage sparrow.

Small mammal, reptile, and insect species have higher potential to be impacted by construction activities. Reptile populations observed were considered lower than expected during surveys and although no specific reason (other than general disturbance and human presence is attributed), if accurate, this would indicate a lower population overall and lower potential for impacts. Small mammals, reptiles, and insects can be very mobile, but often hide or rest in subsurface burrows or in debris piles and could be impacted during clearing, grubbing, dirt moving, or construction. During construction, noise, activity, and presence of humans on the worksite will likely discourage wildlife from the site during working hours, but these species may take refuge around the equipment or in subsurface burrows and debris piles in off hours.

The proposed project will directly impact 5.68 acres of occupied LAPM habitat and could potentially impact California glossy snake, red-diamond rattlesnake, coast horned lizard, and Crotch bumble bee. The survey area is considered marginal habitat because it is either heavily disturbed/developed or choked with non-native grasses. Dispersal and home ranges for LAPM are small and the relative isolation of the current site will likely result in limiting the transfer of genetic material and adaptation to environmental conditions.

The noise, activity, and presence of humans on the worksite will likely discourage many species of wildlife from the site during working hours, depending on the mobility of the species. More mobile species will move away from active construction zones into adjacent open lands. Wildlife may take refuge around the equipment in off hours and, if present, could be injured or killed by construction vehicles or passenger vehicles when vehicles are first started/moved,

when species are moving through the construction zones, or when hiding within the impact area.

It is possible that if these species are present at the time of construction there may be some direct impacts to individuals. The survey area is not considered to have long-term conservation value for these species, as the habitat is either heavily disturbed/developed or choked with non-native grasses and is separated by development from healthy open habitat. The species discussed above generally have a wide range within southern California and most utilize a variety of habitats. This Project would not remove a substantial amount of habitat or range from any of these species. Large tracts of suitable habitat will remain in the Project vicinity; thus, impacts to these species are not expected to appreciably affect the overall population or range.

Additional species, Cooper's hawk, sharp-shinned hawk, prairie falcon, western mastiff bat, and western yellow bat have moderate potential to forage in the habitat or immediately adjacent to the proposed impact area. Impacts to foraging habitat for these species would be considered adverse, but not significant, because extensive open foraging habitat is available in the project vicinity throughout Cajon Wash, Cable Creek, and within undeveloped lands in the area.

Conservation/Mitigation

San Bernardino County has designated numerous Major Open Space Areas where the County plans to focus their conservation efforts on areas of environmental value, while concentrating development in small areas. The survey area is within Major Open Space Area 52, Cajon Pass, which encompasses upper Cajon Wash. The Cajon Pass description says the following:

The Cajon Pass area separates the Angeles and San Bernardino National Forest and is in an area which animals must cross to travel between forests. This area also contains important riparian habitat and natural areas. Wildlife dispersion and habitat values in this area should be maintained, potentially by consolidating public/private ownership to prevent damage to important dispersion areas and habitat.

With the conservation of healthy habitat within large portions of upper Cajon Wash and Cable Creek so close to the survey area, additional conservation within Cajon Wash and other major drainages within San Bernardino County (and conservation within Riverside County as well, under the western Riverside County MSHCP), suitable habitat for both sensitive and common species of wildlife (in particular, occupied LAPM locations) will be conserved. This will likely support the long-term conservation goals of these sensitive species better than preserving small individual and isolated parcels.

Mitigation Measures have also been incorporated to minimize direct impacts to sensitive wildlife species. (MM1) flagging or fencing the impact area to prevent unintended impacts, (MM4) avoiding clearing and grubbing between January 1 and September 1 or conducting a nesting bird clearance will reduce impacts to nesting birds, eggs, or dependent juveniles during construction (although intended to minimize impacts to nesting birds, avoidance of this period would also reduce impacts to other breeding species), (MM5) preconstruction survey for burrowing owls, and (MM8) all refuse will be placed in covered containers and removed regularly so as to reduce potential for attracting wildlife to an unsafe construction zone where they may be trapped or injured. This will also reduce opportunistic predatory wildlife such as crows, ravens, coyotes, dogs etc., which might otherwise be expected to increase in numbers and impact prey species.

With the mitigation measures incorporated, impacts to sensitive wildlife species are considered less than significant.

5.3.2) Indirect Effects

Habitat fragmentation will consist of the loss of 5.7 acres of native habitat, 8.3 acres of disturbed native habitat, and 7.2 acres of heavily disturbed and developed areas. The Project is located adjacent to developed lands, including the railroad, industrial warehouse and light industrial lots along Kendall Drive, and heavily disturbed lands to the northwest and southeast. Indirect impacts are expected to be very limited.

Amphibian, reptile, avian, mammal, and insect species may experience indirect impacts from construction, including increases in noise, chemical emissions, and vibration resulting in avoidance and abandonment of the area. Movement of species could concentrate populations, increase competition for resources in adjacent habitats, and leave displaced individuals vulnerable to predation. Those species that may use the Project area for foraging will still have access to large expanses of natural habitat in the project vicinity within Cajon Wash, to the south and west. Due to the generally open area, emissions should disperse.

Although species will be displaced and may alter behavior, Mitigation Measures (4-5) which recommend clearing and grubbing be conducted outside the nesting bird season (or, if work cannot be avoided, nesting bird surveys be conducted prior to impacts), will prevent impacts to eggs and juveniles. If avoidance is possible, it will also reduce impacts to all wildlife during typical reproduction periods. With the presence of substantial habitat of equal or better quality to the south and west, the project vicinity can provide sufficient foraging and nesting habitat.

Increases in invasive plant species could affect the diet of small herbivorous mammal species by displacing their primary food sources. The survey area supports non-native species as a result of long term disturbance. Development has the potential to increase invasive species along the perimeter of the impact area; however, project margins are already heavily disturbed or developed. An incremental increase in invasive species would be expected.

Areas of similar or superior habitat occur to the south and west of the project site, just on the other side of existing industrial buildings. This area would be an available food source for local wildlife if invasive species reduce native vegetation along the perimeter of the site. Mitigation Measures 6 and 7 are incorporated to minimize increases in invasive vegetation.

After completion of construction, noise levels adjacent to the site will be increased over current conditions at those locations, but are not expected to exceed industrial noise standards or those levels associated with the adjacent active railroad. The project site is approximately 350 feet from any significant healthy habitat and distance will reduce noise levels in these habitat areas.

With mitigation measures incorporated, indirect impacts to sensitive wildlife species are considered less than significant due to minimization of impacts.

5.4) Jurisdictional Features/Hydrology

No aquatic or vernal pool habitats were observed within the survey area. No jurisdictional features were identified within the survey area.

5.4.1) Effects

No direct or indirect effects are expected to state or federal jurisdiction, as determined by the State of California, Department of Fish and Wildlife, and Army Corps of Engineers.

5.5) Migratory Birds

Migratory birds include common, sensitive, and listed species. They can utilize AFSS and trees in the survey area for nesting. Impacts to migratory birds (other than those species specifically addressed elsewhere in this document) under this rule are limited to nesting.

5.5.1) Direct Effects (to nesting)

Approximately 5.7 acres of native habitat, 8.3 acres of disturbed native habitat, and 7.2 acres of heavily disturbed and developed areas would be permanently impacted by clearing. If active nests are present in the impact area at the time of construction, there could be direct impacts to eggs and juveniles. Mitigation Measure 4, avoiding clearing and grubbing between January 1 and September 1 or conducting a preconstruction nesting bird clearance survey, will prevent impacts to nesting birds, eggs, or dependent juveniles.

With mitigation measures incorporated, impacts to migratory birds are considered less than significant.

5.5.2) Indirect Effects (to nesting)

Human presence, noise, chemical emissions, predation, and vibration impacts could result from clearing and avoidance and abandonment of the area is likely. With Mitigation Measure 4, avoiding clearing between January 1 and September 1 or conducting a preconstruction nesting bird clearance survey, impacts to nesting birds and their young should be prevented.

With mitigation measures incorporated, indirect impacts to migratory birds are considered less than significant.

5.6) Wildlife Corridors

The project site does not connect large areas of native habitat and does not provide a movement corridor for wildlife. The site is bound by development and disturbed undeveloped land. In the project vicinity, Cajon Wash to the west creates the most significant corridor in the area, connecting the mountains and the Santa Ana River.

5.6.1) Direct Effects

No direct effects are expected to wildlife corridors as a result of the proposed Project.

5.6.2) Indirect Effects

The proposed Project is separated from Cajon Wash by a large industrial facility. The northern most edge of the site comes closest to the corridor, at approximately 585 feet. The project site is far enough from the wash that no indirect impacts are expected.

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APPENDIX A

Tables

Table 8. Species observed/detected (n=100).

Non-native (X) Sensitive (†)	SCIENTIFIC NAMES	COMMON NAMES
	FLOWERING PLANTS (68)	
	Angiosperms	Eudicots & Magnoliids
	Class Dicotyledones	Dicots
	AMARANTHACEAE	PIGWEEED FAMILY
X	<i>Amaranthus albus</i>	Tumble Pigweed
	<i>Cycloloma atriplicifolium</i>	Winged Pigweed
X	<i>Dysphania pumilio</i>	Clammy Goosefoot
	ANACARDIACEAE	SUMAC FAMILY
	<i>Rhus trilobata</i>	Skunkbrush
	<i>Toxicodendron diversilobum</i>	Poison Oak
	ASTERACEAE	SUNFLOWER FAMILY
	<i>Ambrosia acanthicarpa</i>	Annual Bur-Weed
	<i>Artemisia californica</i>	California Sagebrush
	<i>Baccharis salicifolia</i>	Mulefat
	<i>Helianthus annuus</i>	Common Sunflower
	<i>Heterotheca grandiflora</i>	Telegraph Weed
X	<i>Hypochaeris glabra</i>	Smooth Cat's Ear
X	<i>Lactuca serriola</i>	Prickly-lettuce
	<i>Lepidospartum squamatum</i>	Scale-broom
X	<i>Matricaria discoidea</i>	Pineapple Weed
X	<i>Sonchus oleraceus</i>	Sow-thistle
	<i>Stephanomeria virgata</i>	Virgate wreath plant
X	<i>Verbesina encelioides</i>	Golden Crown Beard
	BORAGINACEAE	BORAGE FAMILY
	<i>Amsinckia intermedia</i>	Common Fiddleneck
	<i>Cryptantha</i> species	Forget-Me-Not
	<i>Pectocarya linearis</i>	Slender Pectocarya
	<i>Plagiobothrys</i> species	Popcorn Flower
	BRASSICACEAE	MUSTARD FAMILY
X	<i>Hirschfeldia incana</i>	Short-pod Mustard
	<i>Lepidium nitidum</i>	Shiny Peppergrass
X	<i>Lobularia maritima</i>	Sweet Alyssum
X	<i>Sisymbrium irio</i>	London Rocket
X	<i>Sisymbrium orientale</i>	Field Mustard
	CACTACEAE	CACTUS FAMILY
	<i>Opuntia sp. (littoralis?)</i>	Beavertail Cactus
	CHENOPODIACEAE	GOOSEFOOT FAMILY
X	<i>Salsola tragus</i>	Prickly Russian Thistle
	CRASSULACEAE	STONECROP FAMILY
	<i>Crassula sp.</i>	Unidentified Stonecrop
	CUCURBITACEAE	GOURD FAMILY
	<i>Cucurbita palmata</i>	Coyote Gourd
	<i>Marah macrocarpus</i>	Wild-cucumber
	EUPHORBIACEAE	SPURGE FAMILY
	<i>Croton californicus</i>	California croton
	<i>Croton setigerus</i>	Doveweed
	FABACEAE	PEA FAMILY
	<i>Acmispon glaber</i>	Deerweed
	<i>Acmispon strigosus</i>	Strigose Lotus
	<i>Lupinus bicolor</i>	Miniature lupine
	GERANIACEAE	GERANIUM FAMILY
X	<i>Erodium cicutarium</i>	Red-stemmed Filaree
X	<i>Erodium botrys</i>	Long-beaked Storksbill
	HYDROPHYLLACEAE	WATERLEAF FAMILY

Non-native (X) Sensitive (†)	SCIENTIFIC NAMES	COMMON NAMES
	<i>Eriodictyon trichocalyx</i>	Yerba santa
	<i>Phacelia distans</i>	Distant Phacelia
	MALVACEAE	MALLOW FAMILY
X	<i>Malva parviflora</i>	Cheeseweed
	ONAGRACEAE	EVENING PRIMROSE FAMILY
	<i>Cammisoniopsis bistorta</i>	Sun Cup
	<i>Cammisoniopsis</i> species	Unidentified Evening Primrose
	<i>Eulobus californicus</i>	Mustard Evening Primrose
	PLATANACEAE	SYCAMORE FAMILY
	<i>Platanus racemosa</i>	California Sycamore
	POLEMONIACEAE	PHLOX FAMILY
	<i>Gilia</i> species	Unidentified Gilia
	POLYGONACEAE	BUCKWHEAT FAMILY
	<i>Eriogonum fasciculatum</i> var. <i>foliolosum</i>	Leafy California buckwheat
	<i>Eriogonum gracile</i>	Slender Buckwheat
	<i>Eriogonum thurberi</i>	Thurber's Buckwheat
	<i>Rumex hymenosepalus</i>	Canaigre Dock
	PORTULACACEAE	PURSLANE FAMILY
	<i>Calandrinia ciliate</i>	Red Maids
	RHAMNACEAE	BUCKTHORN FAMILY
	<i>Rhamnus crocea</i>	Spiny Redberry
	ROSACEAE	ROSE FAMILY
	<i>Adenostoma fasciculatum</i>	Chamise
	<i>Cercocarpus betuloides</i> var. <i>betuloides</i>	California mountain mahogany
	SOLANACEAE	NIGHTSHADE FAMILY
	<i>Datura wrightii</i>	Jimson Weed
X	<i>Nicotiana glauca</i>	Tree Tobacco
	ZYGOPHYLLACEAE	CALTROP FAMILY
X	<i>Tribulus terrestris</i>	Puncture Vine
	Class Monocotyledones	Monocots
	AGAVACEAE	AGAVE FAMILY
	<i>Hesperoyucca whipplei</i>	Chaparral Yucca
	POACEAE	GRASS FAMILY
X	<i>Avena barbata</i>	Slender Wild Oat
X	<i>Avena fatua</i>	Wild Oats
X	<i>Bromus diandrus</i>	Ripgut Grass
X	<i>Bromus madritensis</i> ssp. <i>rubens</i>	Foxtail Chess
X	<i>Bromus tectorum</i>	Cheatgrass
X	<i>Pennisetum setaceum</i>	African Fountain Grass
X	<i>Cenchrus</i> sp.	Sandbur
X	<i>Schismus barbatus</i>	Mediterranean Schismus
X	<i>Triticum aestivum</i>	Wheat
	THEMIDACEAE	BRODIAEA FAMILY
	<i>Dichelostemma capitatum</i>	Wild Hyacinth
	VERTEBRATES	
	CLASS REPTILIA	REPTILES (2)
	IGUANIDAE	IGUANIDS
	<i>Uta stansburiana</i>	Side-blotched Lizard
	COLUBRIDAE	COLUBRIDS
	<i>Masticophis flagellum</i>	Coachwhip

Non-native (X) Sensitive (†)	SCIENTIFIC NAMES	COMMON NAMES
	CLASS AVES	BIRDS (22)
	ACCIPITRIDAE	BUTEOS, KITES AND HAWKS
	<i>Buteo jamaicensis</i>	Red-tail Hawk
	<i>Buteo lineatus</i>	Red-shouldered hawk
	AEGITHALIDAE	LONG-TAILED TIT
	<i>Psaltriparus minimus</i>	Bushtit
	ALAUDIDAE	LARK
†	<i>Eremophila alpestris</i>	Horned Lark
	CATHARTIDAE	VULTURES
	<i>Cathartes aura</i>	Turkey vulture
	CHARADRIIDAE	PLOVERS
	<i>Charadrius vociferus</i>	Killdeer
	COLUMBIDAE	DOVES AND PIGEONS
X	<i>Columba livia</i>	Rock Pigeon
	<i>Zenaidura macroura</i>	Mourning Dove
	CORVIDAE	JAY AND CROW FAMILY
	<i>Corvus brachyrhynchos</i>	American Crow
	<i>Corvus corax clarionensis</i>	Common Raven
	EMBERIZIDAE	SPARROWS AND TOWHEES
	<i>Zonotrichia leucophrys</i>	White-crowned Sparrow
	FALCONIDAE	FALCONS AND CARACARAS
	<i>Falco sparverius</i>	American Kestrel
	FRINGILLIDAE	NEW WORLD SEEDEATERS
	<i>Carduelis psaltria</i>	Lesser Goldfinch
	<i>Carpodacus mexicanus frontalis</i>	House Finch
	ICTERIDAE	ICTERID
	<i>Sturnella neglecta</i>	Western Meadowlark
	MIMIDAE	MOCKINGBIRD
	<i>Mimus polyglottos polyglottos</i>	Northern Mockingbird
	ODONTOPHORIDAE	QUAIL
	<i>Callipepla californica californica</i>	California Quail
	PASSERIDAE	OLD WORLD SPARROW
	<i>Passer domesticus</i>	House Sparrow
	TROCHILIDAE	HUMMINGBIRD
	<i>Calypte anna</i>	Anna's Hummingbird
	TYRANNIDAE	TYRANT FLYCATCHERS
	<i>Sayornis nigricans</i>	Black Phoebe
	<i>Tyrannus verticalis</i>	Western Kingbird
	TYTONIDAE	BARN AND BAY OWLS
	<i>Tyto alba</i>	Barn owl
	CLASS MAMMALIA	MAMMALS (8)
	LEPORIDAE	RABBITS AND HARES
	<i>Sylvilagus audubonii</i>	Cottontail
	SCIURIDAE	SQUIRRELS
	<i>Spermophilus beecheyi</i>	California Ground Squirrel
	GEOMYIDAE	POCKET GOPHERS
	<i>Thomomys bottae</i>	Southern Pocket Gopher
	HETEROMYIDAE	POCKET MICE AND KANGAROO RATS
†	<i>Perognathus longimembris brevinasus</i>	Los Angeles pocket mouse (trapped)
	<i>Dipodomys simulans</i>	Dulzura kangaroo rat (trapped)
	CRICETIDAE	CRICETINE MICE AND RATS
	<i>Peromyscus eremicus</i>	Cactus mouse (trapped)
	<i>Peromyscus maniculatus</i>	Deer mouse (trapped)
	CANIDAE	DOGS, FOXES AND ALLIES
	<i>Canis latrans</i>	Coyote

Table 9. Sensitive species probability table.

Special Status Species	Habitat and Distribution	Flower season	Status Designation	Occurrence Probability
Plants (61)				
<i>Ambrosia monogyra</i> Singlewhorl burrobrush	Chaparral & Sonoran Desert scrub. Sandy soils Washes & dry river beds. Elev. 32-1902 ft. Records near Devore are over 50 years old, except 1 in 2000 and most occur in an active wash near the confluence of Lytle Creek Wash and Cajon Wash.	Aug - Nov	Fed: None Calif: S2 CNPS: 2B.2	Very Low-Absent (survey results, distinct genus even before blooming)
<i>Arctostaphylos glandulosa</i> ssp. <i>gabrielensis</i> San Gabriel manzanita	Chaparral. Rocky areas, granitic soils. Elev. 595-1500 m. Outer south Coast Ranges, Sierra Madre Mts. San Gabriel Mts. Known only from the San Gabriel Mts. In southern California.	March	Fed: None Calif: S3 CNPS: 1B.2 USFS: S	Absent (no suitable habitat, below elev. Range, survey results)
<i>Arenaria paludicola</i> Marsh sandwort	Mainly in wetlands & freshwater marshes in a Mediterranean climate, 0-1476 ft. Can grow in saturated acidic bog soils & sandy soils with a high organic content. Occur in WA as well as San Fran, Santa Cruz, San Luis Obispo, & San Bern Cos. in Cal. Only CNDDDB record in the area is from 1899. 6 records in CalFlora all from 1880s. Closest over 5 miles s. Thought extirpated in area.	May - August	Fed: END Calif: END CNPS: 1B.1	Absent (no suitable habitat, above elev. Range, thought extirpated, survey results)
<i>Asclepias nyctaginifolia</i> Mojave milkweed	Mojavean desert scrub, Pinon & juniper woodlands. Elevational range 875-1700m. Only known record (CalFlora) in southern CA is a single record from 1916 on the north side of the Cajon Pass	May-June	Fed: None Calif: S2 CNPS: 2B.1.	Absent (Below elev. Range, no suitable hab, survey results)
<i>Astragalus hornii</i> var. <i>hornii</i> Horn's milk-vetch	Sandy flats, meadows & seeps, playas. Along lake margins, alkali sites 60-850m. San Joaquin Valley, South Coast, Western Transverse Ranges, Western edge of the Mojave Desert. Only record (CNDDDB & Calflora) from 1800s 7 mi se of site. Thought extirpated from the area.	May - Oct	Fed: None Calif: S1 CNPS: 1B.1.	Absent (no suitable wet areas or alkali soils, thought extirpated, survey results)
<i>Astragalus lentiginosus</i> var. <i>Antonius</i> San Antonio milk-vetch	Lower and upper montane coniferous forest. Elevation 1500-2600m. Endemic to CA. Records only in the San Gabriel Mts. On Mt. San Antonio and the northern slopes.	April - July	Fed: None Calif: S2 CNPS: 1B.3 USFS: S	Absent (well Below elev. Range, no suitable hab, survey results)
<i>Berberis nevinii</i> Nevin's barberry	Coastal sage scrub, chaparral, oak woodland, riparian scrub on sandy or gravelly soils usually below 2700 ft.; scattered localities in LA, San Bernardino, Riverside, & San Diego Cos. None known from the northern portion of the Valley near Devore, Fontana, Rialto, City of San Bernardino. Closest Record is Redlands.	Mar - June (can ID all yr.)	Fed: END Calif: END CNPS: 1B.1	Absent (Readily identifiable year round, not known from the area, survey results)
<i>Botrychium crenulatum</i> Scalloped moonwort	Bogs & fens, lower & upper montane coniferous forest, meadows & seeps, marshes & swamps. 1250-3280 m. Scattered, but not common in CA. Known only in so. CA from the high elevations of the San Gabriel and San Bernardino Mts.	June - Sept	Fed: None Calif: S3 CNPS: 2B.2 USFS: S	Absent (well Below elev. Range, no suitable hab, survey results)

Special Status Species	Habitat and Distribution	Flower season	Status Designation	Occurrence Probability
<i>Botrychium minganense</i> Mingan moonwort	Bogs & fens, lower & upper montane coniferous forest, meadows & seeps, wetlands. Elevational range 1455-2180 m. Almost all records in central and northern CA. One record in the San Gabriel Mts 2012 Calflora.	July-Sept.	Fed: None Calif: S3 CNPS: 2B.2 USFS: S	Absent (well Below elev. Range, no suitable hab, survey results)
<i>Brodiaea filifolia</i> Thread-leaved brodiaea	Grasslands, vernal pools/alkali sink in inland valleys; often on upland heavy clay soils nearer coast; scattered in southern CA foothills & valleys (LA Co. to S. Bern. & San Diego Cos.) below ±2500 ft. elev. Closest records in foothills, valley records approx.. 7 miles se.	May - June	Fed: THR Calif: END CNPS: 1B.1	Absent (No suitable soils, clay or alkali, survey results)
<i>Calochortus palmeri</i> var. <i>palmeri</i> Palmer's mariposa-lily	Usually in wetlands, in meadows, chaparral, riparian & pine forest. Elevational range 710-2390 m In the San Jacinto Mts., Tehachapi Mt, Transvers Ranges.	April - July	Fed: None Calif: S2 CNPS: 1B.2 USFS: S	Absent (Below elev. Range, no suitable habitat, survey results)
<i>Calochortus plummerae</i> Plummer's mariposa-lily	Chaparral, coastal scrub, pine forest, valley & foothill grassland, 100-1700 m elev.; widespread but uncommon throughout S CA mtns., foothills, & valleys Numerous records including several in the Cajon and Lytle Creek Wash area often on a terrace. Closest record 0.75 mi s.	May - July	Fed: None Calif: S4 CNPS: 4.2	Low (suitable habitat, records in the area, survey results)
<i>Canbya candida</i> White pygmy-poppy	Joshua tree woodland, Mojavean desert scrub, pinyon and juniper woodland. Sandy places. 600-1460 m. Records are all from the high desert and further north. None known from south of the San Bernardino and San Gabriel Mts.	Mar - June	Fed: None Calif: S3S4 CNPS: 4.2 USFS: S	Absent (Below elev. Range, no suitable habitat, survey results)
<i>Carex comosa</i> Bristly sedge	Marshes & swamps, lake margins, valley & foothill grassland, coastal prairie, wet places -5-1005m. Only 2 records from so. CA. are from the 1880s in City of San Bernardino and Rialto approx. 7 mi s.	May - Sept	Fed: None Calif: S2 CNPS: 2B.1	Absent (no suitable habitat, no recent records in So. CA, survey results)
<i>Castilleja lasiorhyncha</i> San Bernardino Mountain's owl's-clover	Montane Meadows, pebble pavement/plain moist edges of springs/seeps on clay soil in San Bernardino Mts. Wet meadows, openings in coniferous forest. Soil at Cuyamaca Lake historic population Holland stony fine sandy loam, loamy alluvial land. Distributed in San Diego & Riv. Co. between Tahquitz & Little Tahquitz Valley in the San Jacinto Mts, San Bern. Co. near Big Bear Lake and Lake Arrowhead. Elev. Range 1300-2390m	May - August	Fed: None Calif: S2? CNPS: 1B.2 USFS: S	Absent (Well below elev. Range, no suitable habitat, survey results)
<i>Centromadia pungens</i> ssp. <i>laevis</i> Smooth tarplant	Seasonally wet low elev. Grassland, also fallow fields, drainage ditches; primarily in SW Riverside Co, but a few sites in interior valleys of LA, San Bern., San Diego Cos. Elevational range from 0-640m Almost all records are south with the majority in west Riverside Co. Closest record is 4 mi south	April - Sept	Fed: None Calif: S2 CNPS: 1B.1	Low (margin of geog. Range, poor habitat, survey results)

Special Status Species	Habitat and Distribution	Flower season	Status Designation	Occurrence Probability
<i>Chloropyron maritimum</i> ssp. <i>maritimum</i> Salt marsh bird's-beak	Coastal salt marsh & coastal dunes. Limited to the higher zones of the salt marsh habitat. Below 100 ft. elevation only one record in San Bern. Co. from 1888	May - Oct	Fed: END Calif: END CNPS: 1B.2	Absent (no suitable hab. Only 1 historic record in area, survey results)
<i>Chorizanthe parryi</i> var. <i>parryi</i> Parry's spineflower	LA, San Bernardino, & Riverside Cos.; sandy places in alluvial washes, coastal or desert scrublands, valley & foothill grasslands, 1000-4000 ft. elev. Several records in the Cajon and Lytle Creek Wash area. 1994 Records immediately adjacent to site prior to construction 10,000 plants.	April - June	Fed: None Calif: S2 CNPS: 1B.1 USFS: S	Low Similar habitat to adjacent site identified as having 10,000 plants in 1994, however survey results negative)
<i>Chorizanthe xanti</i> var. <i>leucotheca</i> White-bracted spineflower	Sandy or gravelly soil, desert shrubland, pinyon-juniper woodland, 300-1200 m elev.; E San Bernardino & N San Jacinto Mts. Records in this area are from in and near Cajon Pass. Closest record 1.5 miles nw, just south of the I215 & I15 interchange from 1979.	April - June	Fed: None Calif: S3 CNPS: 1B.2 USFS: S	Low (marginal habitat, old record from the area, survey results)
<i>Cladium californicum</i> California saw-grass	Meadows & seeps, marshes & swamps, alkaline or freshwater. 60-865 m. Known from fewer than 20 locations in CA. one in San Bern. Co from 1916. Presumed extirpated from the LA & San Bern. And Riverside areas.	June - Sept	Fed: None Calif: S2 CNPS: 2B.2 USFS: S	Absent (no suitable hab. Thought extirpated from the area, survey results)
<i>Claytonia lanceolata</i> var. <i>peirsonii</i> Peirson's spring beauty	Subalpine coniferous forest, upper montane coniferous forest, wetland riparian habitats. Elev. Range 1510-2745m. Known only from the San Gabriel Mts. Except one Calflora Record in Kern.	May - June	Fed: None Calif: S1 CNPS: 3.1 USFS: S	Absent (Well below elev. Range, no suitable hab, survey results)
<i>Cuscuta obtusiflora</i> var. <i>glandulosa</i> Peruvian dodder	Freshwater marshes & swamps. Elevation 15-280m. Only San Bernardino Co. record is from 1890 along Warm Creek. Location unknown. Presumed extirpated.	July - Oct	Fed: None Calif: SH CNPS: 2B.2	Absent (above elev. Range, no suitable hab, presumed extirpated, survey results)
<i>Deinandra mohavensis</i> Mojave tarplant	Moist sites & openings in chaparral, desert scrub & woodlands; S. High Sierra Nevada, only one record in San Bernardino Co. N. San Bernardino Mts. (extirpated) Peninsular Ranges, W. edge Mojave Desert. 2100-5249ft. elev.	May - Jan	Fed: None Calif: END CNPS: 1B.3 USFS: S	Absent (below elev. Range, no suitable hab, extirpated from SBCo, survey results)
<i>Dodecahema leptoceras</i> Slender-horned spineflower	Open, sandy alluvial benches in valleys & canyons. Shrubland & cismontane woodland; San Fernando Valley, Santa Ana River Valley, W Riverside Co. Range 650-2500 ft. El. Two records northwest of site from 1980s both records on wash terraces.	April - June	Fed: END Calif: END CNPS: 1B.1	Low (historic sandy benches/terrace onsite, records in the area, survey results)

Special Status Species	Habitat and Distribution	Flower season	Status Designation	Occurrence Probability
<i>Eremothera boothii</i> ssp. <i>boothii</i> Booth's evening-primrose	This species occurs in sandy flats, steep loose slopes, washes & bajadas, often in Joshua tree & pinyon/juniper woodlands. 815-2400m. elev. No records in sw San Bernardino Co or western Riverside Co.	June - August	Fed: None Calif: S2 CNPS: 2B.3	Absent (below elev. Range, some hab. elements likely out of geog. Range, survey results)
<i>Eriastrum densifolium</i> ssp. <i>sanctorum</i> Santa Ana River woollystar	Shrubland, alluvial fans & plains; sandy or gravely soil. endemic to Santa Ana River water-shed, Orange Co. to San Bern. Co. Records within Cajon Wash. Most recent (2013) from benches within the active wash. Species prefers areas subjected to recent flow, but does occur on older benches. Closest record 0.75 mi se	April - Sept	Fed: END Calif: END CNPS: 1B.1	Low (site is historic alluvial bench, but not subject to recent flooding due to changes to water flow, survey results)
<i>Eriogonum microthecum</i> var. <i>johnstonii</i> Johnstons' buckwheat	Subalpine coniferous forest & upper montane coniferous forest. Slopes & ridges on granite or limestone. Typically, among rock 1829-2926 m, San Gabriel & San Bernardino Mts.	July - Sept	Fed: None CA: S2 CNPS: 1B.3 USFS: S	Absent (well below elev. Range, no suitable hab, survey results)
<i>Fimbristylis thermalis</i> Hot springs Fimbristylis	Found in fresh water wetlands, freshwater marsh, mineralized sands of springs, meadows & alkaline seeps. Elevational Range 360-4400 ft. Local records are from the San Gabriel and San Bernardino Mts.. Few records in So. CA. Only one from San Bernardino Valley is from 1895	July - Sept	Fed: None Calif: S1S2 CNPS: 2B.2	Absent (no suitable habitat. No records in the area, survey results)
<i>Galium californicum</i> ssp. <i>primum</i> Alvin meadow bedstraw	Chaparral, lower montane coniferous forest. Granitic, sandy soils. Grows in shade of trees & shrubs at the lower edge of the pine forest (pine/chaparral ecotone). Elev. Range 1350-1700m. Records are all from San Jacinto Mts. Except 1 near Reche Canyon from 1891	May - July	Fed: None Calif: S1 CNPS: 1B.2 USFS: S	Absent (well below elev. Range, no suitable hab, out of current geogr. Range, survey results)
<i>Helianthus nuttallii</i> ssp. <i>parishii</i> Los Angeles sunflower	Coastal fresh water marshes & swamps below 5500 ft. elev. Distributed in SW Calif. PRESUMED EXTINCT. Last seen in 1937.	Aug - Oct	Fed: None Calif: SH CNPS: 1A	Absent (no suitable hab. Presumed extinct, survey results)
<i>Heuchera parishii</i> Parish's alumroot	Rocky areas, Alpine boulder, & rock field, lower & upper montane & subalpine coniferous forest in the San Bernardino Mountains. Elevation 1500-3800 m.	June - August	Fed: None Calif: S3 CNPS: 1B.3 USFS: S	Absent (Well below elev. Range, no suitable hab, survey results)
<i>Horkelia cuneata</i> ssp. <i>puberula</i> Mesa Horkelia	Perennial herb found in chaparral, cismontane woodland & coastal scrub on sandy or gravely soils. Elevational range 229-2296 ft.	Feb - July (Sept rare)	Fed: None Calif: S1 CNPS: 1B.1 USFS: S	Absent (Potentially suitable habitat, but not known from the Cajon Wash area, survey results)
<i>Imperata brevifolia</i> California satintail	Perennial herb found in wet springs, meadows, streamsides, flood plains in chaparral, coastal scrub, Mojavean desert scrub. San Joaquin Valley, San Gabriel & San Bern. Mts. Elev. Range 0-1640ft. Sw San Bern. Co. Records are all in the mts. Or before 1938 Except 1 in Highland	Sept-May	Fed: None Calif: S3 CNPS: 2B.1 USFS: S	Absent (no suitable habitat. Site above elev. Range, No records in the area, survey results)

Special Status Species	Habitat and Distribution	Flower season	Status Designation	Occurrence Probability
<i>Lepidium virginicum</i> var. <i>robinsonii</i> Robinson's pepper-grass	Shrublands (chaparral & coastal sage scrub). 1-885 m elev. Los Angeles Co., inland to Riverside & San Bernardino Cos, & S to Baja Calif. Only records in San Bernardino Co are along the Santa Ana River, except 1 record in City of San B. from 1884. Closest rec. 7 mi se.	Jan - July	Fed: None Calif: S3 CNPS: 4.3	Low (pot. Habitat, but margin of geog. Range, survey results)
<i>Lilium parryi</i> Lemon lily	Meadows, seeps, & streambanks. 1220-2745 m elev. in the mountains of S Calif. & SE Arizona.	July - August	Fed: None Calif: S3 CNPS: 1B.2 USFS: S	Absent (Well below elev. Range, no suitable hab, survey results)
<i>Linanthus concinnus</i> San Gabriel Linanthus	Chaparral, lower montane coniferous forest & upper montane coniferous forest on dry rocky openings. Elevational range 5000-7000 ft.	April - July	Fed: None Calif: S2 CNPS: 1B.2 USFS: S	Absent (Well below elev. Range, no suitable hab, survey results)
<i>Lycium parishii</i> Parish's desert-thorn	Arid slopes & sand flats, below ±3300 ft. elev. W low desert (Riv. & San Diego Cos.) & interior valleys (Riv Co.); disjunct to Ariz & Sonora (Mexico). Historic locations in San Bernardino Valley now extinct.	Mar - April	Fed: None Calif: S1 CNPS: 2B.3	Absent (5-mile radius over site; 1885; thought extirpated, survey results)
<i>Malacothamnus parishii</i> Parish's bush-mallow	Chaparral, coastal sage scrub. In a wash. 305-455 m. (Presumed extinct – 1 occ. from 1985 “around San Bernardino”).	?	Fed: None Calif: SX CNPS: 1A	Absent (above elev. Range, Thought extirpated, survey results)
<i>Monardella australis</i> ssp. <i>jokerstii</i> Jokerst's Monardella	Steep scree or talus, stony benches on canyon bottoms in montane forest (or chaparral) at an elevation of 1350-1750 m in eastern San Gabriel Mts. One record for Chino Hills	July - Sept.	Fed: None Calif: S1 CNPS: 1B.1 USFS: S	Absent (Well Below elev. Range, no suitable habitat, survey results)
<i>Monardella pringlei</i> Pringle's Monardella	Coastal scrub. Sandy hills. 300-400 m. elev. Last seen in 1941. Known from only two occurrences from the vicinity of Colton.	May - June	Fed: None Calif: SX CNPS: 1A	Absent (above elev. Range, marginal hab. Thought extirpated, survey results)
<i>Muhlenbergia californica</i> California muhly	Riparian, streambanks, or seeps usually in Chaparral, yellow pine forest, meadows or coastal sage scrub. 300-6500 ft. elevation. Few records in CNDDDB, Many in Calflora. Majority of Records are from San Gabriel, San Bernardino and San Jacinto Mts. All San Bern Valley records are before 1920.	June - Sept.	Fed: None Calif: S4 CNPS: 4.3	Absent (poor hab., no records in the area, all Valley records historic, survey results)
<i>Nasturtium gambelii</i> Gambel's water cress	Montane strems, marshes & lake margins, 16-1083 ft. Historically on south central & southern coast of CA. In CNDDDB One record from S. San Bern. & LA Cos, 2 from Orange Co. More in CalFlora, but all from before 1927. Most in 1880s. collection locations, vague & believed developed. Current records in Santa Barbara and San Luis Obispo Co.	May – Aug	Fed: END Calif: THR CNPS: 1B.1	Absent (no suitable hab, out of current geographic range, survey results)

Special Status Species	Habitat and Distribution	Flower season	Status Designation	Occurrence Probability
<i>Navarretia prostrata</i> Prostrate vernal pool Navarretia	Vernal pools, alkaline floodplains, meadows, & seeps. <700 m elev., W San Joaquin Valley, inner S Coast Ranges, LA Co., Peninsular Range. (Santa Rosa Plateau). San Bern. Co. records are only from Uland area and are from around 1917	April - July	Fed: None Calif: S2 CNPS: 1B.1	Absent (no suitable hab., out of current geogr. Range, survey results)
<i>Opuntia basilaris</i> var. <i>brachyclada</i> Short-joint beavertail	In chaparral, joshua tree woodland, Mojave desert scrub, pinyon-juniper woodland at el. of 3000-6500ft. specimens have been found as low as 1400-1600 ft. N slopes San Gabriel Mnts, from Quigley Canyon E to Anaverde Valley. Follows San Andreas rift zone to Cajon Pass. East of Cajon Pass in N San Bern. Mts, thru Horsethief Cany. & Summit Valley to Mojave River Forks S of Hesperia.	May - June	Fed: None Calif: S3 CNPS: 1B.2 USFS: S	Absent (Prefers higher elevation, all records well north of the site or in the mountains, survey results)
<i>Oreonana vestita</i> Woolly mountain-parsley	Lower montane coniferous forest, subalpine coniferous forest, & upper montane coniferous forest on gravel or talus. Elev. range 5300-11500 ft. All records in the San Gabriel and San Bernardino Mts.	May - Sept	Fed: None Calif: S3 CNPS: 1B.3 USFS: S	Absent (Well below elev. Range, no suitable hab, survey results)
<i>Orobanche valida</i> ssp. <i>valida</i> Rock Creek broomrape	Chaparral & Pinyon juniper woodland in Inyo, LA, San Bernardino & Ventura Counties. Elev. 4100-6562 ft. All records are from the San Gabriel and Topatopa Mts. And the high desert.	May - Sept	Fed: None Calif: S2 CNPS: 1B.2 USFS: S	Absent (Well below elev. Range, no suitable hab, survey results)
<i>Pediomelum castoreum</i> Beaver Dam breadroot	Joshua tree woodland, Mojavean desert scrub. Sandy soils, washes and roadcuts. 610-1065 m. All records north and NE of the San Bernardino Mts in the High desert	April - May	Fed: None Calif: S2 CNPS: 1B.2	Absent (Below elev. Range, out of geogr. Range, minimal habitat elements, survey results)
<i>Phacelia stellaris</i> Brand's star Phacelia	Dunes, alluvial scrub (sandy benches), about sea level to 1300 ft. elev. Los Angeles, Riverside, San Diego Cos., Baja Calif. Only one record in San Bern. Co. along unnamed wash in Rancho Cucamonga.	Mar - June	Fed: None Calif: S1 CNPS: 1B.1	Absent (out of geog Range? no dunes, or channels, historic sandy bench, survey results)
<i>Pseudognaphalium leucocephalum</i> White rabbit-tobacco	Dry, sandy creek bottoms in chaparral, cismontane woodland, coastal scrub, riparian woodland. Elev. 0-6890 ft. 1 CNDDDB record in San Bern. Co. is historical 1891., 4 Calflora records all before 1920	Aug - Nov	Fed: None Calif: S2 CNPS: 2B.2	Absent-Low (no creek bottom, out of current geogr. Range, survey results)
<i>Ribes divaricatum</i> var. <i>parishii</i> Parish's gooseberry	Riparian woodland. On the banks of creeks in damp land, meadows or swamps. Willow swales in riparian habitats 65-100m.	Feb - April	Fed: None Calif: SX CNPS: 1A	Absent (well above elev. Range, no suitable habitat, survey results)
<i>Sagittaria sanfordii</i> Sanford's arrowhead	Marsh & swamp, assorted shallow freshwater wetlands. 0-650 m elev. Presumed extirpated from southern CA. Single record in 2009 from Alta Loma.	May - Nov	Fed: None Calif: S3 CNPS: 1B.2	Absent (no suitable hab., survey results)

Special Status Species	Habitat and Distribution	Flower season	Status Designation	Occurrence Probability
<i>Schoenus nigricans</i> Black bog-rush	Marsh & swamps often alkaline. 150-2000 m. No CNDDDB records from the Inland Empire. Only records in San Gabriel & San Bernardino Mts. And north. Calflora has 3 historic 1800s records in San Bern. Valley	Aug - Sept	Fed: None Calif: S2 CNPS: 2B.2 USFS: S	Absent (no suitable hab., out of current geog. Range, survey results)
<i>Scutellaria bolanderi</i> ssp. <i>austromontana</i> Southern mountains skullcap	Gravelly or sandy soils, stream banks, chaparral, oak or pine woodland. Elev. 1968-6560ft. San Bernardino Mts., Peninsular Ranges & S. Mojave Desert. No records from the Inland Empire Valleys	June – Aug.	Fed: None Calif: S3 CNPS: 1B.2 USFS: S	Absent (not typical habitat, below elev. Range, no records in area, survey results)
<i>Senecio aphanactis</i> Chaparral ragwort	Chaparral, cismontane woodland, coastal scrub, in alkaline flats below about 2624 ft. elev. W Calif. (from Solano Co. south) & Baja Calif. Only 1 record from south edge of San Bern. Co. near Reche Canyon.	Jan - April	Fed: None Calif: S2 CNPS: 2B.2	Absent (No suitable habitat, margin of Geographic range, survey results)
<i>Sidalcea neomexicana</i> Salt Spring checkerbloom	Lower montane coniferous forest, Chaparral, Coastal scrub, desert scrub (Alkaline playas); 15-1530m SW Calif., Baja Calif., SW US, mainland Mexico. Only 7 records in San Bern. Co. all are before 1920, except 1 along Rim of the World Scenic Hwy. No. of Yucaipa	Mar - June	Fed: None Calif: S2 CNPS: 2B.2 USFS: S	Absent (no suitable alkaline hab., no records near the site and San. Bern. Records historic, survey results)
<i>Sphenopholis obtusata</i> Prairie wedge grass	Mesic soils, meadows, seeps, cismontane woodland. 980-6560 ft. elev. NE South Coast (Santa Ana River), San Bernardino Mts, south-central Peninsular Ranges (Cuyamaca Mtns), White & Inyo Mts. Only 3 records in the San Bernardino Valley are all historic.	April - July	Fed: None Calif: S2 CNPS: 2B.2	Absent (No suitable habitat, no records near the site and San. Bern. Records historic, survey results)
<i>Streptanthus bernardinus</i> Laguna Mountains jewelflower	Chaparral, lower montane coniferous forest, Moist canyons. 670-2500 m elev. Desert slopes of San Jacinto Mts., San Diego area, Arizona, tropical Mexico.	May - Aug	Fed: None Calif: S3S4 CNPS: 4.3	Absent (Below elev. Range, no suitable habitat, survey results)
<i>Streptanthus campestris</i> Southern jewelflower	Chaparral or lower montane coniferous forest. 670-2500 m elev. San Bernardino, Riverside & San Diego Cos. Only San Bern. Records from the San Bern. Mts.	May – July	Fed: None Calif: S3 CNPS: 1B.3 USFS: S	Absent (Below elev. Range, no suitable habitat, survey results)
<i>Symphyotrichum defoliatum</i> San Bernardino aster	Near ditches, streams, springs in Cismontane woodland, coastal scrub, lower montane coniferous forest, & meadows and seeps marshes and swamps, valley and foothill grassland. Elev. 2-2040 m. Endemic to CA. San Bern. Valley records are all historic, except 1 near Mira Loma.	July - Nov	Fed: None Calif: S2 CNPS: 1B.2 USFS: S	Absent (No wet habitat, scarce distribution, records are historic, survey results)
<i>Symphyotrichum greatae</i> Greata's aster	Mesic soils in broadleaved upland forest, chaparral, cismontane woodland, lower montane coniferous forest, riparian woodland. Between 900-6888 ft. elev. Usually ≥ 2000 ft. The only San Bern. Co. Records are in the San Bern. Mts.	June - Oct	Fed: None Calif: S2 CNPS: 1B.3	Absent (no suitable habitat, records in area are all in the mountains, survey results)

Special Status Species	Habitat and Distribution	Flower season	Status Designation	Occurrence Probability
<i>Viola pinetorum</i> ssp. <i>Grisea</i> Grey-leaved violet	Meadow & seep, subalpine coniferous forest, upper montane coniferous forest. Elev. 1500-3400m. In So CA, only found in the San Gabriel & San Bernardino Mts.	April - July	Fed: None Calif: S3 CNPS: 1B.3	Absent (Below elev. Range, no suitable hab, survey results)
Fish (4)				
<i>Catostomus santaanae</i> Santa Ana sucker	Silver fish with dark irregular blotches on the dorsal surface. 200 m in length. In small to medium permanent streams. LA & San Gabriel drainage, lower Santa Ana River.		Fed: THR Calif: None NDDB: S1	Absent (no suitable habitat)
<i>Gila orcuttii</i> Arroyo chub	Slow-moving or backwater sections of warm/ cool streams with mud or sand substrates. LA, San Gabriel, San Luis Rey, Santa Ana & Santa Margarita Riv & Malibu & San Juan creeks.		Fed: None Calif: SSC NDDB: S2 USFS: S	Absent (no suitable habitat)
<i>Rhinichthys osculus</i> "subspecies 3" Santa Ana speckled dace	Endemic to Santa Ana & San Gabriel River watersheds, historic in Big Tujunga Cyn. Santa Ana River populations in lower San Bernardino Mtn. foothills & washes.		Fed: None Calif: SSC NDDB: S1 USFS: S	Absent (no suitable habitat)
<i>Siphateles bicolor mohavensis</i> Mohave tui chub	Endemic to the Mojave River basin, adapted to alkaline, mineralized waters. Needs deep pools, ponds, or slough-like areas. Needs vegetation for spawning.		Fed: END Calif: END NDDB: S1	Absent (no suitable habitat)
Mullosk (1)				
<i>Helminthoglypta taylori</i> Westfork shoulderband	Vicinity of the Mojave River. Under logs and leaves		Fed: None Calif: None NDDB: S1	Absent (no suitable habitat)
Reptiles and Amphibians (17)				
<i>Anaxyrus californicus</i> Arroyo toad	Washes & intermittent streams of semi-arid regions, sandy-banked rivers, riparian woodlands, & loose gravel. Southern California to tip of Baja California. Desert pop. along Mojave River. Site in the arroyo toad range.		Fed: END Calif: SSC NDDB: S2S3	Low-Absent (no breeding habitat/active wash, but toads burrow in sand during hibernation)
<i>Anniella stebbinsi</i> Southern California legless lizard	Occurs in moist warm loose soil with plant cover. Moisture is essential. 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.		Fed: None Calif: SSC NDDB: S3 USFS: S	Absent (no suitable habitat)
<i>Arizona elegans occidentalis</i> California glossy snake	Range of scrub and grassland habitats, often with loose or sandy soils. Patchily distributed from the eastern portion of San Francisco Bay, southern San Joaquin Valley, and the Coast, Transverse, and Peninsular Ranges, south to Baja California.		Fed: None Calif: SSC NDDB: S2	Moderate-High (Record onsite 2016, Suitable hab., survey results)
<i>Aspidoscelis hyperythra</i> Orange-throated whiptail	Low-elevation coastal scrub, chaparral & valley foothill hardwood. Sandy areas, patches of rock. S. CA, west of desert to tip of Baja CA.		Fed: None Calif: WL NDDB: S2S3 USFS: S	Low (suitable habitat, survey results, very few reptiles, no whiptails observed)

Special Status Species	Habitat and Distribution	Flower season	Status Designation	Occurrence Probability
<i>Aspidoscelis tigris stejnegeri</i> Coastal whiptail	Woodlands, shrublands; SW CA through much of Baja CA. Below ± 7500 ft. elev.		Fed: None Calif: SSC NDDB: S3	Low (suitable habitat, survey results very few reptiles, no whiptails observed)
<i>Batrachoseps gabrieli</i> San Gabriel slender salamander	Lives & lays eggs in moist places on land. Found under large rocks, logs, & bark. A relict species, found only in a few locations in San Gabriel Mts. & W end of San Bern. Mts. 1,200-5,085 ft. elev. Inhabits forested talus slopes, & shaded areas near a stream.		Fed: None Calif: None NDDB: S2S3 USFS: S	Absent (no suitable habitat)
<i>Charina umbratica</i> Southern rubber boa	Found in a few locales in San Bernardino & San Jacinto Mtn. ranges. Woodland & coniferous forest. Usually they found within several hundred m of water. 5000-9150 ft. elev		Fed: None Calif: THR NDDB: S2S3 USFS: S	Absent (No suitable habitat, below elev. range)
<i>Coleonyx variegatus abbotti</i> San Diego banded gecko	Rock outcrops in shrublands, to 5000 ft. elev. SW CA through much of N Baja CA.		Fed: None Calif: SSC NDDB: S1S2	Low (no rocky outcrops)
<i>Crotalus ruber</i> Red-diamond rattlesnake	Desert scrub, thorn scrub, & chaparral habitats below 4,000 ft. San Bernardino County S through most of Baja California, Mexico		Fed: None Calif: SSC NDDB: S3 USFS: S	Moderate (suitable habitat)
<i>Diadophis punctatus ssp. modestus</i> San Bernardino ringneck snake	Open relatively rocky areas within valley-foothill locales, mixed chaparral/annual grasslands. W San Diego & Riv. Cos., SW San Bern., Vent. & LA Cos., NW Baja CA.		Fed: None Calif: None NDDB: S2? USFS: S	Low (no rocky habitat)
<i>Emys marmorata</i> Western pond turtle	Perennial ponds, streams, marshes, irrigation ditches. Coastal S & cent. CA, NW Baja CA, below ≈ 4800 ft. elev. (few higher elev. pops.)		Fed: None Calif: SSC NDDB: S3 USFS: S	Absent
<i>Lampropeltis zonata parvirubra</i> California mountain kingsnake (San Bernardino pop.)	Forests & chaparral with rock outcrops or talus, often riparian. 1200-8100 ft. elev. San Gabriel, San Bernardino, & San Jacinto Mts.		Fed: None Calif: WL NDDB: S2? USFS: S	Low (no suitable habitat)
<i>Phrynosoma blainvillii</i> Coast horned lizard	Coastal sage scrub, low elevation chaparral, annual grassland, oak & riparian woodlands, & coniferous forests. SW California to NW Baja California, Mexico.		Fed: None Calif: SSC NDDB: S3S4	Moderate (suitable habitat, Record near site 2008)
<i>Rana draytonii</i> California red-legged frog	Pools in low-gradient foothill & valley streams (esp. intermittent) to ± 4000 ft. Only extant S. CA/ [p]s are on Vemtira Cp/ & Santa Rosa Plateau (Riv. Co)		Fed: THR Calif: SSC NDDB: S2S3	Absent (no suitable habitat)
<i>Rana muscosa</i> Southern mountain yellow-legged frog	Always encountered within a few feet of water. Tadpoles may require up to 2 years to complete development.		Fed: END Calif: END NDDB: S1 USFS: S	Absent (no suitable habitat)
<i>Spea hammondi</i> Western spadefoot	Breeds in quiet streams & vernal pools, burrows beneath sand during dry season. W. CA, Central Valley to Baja California		Fed: None Calif: SSC NDDB: S3	Low (no suit. wet hab, can be subsurface away from drainage dry season)

Special Status Species	Habitat and Distribution	Flower season	Status Designation	Occurrence Probability
<i>Thamnophis hammondi</i> Two-striped garter snake	Usually in or near perennial fresh water & adjacent riparian habitat, pools in streams. SW CA & NW Baja California.		Fed: None Calif: SSC NDDB: S3S4 USFS: S	Absent (no suitable habitat)
Birds (31)				
<i>Accipiter cooperii</i> Cooper's hawk (nesting)	Cismontane woodland, riparian forest, riparian woodland, upper montane coniferous forest. Forages in open areas over scrublands in California, Mexico, and Central America.		Fed: None Calif: WL NDDB: S4	Nesting: Low Foraging: Moderate
<i>Accipiter striatus</i> Sharp-shinned hawk (nesting)	Nests & hunts in forests & woodlands, conifer-covered slopes near mixed stands of conifer & deciduous trees. Also use scrub habitat in winter. In S CA most common in coastal lowlands & desert areas. Common winter resident in S CA Likely only breeding in N CA.		Fed: None Calif: WL (nesting) NDDB: S4	Nesting: Absent Foraging: Moderate
<i>Agelaius tricolor</i> Tricolored blackbird (nesting colony)	Breeds colonially in freshwater marshes. Nomadic among marshes & fields in winter. Almost completely endemic to CA.		Fed: None Calif: Cand EN NDDB: S1S2	Nesting: Absent Foraging: Absent
<i>Aimophila ruficeps canescens</i> Southern California rufous-crowned sparrow	Sparse, mixed chaparral, scrub, rocky, brushy slopes. Central California to Baja California.		Fed: None Calif: WL NDDB: S3	Moderate (suitable hab.)
<i>Artemisospiza belli belli</i> Bell's sage sparrow	Sage scrub & chaparral communities. Central Washington S to Baja California, Mexico.		Fed: None Calif: WL NDDB: S3	Moderate (suitable hab.)
<i>Asio otus</i> Long-eared owl (nesting)	Breeds & roosts in riparian forests or other dense forest. Forages at night over open land. Ever more rare breeding in S CA. Occurs N America/Eurasia.		Fed: None Calif: SSC NDDB: S3?	Breeding: Absent Foraging: Low
<i>Athene cunicularia (hypugea)</i> Burrowing owl	Nests in rodent burrows, usually in grasslands. Forages in open hab.; increasingly uncomm. in S CA. Occurs through W US/Mex. Sparse in desert scrub but comm. around irrigated lands.		Fed: None Calif: SSC NDDB: S3	Absent (pot. Suitable hab., survey results)
<i>Baeolophus inornatus</i> Oak titmouse (nesting)	Open pine or mixed oak-pine forest		Fed: None Calif: None NDDB: S4	Absent (no suitable habitat)
<i>Buteo swainsoni</i> Swainson's hawk (nesting)	Grassland/agricultural, large trees for nesting, desert scrub with Joshua tree & Fremont cottonwood overstory, near streams & open fields. Breeds overwhelmingly in Great Basin & Central Valley of California.		Fed: None Calif: THR NDDB: S3	Nesting: Low Foraging: Low
<i>Charadrius montanus</i> Mountain plover (wintering)	Short vegetation, bare ground, & flat topography disturbed short & mixed grass prairie, semi-desert grasslands, agricultural lands, & prairie dog colonies. Elev. 274-2140 ft. Winters in CA.		Fed: None Calif: SSC NDDB: S2S3	Nesting: Low Foraging: Low (small area pot. Hab. relatively isolated)
<i>Coccyzus americanus occidentalis</i> Western yellow-billed cuckoo (nesting)	Open woods, orchards, riparian willow, riparian forest, & alder forests. Most of the United States (excluding the NW states) & into Baja California & northern Mexico.		Fed: THR Calif: END NDDB: S1 USFS: S	Absent (no suitable habitat)

Special Status Species	Habitat and Distribution	Flower season	Status Designation	Occurrence Probability
<i>Cypseloides niger</i> Black swift (nesting)	Mountainous regions of central & SW coastal CA. Require waterfalls for nesting. Typ. falls are perm. or intermittent if they flow in breeding season (June-Sept.) Nest sites encircled by coniferous forests, often mixed conifer or spruce-fir forests, varies depending on elev. & aspect. Nest sites may include mountain shrub, aspen, or alpine components. Streams are typical mnt. riparian habitat.		Fed: None Calif: SSC NDDB: S2	Absent (no suitable habitat)
<i>Empidonax traillii extimus</i> Southwestern willow flycatcher (nesting)	Wet mountain meadow systems with standing water for at least part of the breeding season (May to July) & with ample numbers of willow & other associated trees & shrubs. Rare & local is S CA. SW US & N Baja California.		Fed: END Calif: END NDDB: S1 USFS: S	Absent (no suitable habitat)
<i>Eremophila alpestris actia</i> California horned lark	Short-grass prairie, "bald" hills, mountain meadows, open coastal plains, fallow fields and alkali flats. W/i coastal Sonoma Co. to San Diego Co., San Joaquin Valley and east to foothills		Fed: None Calif: WL NDDB: S3	Occurs
<i>Falco columbarius</i> Merlin (wintering)	Woodlands, grasslands, agricultural fields, and areas around livestock feed lots. Winter migratory bird to southern California.		Fed: None Calif: WL NDDB: S3S4	Low (poor hab. Adj. to agriculture)
<i>Falco mexicanus</i> Prairie Falcon (nesting)	Nests on high cliffs, forages primarily over open lands. Throughout arid W. US & Mexico.		Fed: Delisted Calif: FP NDDB: S3S4	Nesting: Absent Foraging: Moderate
<i>Falco peregrinus anatum</i> American peregrine falcon (nesting)	Found in a large variety of open habitats, but prefers accessible open water. Breeds mostly in woodland, forest and coastal habitats. In CA primarily in coastal estuaries and inland oases. Nests in cliffs along mnt valleys and river gorges usu. < 9500 ft. elev.		Fed: Delisted Calif: FP NDDB: S3S4	Nesting: Absent Foraging: Low
<i>Gymnogyps californianus</i> California condor	Nests in cliff caves (some have nested in large cavities of giant sequoia), from pacific beaches to mountain forests and meadows. Forages for carrion. Current range in CA. southern coastal ranges (Big Sur to Ventura County) east to the Transverse Range and southern Sierra Nevada as well as the Grand Canyon region in AZ.		Fed: END Calif: END/FP NDDB: S1	Absent (no suitable hab.)
<i>Haliaeetus leucocephalus</i> Bald eagle (nesting & wintering)	Breed in large trees, usually near major rivers or lakes. Winters more widely. Wide but scattered distribution in N America, esp. coastal regions.		Fed: Delisted Calif: END, FP NDDB: S3 USFS: S	Nesting: Absent Foraging: Low
<i>Icteria virens</i> Yellow-breasted chat (nesting)	Summer resident, inhabits riparian thickets of willow near watercourses, low dense riparian willow.		Fed: None Calif: SSC NDDB: S3	Absent (no suitable hab.) (1 mi w)
<i>Laterallus jamaicensis columiculus</i> California black rail	Brackish marsh, freshwater marsh swamp, salt marsh, wetland		Fed: None Calif: THR/FP NDDB: S1	Absent (no suitable hab.)
<i>Pandion haliaetus</i> Osprey (nesting)	Near any body of water: saltmarsh, rivers, ponds, reservoirs, estuaries and coral reefs. Nests on open poles, channel markers and dead trees. Generally winter or migrate through southern California		Fed: None Calif: WL NDDB: S4	Absent (no suitable hab.) (1mi w)
<i>Polioptila californica californica</i> Coastal California gnatcatcher	Sage scrub comms., also chaparral, grasslands & riparian comms. adjacent to or mixed with sage scrub. S Ventura Co. to LA, Orange, Riv., San Bern., San D. Cos into Baja CA, Mexico.		Fed: THR Calif: SSC NDDB: S2	Absent (poor habitat, field data from non-CAGN surveys)

Special Status Species	Habitat and Distribution	Flower season	Status Designation	Occurrence Probability
<i>Rynchops niger</i> Black skimmer (nesting colony)	Primarily in bays, estuaries, lagoons, mudflats, beaches & coastal marshes. Nests on sand, salt marsh mats & dredge spoil. Known breeding range in S. CA includes Salton Sea, San Diego Bay, Newport Bay, Seal Beach, Los Angeles Harbor, Bolsa Chica Eco Reserve.		Fed: None Calif: SSC NDDDB: S2	Absent (no suitable hab.)
<i>Setophaga petechia</i> Yellow warbler (nesting)	Riparian, including willow, cottonwood, sycamore, alders, & aspen for nesting & foraging, also conifer forest.		Fed: None Calif: SSC NDDDB: S3S4	Low-Absent (no suitable habitat)
<i>Spinus lawrencei</i> Lawrence's goldfinch (nesting)	Nests in open oak or other woodlands. Dry grassy slopes with weed patches & chaparral, but is generally associated with oaks, near water & herbaceous habitats for feeding.		Fed: None Calif: None NDDDB: S3S4	Low-Absent (no suitable habitat)
<i>Spizella atrogularis</i> Black-chinned sparrow (nesting)	Chaparral, sagebrush, arid scrublands, and brushy hillsides.		Fed: None Calif: None NDDDB: None	Low
<i>Strix occidentalis occidentalis</i> California spotted owl	In S CA occupies montane hardwood & montane hardwood conifer forests at mid-high elev. & coastal oak woodland, valley foothill riparian at lower elev. Less comm. in pinyon juniper woodlands. Breeds & roosts in forests woodlands with large old trees & snags, dense canopies & multiple canopy layers. Spread through the S Cascade Range of N CA south along the W slope of the Sierra Nevada & in Mts. of central & S CA nearly to the Mexican border.		Fed: None Calif: SSC NDDDB: S3 USFS: S	Nesting: Absent Foraging/ wintering: Low? (high elev. Species, but will use sycamores during movement)
<i>Toxostoma lecontei</i> LeConte's thrasher	open desert flats, dunes, alluvial fans. often sandy or alkaline flats. Typically, with Atriplex or Opuntia spp. Mojave and Colorado Deserts, SW Cent. Valley, Owens Valley; to Nevada, Utah, Arizona.		Fed: None Calif: SSC NDDDB: S3	Low (suitable hab, but typically more desert)
<i>Toxostoma redivivum</i> California thrasher	Lowland and coastal chaparral and riparian woodland thickets. Also parks and gardens. Nests in shrubs. Throughout coastal California and the central valley.		Fed: None Calif: None NDDDB: None	Low (pot. suitable habitat, survey results)
<i>Vireo bellii pusillus</i> Least Bell's vireo	Found in riparian woodlands, bottomlands, & mesquite. Ranges from N Mex. & Baja CA into S CA & the S mid-western US.		Fed: END Calif: END NDDDB: S2	Absent (no suitable habitat)
Mammals (15)				
<i>Chaetodipus fallax fallax</i> Northwestern San Diego pocket mouse	Open shrublands & sandy areas. SW CA & NW Baja California (inland to San Bernardino Valley).		Fed: None Calif: SSC NDDDB: S3S4	Low (suitable habitat, records in area, trapping survey results)
<i>Chaetodipus fallax pallidus</i> Pallid San Diego pocket mouse	Open sandy areas in chaparral, scrub, & grassland communities. Often alluvial plains.		Fed: None Calif: SSC NDDDB: S3S4	Low (suitable habitat, records in area, trapping survey results)
<i>Dipodomys merriami parvus</i> San Bernardino kangaroo rat	Sparse, gently sloping grassland, sometimes at margins of cultivated or disturbed lands; San Bernardino County, W Riverside Co., & adjacent San Diego Co.		Fed: END Calif: SSC NDDDB: S1	Absent (CNDDDB records in area, trapping survey results)

Special Status Species	Habitat and Distribution	Flower season	Status Designation	Occurrence Probability
<i>Dipodomys stephensi</i> Stephens' kangaroo rat	Sparse, gently sloping grassland, sometimes at margins of cultivated or disturbed lands. San Bernardino County, W Riverside Co., & adjacent San Diego Co.		Fed: END Calif: THR NDDDB: S2	Absent (northern edge of geog. Range, trapping survey results)
<i>Eumops perotis californicus</i> Western mastiff bat	Lowlands (with rare exceptions). Central & S CA, S AZ, NM, SW TX. Roosts in deep rock crevices & forages over wide area.		Fed: None Calif: SSC NDDDB: S3S4	Roosting: Absent Foraging: Moderate
<i>Glaucomys oregonensis californicus</i> San Bernardino flying squirrel	Mature mixed conifer forest (white fir, Jeffrey pine, & black oak) with large trees & snags, closed canopy, downed woody debris, & riparian areas. 4000-8500 ft. elev. San Bernardino & San Jacinto Mnt. Ranges (near extirpated in the San Jacinto Mts.)		Fed: None Calif: SSC NDDDB: S1S2 USFS: S	Absent (no suitable habitat)
<i>Lasiurus xanthinus</i> Western yellow bat	Roosts in trees, hanging from underside of leaves. Desert regions of the SW US. With a particular association to palm trees. Distributed in S CA, AZ, NM, & TX, into Mexico. Rare occurrence in CA and survey area at northern most range. Reported observed by CDFW in Rancho Cuc. In 2009.		Fed: None Calif: SSC NDDDB: S3	Roosting: Low- Absent Foraging: Moderate
<i>Lepus californicus bennettii</i> San Diego black-tailed jackrabbit	Chaparral, coastal, or Riversidean sage scrub with adjacent open grassland. Los Angeles Co. S to San Quintin, Baja California, Mexico.		Fed: None Calif: SSC NDDDB: S3S4	Low
<i>Neotamias speciosus speciosus</i> Lodgepole chipmunk	Summits of isolated Piute, San Bernardino, & San Jacinto mountains. Usually found in open-canopy forests. Habitat is usually lodgepole pine forests in the San Bernardino Mts. & chinquapin slopes in the San Jacinto Mts.		Fed: None Calif: None NDDDB: S2S3	Absent (No suitable habitat)
<i>Neotoma lepida intermedia</i> San Diego desert woodrat	Arid shrublands, rocky outcrops, & crevices. Cismontane CA., San Luis Obispo to San Diego Co. & NW Baja California. 0-7000 ft. elev.		Fed: None Calif: SSC NDDDB: S3S4	Low (marginal hab., not rocky, trapping survey results)
<i>Nyctinomops femorosaccus</i> Pocketed free-tailed bat	Deserts & arid lowlands. E Riv. & San Diego Cos., through SW US, Baja California, mainland Mexico. Roost mainly in crevices of high cliffs.		Fed: None Calif: SSC NDDDB: S3	Roosting: Absent Foraging: Low (Margin of geog. range)
<i>Onychomys torridus ramona</i> So. Grasshopper mouse	Arid cismontane lowlands, flat, sandy, valley floor habitats. Low, open and semi-open scrub habitats. Low density throughout its range. LA through San Diego Cos. & NW Baja California. Susceptible to habitat loss and fragmentation.		Fed: None Calif: SSC NDDDB: S3	Low (few rec. from this end of range, suitable hab., affected by fragment, trapping survey results)
<i>Ovis canadensis nelsoni</i> Desert bighorn sheep	Widely distributed from the White Mtns. in Mono Co. to Chocolate Mts. in Imperial Co. Open, rocky, steep areas with available water & herbaceous forage.		Fed: None Calif: FP NDDDB: S3	Absent (no suitable habitat, margin of geog. range)
<i>Perognathus longimembris brevinasus</i> Los Angeles pocket mouse	Annual grassland, sage scrub, alluvial sage scrub. S California from Rancho Cucamonga (W boundary), San Gorgonio (E), Aguanga & Oak Grove, San Diego (S).		Fed: None Calif: SSC NDDDB: S1S2	Occurs

Special Status Species	Habitat and Distribution	Flower season	Status Designation	Occurrence Probability
<i>Taxidea taxus</i> American badger	Mountains, deserts, interior valleys where burrowing animals are available as prey & soil permits digging. Throughout Central & W North America.		Fed: None Calif: SSC NDDDB: S3	Absent (disjointed, hab. No sign of suitably sized burrows)
Invertebrates (7)				
<i>Bombus crotchii</i> Crotch bumble bee	Coastal CA E to Sierra-Cascade crest & S into Mexico. Food plant genera include <i>Antirrhinum</i> , <i>Phacelia</i> , <i>Clarkia</i> , <i>Dendromecon</i> , <i>Eschscholzia</i> , & <i>Eriogonum</i> .		Fed: None Calif: None NDDDB: S1S2	Moderate (CNDDDB record, pot. Suit habitat)
<i>Bombus occidentalis</i> Western bumble bee	typically nests underground in abandoned rodent burrows or other cavities. Grassy areas, urban parks and gardens, chaparral and shrub areas, mountain meadows. In CA, primarily associated with plants in the Leguminosae (=Fabaceae), Compositae (=Asteraceae), Rhamnaceae, and Rosaceae families. Almost all records from central to northern CA. Only a handful from southern CA.		Fed: None Calif: None NDDDB: S1 USFS: S	Low (suitable hab., not observed, no local records not known to occur in area)
<i>Carolella busckana</i> Busck's gallmoth	Beaches, salt marshes, sand dunes & coastal scrub dunes, presumed extirpated		Fed: None Calif: None NDDDB: SH	Absent (no suitable hab)
<i>Cicindela tranquebarica viridissima</i> Greenest tiger beetle	Woodlands adjacent to Santa Ana River basin. Found in open areas between trees.		Fed: None Calif: None NDDDB: S1	Absent (no suitable habitat, geogr. range)
<i>Euchloe hyantis andrewsi</i> Andrew's marble butterfly	Rocky canyons, cliffs, moraines & gravelly flats. Larvae host plants, mustard, especially <i>Streptanthus</i> sp. S. OR south through CA west of the Sierra Nevada crest to N. Baja California		Fed: None Calif: None NDDDB: S1	Absent (no suitable habitat)
<i>Plebejus saepiolus aureoles</i> San Gabriel Mountains blue butterfly	Wet meadows of the Big Pine Recreation Area.		Fed: None Calif: None NDDDB: S1 USFS: S	Absent (no suitable habitat)
<i>Rhaphiomidas terminatus abdominalis</i> Delhi sands flower-loving fly	Delhi fine sands, often with unconsolidated dunes present. SW San Bernardino Co. & NW Riverside Co.		Fed: END Calif: None NDDDB: S1	Absent (no suitable habitat)

References: CDFW 2017, USFS 2017, ebird.com 2017.

Federal designations: (federal Endangered Species Act, US Fish and Wildlife Service):

END: Federally listed, endangered.

THR: Federally listed, threatened.

C1: Category I candidate. Sufficient data are available to support federal listing, but not listed at this time (equivalent to "candidate" (USDI Fish and Wildlife Service 1996).

Former C2: Formerly a Category 2 candidate species. Threat and/or distribution data are not sufficient to support federal listing at this time. No longer recognized by FWS.

C3a: Extinct.

C3b: Taxonomically invalid.

C3c: Too widespread and/or not threatened. No longer considered as a federal candidate for listing.

FSC: Federal Species of Concern

State designations: (California Endangered Species Act, California Dept. of Fish and Wildlife)

END: State listed, endangered.

THR: State listed, threatened.

RARE: State listed as rare (Listed "Rare" animals have been re-designated as Threatened, but Rare plants have retained the Rare designation.)

FP: Fully Protected

SSC: California Species of Special Concern (DFW) - Declining population levels, limited range, and/or continuing threats have made them vulnerable to extinction (vertebrate species)

WL: Watch List

CDFW Natural Diversity Database Designations: Applied to special status plants and sensitive plant communities; where correct category is uncertain, CDFW uses two categories or question marks.

S1: **Critically imperiled:** Fewer than 6 occurrences or fewer than 1000 individuals or less than 2000 acres.

S1.1: Very threatened

S1.2: Threatened

S1.3: No current threats known

S2: **Imperiled:** 6-20 occurrences or 1000-3000 individuals or 2000-10,000 acres (decimal suffixes same as above).

S3: **Vulnerable:** 21-100 occurrences or 3000-10,000 individuals or 10,000-50,000 acres (decimal suffixes same as above).

S4: Apparently secure in California; this rank is clearly lower than S3 but factors exist to cause some concern, i.e., there is some threat or somewhat narrow habitat. No threat rank.

S5: Demonstrably secure or ineradicable in California. No threat rank.

SH: All sites in California are historical

California Native Plant Society (CNPS) designations: (Note: According to CNPS (Skinner and Pavlik 1994), plants on Lists 1B and 2 meet definitions for listing as threatened or endangered under Section 1901, Chapter 10 of the California Fish and Wildlife Code. This interpretation is inconsistent with other definitions; see text.)

List 1A: Plants presumed extirpated in California and either Rare or Extinct elsewhere.

List 1B: Plants rare, threatened or endangered in California and elsewhere.

List 2A: Plants presumed extirpated in California, but common elsewhere in their range.

List 2B: Plants rare, threatened or endangered in California, but more common elsewhere in their range.

List 3: Plants about which we need more information; a review list.

List 4: Plants of limited distribution; a watch list.

California Native Plant Society (CNPS) designations(continued):

Threat Ranks:

- 0.1: Seriously threatened in Ca (over 80% of occurrences threatened/ high degree and immediacy of threat)
- 0.2: Moderately threatened in Ca (20-80% occur. threatened/moderate degree and immediacy of threat)
- 0.3: Not very threatened in California (less than 20% of occurrences threatened/low degree and immediacy of threat or no current threats known)

Forest Service Designation

S: Sensitive Species

Definitions of occurrence potential:

Occurs: Observed on the site during surveys described here, or recorded on-site by other qualified biologists.

High: Observed in similar habitat in region by qualified biologists, or often occurs in habitat similar to that on the site, and within the known range of the species.

Moderate: Reported sightings in surrounding region, or site is within the known range of the species and often occurs in habitat similar to that on the site.

Low: Site is within the known range of the species but habitat on the site is rarely used by the species.

Not Expected: Species not previously reported in the vicinity of the site, and suitable habitat very marginal due to disturbances, fragmentation, and/or isolation.

Absent/No: A focused study failed to detect the species, or, no suitable habitat is present, or the site is well outside known geographic or elevational ranges.

Unknown: No focused surveys have been performed in the region, and the species' distribution and habitat are poorly known.

Table 10. Point data for sensitive species observed.

Species	Latitude (N)	Longitude (W)	Population Size	Notes on population
Los Angeles Pocket Mouse	<i>(Perognathus longimembris brevinasus)</i>			
	34.199856°	-117.378683°	4	4 adults trapped
Horned lark	<i>Eremophila alpestris</i>			
	34.200054°	-117.377677°	3-5	Partially disturbed open area between the railroad tracks and Cajon Boulevard
	34.199539°	-117.378781°	3	NE of Cajon Blvd

Table 11. Climatic Data Cajon Area 2017-2018.

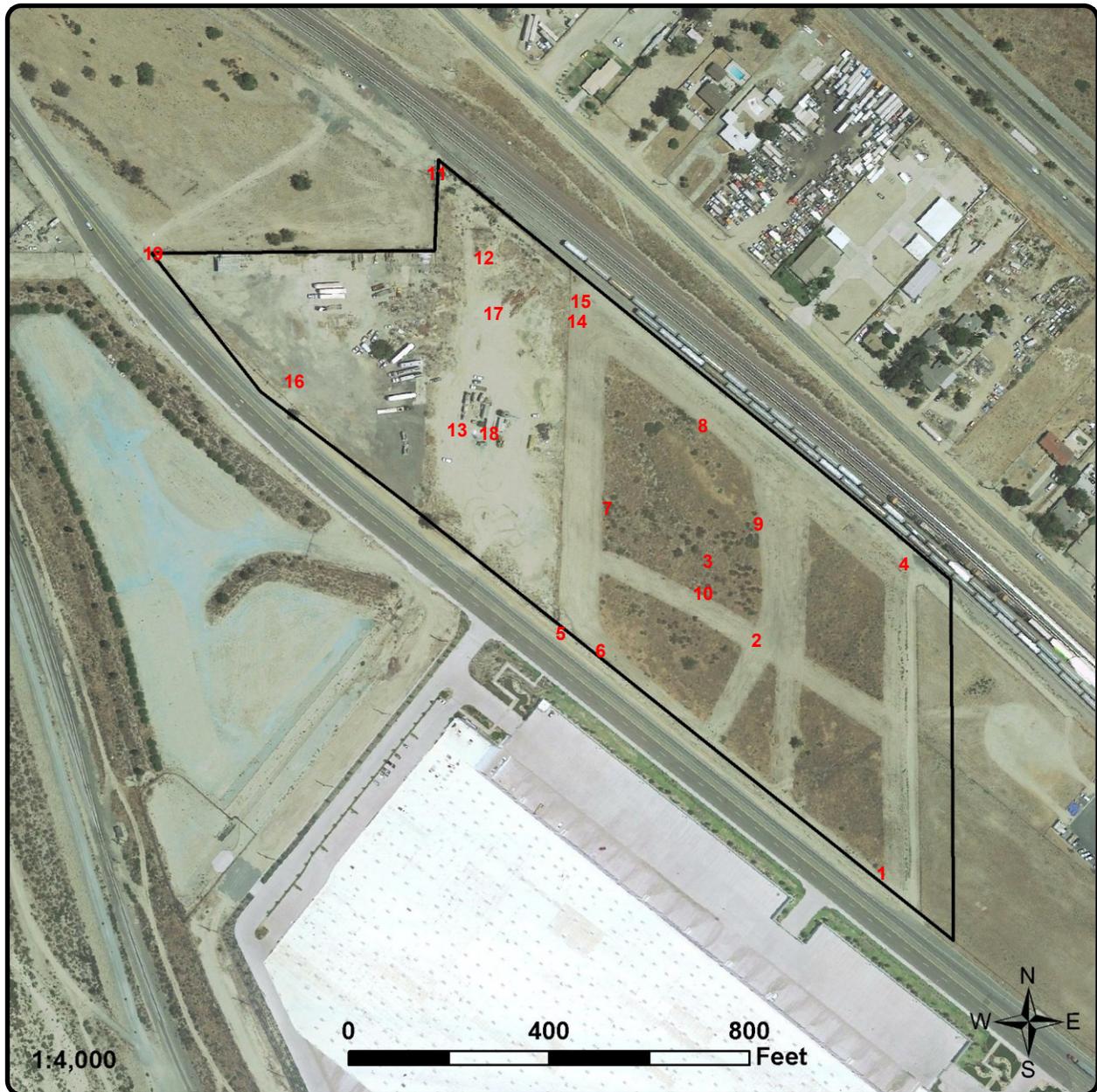
Year/Month	San Bernardino, CA Rosena Ranch KCASANBE45			San Bernardino, CA North San Bernardino KCASANBE24**		
	High	Low	Precipitation	High	Low	Precipitation
17-Sept	92.1	52.5	0	100.8	50	0.48
17-Oct	95.3	49	0.01	92.8	52.2	0.05
17-Nov	89	46.7	0.12	88.7	47.7	1.08
17-Dec	81.9	41.7	0.02	81.3	40.1	0
18-Jan	80.3	37.2	0.73	78.6	37.4	1.39
18-Feb	82.8	31.7	0.67	80.2	33.3	0.83
18-Mar	86.4	34.5	3.52	83.7	36.3	6.83
18-Apr	90.1	37.4	0.06	87.1	39.2	0.21
18-May	94.6	43.2	0.66	89.6	46.6	1.09
18-Jun						
Total 2017-18 season			5.79			11.96

• Data through May 31, 2018

** KCASANBE24 is located in the Cajon Pass on the valley side, but further up into the mountains

APPENDIX B

Site Photos





(1a) Southeastern edge of the survey area facing northwest. (2988)



(1b) Southeastern edge of the survey area facing northwest along Cajon Boulevard. (2990)



(1c) Near southern boundary showing native habitat to the left, disked/disturbed center. Eastern fence line to right. (2771)



(2) Near center of eastern half showing disked/disturbed with sporadic plants before the spring grass growth. (2763)



(3) Near center of eastern half showing AFSS with NNG interspersed. (2779)



(4) North end of the eastern boundary facing northwest. Disked area showing scattered plants and debris. (2773)



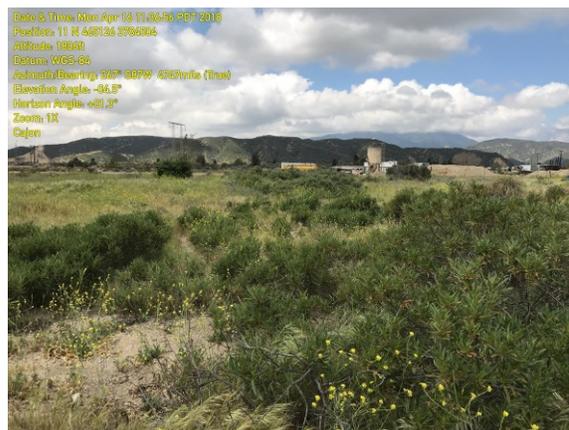
(5) SW corner of western half facing north showing disked area with scattered plants and debris. Fence visible. (2991)



(6) SW corner of western half facing northeast showing disked area foreground, AFSS background. (2994)



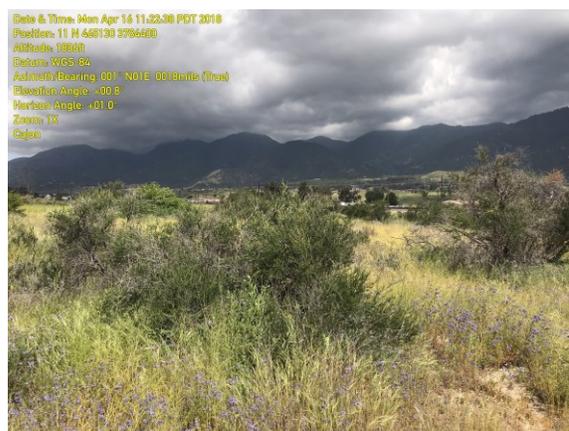
(7) W. boundary center of the western half facing east showing good AFSS habitat. (2983)



(8) N boundary in the western half facing west showing good AFSS habitat. (2986)



(9) North center of the western half facing SW AFSS habitat inundated with dense grass understory. (2968)



(10) Near center of the western half facing N AFSS habitat inundated with dense grass understory. (2973)



(11) Northern boundary facing southeast. Sporadic vegetation along the fence line. (2780)



(12a) Northern boundary facing southeast. Sporadic vegetation and piles of debris. (2418)



(12b) North western area facing south. (2419)



(13) Western half of the site developed. (2412)



(14) Northern boundary between native veg. and developed. Facing southeast. (2405)



(15) Northern boundary between native veg and developed. Facing southeast along the train tracks. (3041)



(16) Western half of the site developed.
(2420)



(17) Facing southwest over developed area.
(2416)



(18) Center of the western half facing north.
(2414)



(19) Western most boundary facing ESE.
(2995)



APPENDIX C

Regulatory Requirements

REGULATORY REQUIREMENTS

1) The Federal Endangered Species Act

By law, it is a requirement of the federal Endangered Species Act (ESA), 1973 (as amended), in section 7(a)(2) that federal agencies insure that any action authorized, funded, or carried out by a federal agency is not likely to jeopardize the continued existence of any endangered species or threatened species, or result in the destruction or adverse modification of critical habitat. In order to meet compliance with this requirement, the federal agency must conduct a Biological Assessment (BA), in which effects to listed species are analyzed and disclosed in the form of an “effects determination.”

Section 7 requires federal agencies to consult with the U. S. Fish and Wildlife Service (USFWS) should it be determined that their actions may affect federally listed threatened or endangered species. Section 9 of FESA prohibits “take” (e.g., harm, harassment, pursuit, injury, kill) of federally listed wildlife. “Harm” is further defined to include habitat modification or degradation where it kills or injures wildlife by impairing essential behavioral patterns such including breeding, feeding, or sheltering. Take incidental to otherwise lawful activities can be authorized under Section 7 of FESA.

Procedures for obtaining a permit for incidental take are identified under Section 7 of FESA for federal properties or where federal actions are involved and are identified under Section 10 of FESA for non-federal actions. During the Section 7 process, measures to avoid and minimize project effects to listed species and their habitat will be identified and incorporated into a biological opinion (written by the USFWS) that includes an incidental take by the federal agency and applicant.

2) The Migratory Bird Treaty Act and Executive Order 13186

The Migratory Bird Treaty Act (MBTA) of 1918 (16 USC 703-711) is an international treaty that makes it unlawful to take, possess, buy, sell, purchase, or barter any migratory bird listed in 50 CFR Part 10, including feathers or other parts, nests, eggs, or products, except as allowed by implementing regulations (50 CFR 21). Sections 3503, 3503.5, and 3800 of the CDFW Code prohibit the take, possession, or destruction of birds, their nests, or eggs. Executive Order 13186 ensures that environmental analyses of federal actions required by the NEPA or other established environmental review processes evaluate the effects of actions on migratory birds,

with emphasis on species of concern. The MBTA requires that project-related disturbance at active nesting territories be reduced or eliminated during critical phases of the nesting cycle (January 1 and September 1). Disturbance that causes nest abandonment and/or loss of reproductive effort (e.g., killing or abandonment of eggs or young) or loss of habitat upon which the birds depend could be considered "take" and constitute a violation of the MBTA.

3) Jurisdictional Determination of Wetlands, "Waters of the U. S."

Three agencies generally regulate activities within streams, wetlands, and riparian areas in California: (1) the U. S. Army Corps of Engineers (ACOE) regulates activities under section 404 of the federal Clean Water Act; (2) the Regional Water Quality Control Board (RWQCB) regulates activities under section 401 of the federal Clean Water Act (CWA); and (3) the California Department of Fish and Wildlife (CDFW) regulates activities within wetlands under Fish and Wildlife Code sections 1600-1616.

3.1) United States Clean Water Act, Section 404

Section 404 of the federal Clean Water Act applies to "Waters of the United States" (WoUS). By definition these include waterways, streams, and intermittent streams that could be used for interstate commerce, and their tributaries. In non-tidal waters the limits of jurisdiction are "ordinary high-water marks" (OHWM) such as stream banks. Where wetlands occur above high water marks they are considered "adjacent wetlands" and are included within ACOE jurisdiction. The term "interstate commerce" has been broadly interpreted to include use by migratory waterfowl or out-of-state tourists and ACOE jurisdiction has often been extended to wetlands not adjacent to WoUS ("isolated wetlands").

According to the Clean Water Act (as amended in 1977) and the Corps of Engineers Wetlands Delineation Manual (1987), a "wetland" is a site that is "inundated or saturated . . . at a frequency and duration sufficient to support . . . vegetation typically adapted for life in saturated soil conditions . . ." Soil saturation deprives plant roots of oxygen, limiting the types of plants that can grow. Absence of oxygen leads to reducing chemical conditions (rather than oxidizing conditions) and development of unique soil types (hydric soils). The USACE evaluates wetlands by three criteria: hydrology, soils, and vegetation. Under the federal delineation procedure, a site must normally satisfy all three (3) criteria to be classified as a wetland.

The hydrology criterion evaluates the presence of water based on observed flooding or inundation or on indirect evidence such as high-water marks, drift lines, or sediment deposits. The soils criterion is based on "hydric" soil characteristics, such as certain colors and mottling

that develop under wetland conditions. (These characteristics generally do not develop in sandy soils found in many southern California streambeds.) The vegetation criterion evaluates plant species growing on a site. Most plants cannot survive extended periods of root saturation and are called "obligate upland" species. Others grow almost exclusively in wetlands habitats, while still others may be found growing in both wetlands and uplands. These are called "obligate wetlands" or "facultative wetlands" species, respectively.

Final determination and delineation of federal jurisdiction is made by the ACOE and not by the project biologists. Therefore, fieldwork and documentation of the site conditions are done as a preliminary delineation until the ACOE reviews and concurs with the results.

3.2) Federal Clean Water Act, Section 401

The RWQCB has jurisdiction over similar "Wetlands" and "Waters of the United States" under Section 401 of the CWA and the Porter-Cologne Water Quality Control Act under the California Water Code (§ 13000, et seq.) Permitting is required for activities that will result in a discharge of soils, nutrients, chemicals, detrital materials, or other pollutants into WoUS or adjacent wetlands that will affect the water quality of those bodies and the area watershed.

3.3) California Department of Fish and Game Code, Section 1600

The CDFW, through provisions of the CDFG Code (Sections 1600-1616), is empowered to issue agreements ("Streambed Alteration Agreement") for projects that will adversely affect wildlife habitat associated with any river, stream, or lake edges. Sections 1600-1616 of the State of California Fish and Game Code apply to stream channels, defined elsewhere in the Code as follows:

"A stream is a body of water that flows at least periodically through a bed or channel having banks and supports fish or other aquatic life. This includes watercourses having a surface or subsurface flow that supports or has supported riparian vegetation."

The state definition does not specify a flow rate or inundation frequency and provides no clear distinction between jurisdictional and non-jurisdictional lands.

While the federal USACE criteria (hydrology, soils, and vegetation) are used to evaluate the presence or absence of wetlands within the project site, the determination of state wetland status is not based on the combined presence of the three (3) criteria, because the state can take jurisdiction of any one (1) of the three: (1) the presence of water open or saturated soils, (2)

presence of vegetation including riparian or wetland species, and/or (3) water modified or oxygen depleted soils.

4) California Department of Fish and Wildlife

4.1) California Endangered Species Act

California Endangered Species Act (CESA) definitions of endangered and threatened species parallel those defined in the FESA. The CESA defines an endangered species as “. . . a native species or subspecies of a bird, mammal, fish, amphibian, reptile or plant which is in serious danger of becoming extinct throughout all, or a significant portion, of its range due to one or more causes including loss of habitat, change in habitat, over exploitation, predation, competition or disease.” Endangered species are in serious danger of becoming extinct and threatened species are likely to become endangered species in the foreseeable future (according to Sections 2062 and 2067, respectively, of the California Fish and Game Code). Candidate species are those under formal review by the CDFW for listing as endangered or threatened (Section 2067). Prior to being considered for protected status the CDFW designates a species as being of special concern. Species of special concern are those for which the CDFW has information indicating decline. The County of Riverside has been issued a permit from the CDFW for the Western Riverside County MSHCP, which this project falls within.

4.2) California Department of Fish and Game Code, Section 1600

This section allows the CDFW to issue agreements (“Streambed Alteration Agreement”) for projects that will adversely affect wildlife habitat associated with any river, stream, or lake edges. A detailed discussion of Section 1600 under the Fish and Wildlife Code can be found in section 2.3.3 above.

5) California Environmental Quality Act (PRC §21000 et seq.) & CEQA Guidelines

The California Environmental Quality Act (CEQA) and CEQA Guidelines (§15000 et seq.) requires identification of environmental effects from discretionary projects. Significant effects are to be mitigated by avoidance, minimization, rectification, or compensation whenever possible.

Effects to all state and federal listed species are considered significant under CEQA. In addition to formally listed species, CEQA considers effects to species that are demonstrably endangered or rare as important or significant. These definitions can include state designated species of

special concern, federal candidate and proposed species, CNDDDB tracked species, and California Native Plant Society 1B and 2 plants.

Appendix G of the CEQA Guidelines specifically addresses biological resources and encompasses a broad range of resources to be considered.

6) California Natural Diversity Database

The California Natural Diversity Database (CNDDDB) is a database that ranks overall condition of sensitive species and vegetation communities on global (throughout its range) and state (within California) levels. Additionally, subspecies and varieties are assigned a ranking for global condition as well. Ranking is numerical ranging from one to five, with one indicating very few remaining individuals or little remaining habitat and five indicating a demonstrably secure to ineradicable population condition. State ranks may also include a threat assessment ranging from one (very threatened) to three (no current threats known).

7) California Native Plant Society

The California Native Plant Society (CNPS) has cataloged California's rare and endangered plants into lists according to population distributions and viability. These lists are numbered and indicate the following: (1A) presumed extinct in California; (1B) rare, threatened, or endangered throughout their range; (2) rare, threatened, or endangered in California, but more common in other states; (3) more information is needed to establish rarity; and (4) plants of limited distribution in California (i.e., naturally rare in the wild) but whose populations do not appear to be susceptible to threat.

8) NatureServe

NatureServe Explorer provides conservation status, taxonomy, distribution, and life history information for plants, animals, and ecological communities and systems in North America. NatureServe uses a suite of factors to assess the conservation status of species and ecosystems. Rankings provide an estimate of extinction risk or, for communities, risk of elimination. NatureServe status ranks and the documentation that support them are often used by federal agencies in making official determinations, particularly in the identification of candidates for legal protections, although they do not always coincide. Conservation status ranks are based on a one to five scale, ranging from critically imperiled (G1) to demonstrably secure (G5). Status is assessed and documented at three distinct geographic scales-global (G), national (N), and state/province (S).

9) San Bernardino County

9.1) General Plan

Section V - Conservation Element

B. Biological Resources

1. Valley Region Habitat

The project site falls within the area identified as the Valley Region. The General Plan identifies the Santa Ana River watershed, which includes the Cajon Wash, as the dominant aquatic feature in the area and the Santa Ana Watershed Planning Authority (2002) identifies these riverine resources as “Essential Resource Conservation Areas” within the County. Forms of alluvial fan sage scrub habitat supports several sensitive species including San Bernardino kangaroo rat, San Diego horned lizard, Los Angeles pocket mouse and California bedstraw.

C. Countywide Goals and Policies of the Conservation Element

1. Biological Resources

GOAL CO 2. The County will maintain and enhance biological diversity and healthy ecosystems throughout the County.

POLICIES

CO 2.1 The County will coordinate with state and federal agencies and departments to ensure that their programs to preserve rare and endangered species and protect areas of special habitat value, as well as conserve populations and habitats of commonly occurring species, are reflected in reviews and approvals of development programs.

Programs

1. All County Land Use Map changes and discretionary land use proposals, for areas within the Biotic Resource Overlay or Open Space Mapping on the Resources Overlay, shall be accompanied by a report that identifies all biotic resources located on the site and those on adjacent parcels, which could be adversely affected by the proposal. The report shall outline mitigation measures designed to eliminate or reduce impacts to identified resources. An appropriate expert such as a qualified biologist, botanist, herpetologist or other professional “life scientist” shall prepare the report.

2. The County shall require the conditions of approval of any land use application to incorporate the County’s identified mitigation measures in addition to those that may be

required by state or federal agencies to protect and preserve the habitats of the identified species. This measure is implemented through the land use regulations of the County Development Code and compliance with the CEQA, CESA, ESA and related environmental laws and regulations.

3. The County shall coordinate with local, state, and federal agencies to create a specific and detailed wildlife corridor map for the County of San Bernardino. The map will identify movement corridors and refuge area for large mammal, migratory species, and desert species dependent on transitory resource based on rainfall. The wildlife corridor and refuge area map will be used for preparation of biological assessments prior to permitting land use conversion within County jurisdictional areas. The mapping will be included in the Open Space and Biological Resource Overlays.

4. The County shall coordinate with state and federal agencies and departments to ensure that their programs to preserve rare and endangered species and protect areas of special habitat value, as well as conserve populations and habitats of commonly occurring species, are reflected in reviews and approvals of development programs. This coordination shall be accomplished by notification of development applications and through distributed CEQA documents.

5. The San Bernardino County Museum (Museum) will review and update the Biological Resources Overlay and Open Space Overlay to provide accurate and current spatial data based on rare, threatened, endangered species and the habitats that they rely on. An updated database that integrates CNDDDB data with other occurrence data from the Museum and other sources such as the USFWS, CDFG, USFS, BLM, National Park Service, California Native Plant Society to identify areas where biological surveys are required. Overlay maps will identify movement corridors and refuge area for large mammal, migratory species, and desert species dependent on transitory resource based on rainfall. South Coast Wildlands Corridor Project and other data from the resource agencies will be consulted as an information reference base. The wildlife corridor and refuge area map will be used for preparation of biological assessments prior to permitting land use conversion within County jurisdictional areas. The mapping will be included in the Open Space and Biological Resource Overlays. As a federal or state agency revises its database of endangered, threatened, or sensitive species of flora and fauna, the County may publish new Biotic Resources Overlay Maps to reflect new species or a revised distribution of the species already included on the maps without requiring a General Plan Amendment to be adopted by the Board of Supervisors.

CO 2.2 Provide a balanced approach to resource protection and recreational use of the natural environment.

CO 2.3 In addition to conditions of approval that may be required for specific future development proposals, the County shall establish long-term comprehensive plans for the County's role in the protection of native species because preservation and conservation of biological resources are statewide, Regional, and local issues that directly affect development rights. The conditions of approval of any land use application approved with the BR overlay district shall incorporate the mitigation measures identified in the report required by Section

82.13.030 (Application Requirements), to protect and preserve the habitats of the identified plants and/or animals.

Programs

1. Prepare or participate in Habitat Conservation Plans when there is sufficient support of such plans, and adequate funding for their preparation, and a strong likelihood of success.
2. Establish a land ownership transfer program.
3. Establish a land conservation easement program.
4. The County shall work with local communities to improve trash collection, recycling programs, and reduce illegal dumping in unincorporated areas. The County shall sponsor mitigation efforts that minimize landfill growth, reduce trash haul routes that spread litter and increase predator species numbers (i.e., raven or crow in the Desert Region), and reduce illegal dumping of large bulk items (e.g., furniture, appliances, tires, batteries).
5. The County shall participate with Regional plans to improve water quality and habitat that are downstream but may be beyond County limits. The County shall coordinate with Regional plans to minimize degradation of water quality within the County that affects downstream resources and habitats.

CO 2.4 All discretionary approvals requiring mitigation measures for impacts to biological resources will include the condition that the mitigation measures be monitored and modified, if necessary, unless a finding is made that such monitoring is not feasible.

Programs

1. The monitoring program will be designed to determine whether the mitigation measures were implemented and effective.
2. The monitoring program will be funded by the project applicant to ensure compliance with and effectiveness of conditions of approval.
3. The County shall not permit land conversion until adequate mitigation is provided to reduce impacts to less than significant in cases where a Mitigated Negative Declaration is used for CEQA compliance. Direct and growth inducing impacts determined to cause a significant adverse effect on rare, threatened or endangered desert species shall be mitigated by avoidance, habitat restoration or compensated by off-site mitigation and evaluated through a project level EIR. Mitigation will be required for adverse impacts to critical areas around residential land conversion when it can be shown that the indirect effects of pets, associate human activity and other encroachments into sensitive habitats will be significant.
4. The County shall require all new roadways, roadway expansion, and utility installation within the wildlife corridors identified in the Open Space and Biological Resource

Overlays to provide suitable wildlife crossings for affected wildlife. Design will include measures to reduce or prevent habitat fragmentation and provide wildlife a means of safe egress through respective foraging and breeding habitats. A qualified biologist will assist with the design and implementation of wildlife crossing including culverts, overcrossings, undercrossings, and fencing.

Section VI - Open Space Element

The Open Space Element of the General Plan provides a reference to guide the protection and preservation of open space, recreation, and scenic areas, while accommodating future growth within the County.

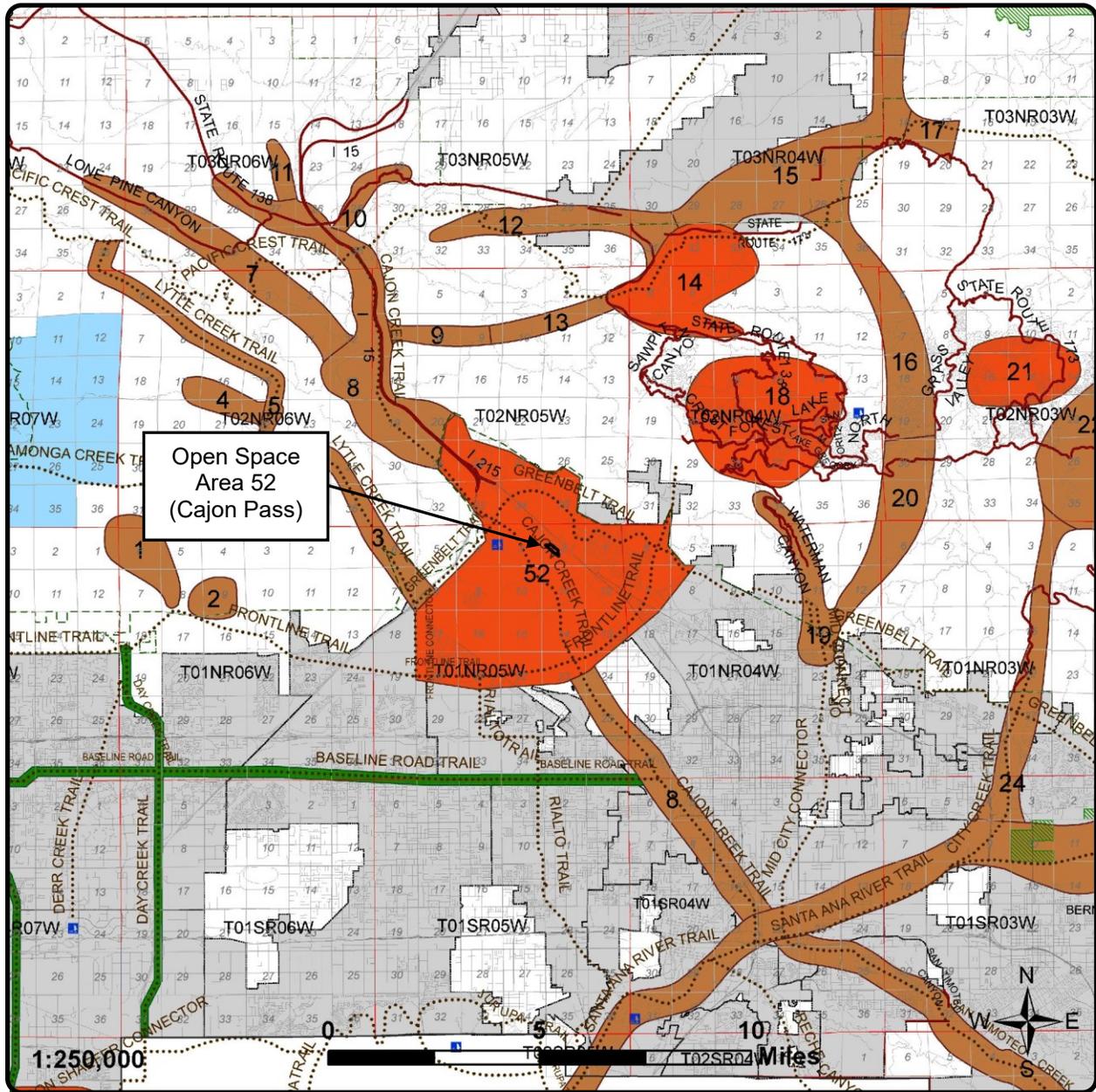
The project area is centrally located within Open Space Area 52: Cajon Pass (Figure 10). The Plan of Open Space and Trails for the San Bernardino County identifies Cajon Pass as follows:

“Cajon Pass-This is the area generally within the Cajon Pass area north of Devore to approximately Mormon Rocks. The Cajon Pass area separates the Angeles and San Bernardino national forest and is in an area which animals must cross to travel between forests. This area also contains important riparian habitat and natural areas. Wildlife dispersion and habitat values in this area should be maintained, potentially by consolidating public/private ownership to prevent damage to important dispersion areas and habitat.”

9.2) Development Code: Section 88.01.070 Mountain Forest and Valley Tree Conservation

This Section provides regulations to promote conservation and wise use of forest resources in the Mountain Region and native tree resources in the Valley Region...

- (b) Regulated trees. The following trees shall only be removed with an approved Tree or Plant Removal Permit issued in compliance with Section 88.01.050 (Tree or Plant Removal Permits):
 - (1) Native trees. A living, native tree with a six inch or greater stem diameter or 19 inches in circumference measured 4.5 feet above natural grade level.
 - (2) Palm trees. Three or more palm trees in linear plantings, which are 50 feet or greater in length within established windrows or parkway plantings, shall be considered to be heritage trees and shall be subject to the provisions of this Chapter regarding native trees.



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June 2018

Figure 10
Open Space Areas

Cajon Blvd. Project, San Bernardino Area
County of San Bernardino, California

9.3) Glen Helen Specific Plan

The Glen Helen Specific Plan evaluated the existing conditions of the lands within its boundaries and focused open space and preservation designations over areas of superior habitat, least disturbance and in concentrated areas that will maximize habitat quality and preservation over the long term. Similarly, development was concentrated in previously disturbed areas and areas within or adjacent to exiting development.

The following information is taken directly from the Glen Helen Specific Plan (GHSP) (The Planning Center, et.al, 2005 revised 2015).

“The Glen Helen Specific Plan covers approximately 3,400 acres of unincorporated area in the Devore area, located of unincorporated territory in the Devore area, located south of the I-15 and I-215 freeways (Exhibit 1-1, Regional Setting). The site, located adjacent to the foothills of the San Gabriel and San Bernardino Mountains, is highly visible from the freeways and enjoys a strategic location at the entrance to the Los Angeles Basin. The San Bernardino National Forest extends into portions of the northwestern boundary of the Specific Plan area (Exhibit 1-2, Local Setting). The Specific Plan area (or project area) is flanked by two major drainage courses: Cajon Wash and Lytle Creek Wash. Other major topographical features include the Lower Lytle Creek Ridge running from northwest to southeast through the Glen Helen Regional Park; Sycamore Canyon west of I-15; and Sycamore Flat, which includes a large riparian area.

The primary purpose of the Glen Helen Specific Plan is to implement the Vision for the project area. In essence, it is to create a comprehensive guide for quality land development with a viable program for building and financing the infrastructure necessary to support it.”

The Specific Plan provides for the following development and open space potential:

Development and Open Space Potential of the Glen Helen Specific Plan

- 260 acres of industrial development along Cajon Boulevard and Kendall Drive;
- 100 acres of traveler services at freeway interchanges and business support services for nearby employees;
- 260 acres of destination entertainment and recreation uses within private and public lands that will complement and reinforce the activities at the regional park;
- 1,700 acres of open space.

The survey area is located within what the GHSP identifies as the Cajon and Kendall Corridors:

“These planning sub-areas comprise a long, narrow strip of County of San Bernardino territory along Cajon Boulevard and Kendall Drive, sandwiched between the City of San Bernardino extension along Cajon Creek and the I-215 Freeway. It is characterized by long, narrow lots generally backing up to the freeway. Because of its location in the

unincorporated peninsula, the County of San Bernardino disposal site area is included in the Kendall Corridor planning sub-area, despite the fact that it differs substantially in character from the remainder of the corridor.”

“Existing uses within this area are a mix of residential, industrial, abandoned, and vacant properties (with) a few commercial properties...”

This area is generally disturbed and is planned as an Industrial Corridor, with the survey area designated Heavy Industrial.

Open Space within the GHSP is concentrated within Cajon Wash and around the Glen Helen Regional Park. Open Space Designations include Active (OS/A), Passive (OS/P), Habitat Preserve (OS/H), and Public Safety (OS/PS).

9.3.1) GH2.0530 Biotic Resources Overlay

“The intent of the Biotic Resources Overlay is to implement General Plan and Specific Plan policies regarding the protection and conservation of beneficial rare and endangered plants and animal resources and their habitats which have been identified within unincorporated areas of the specific plan.

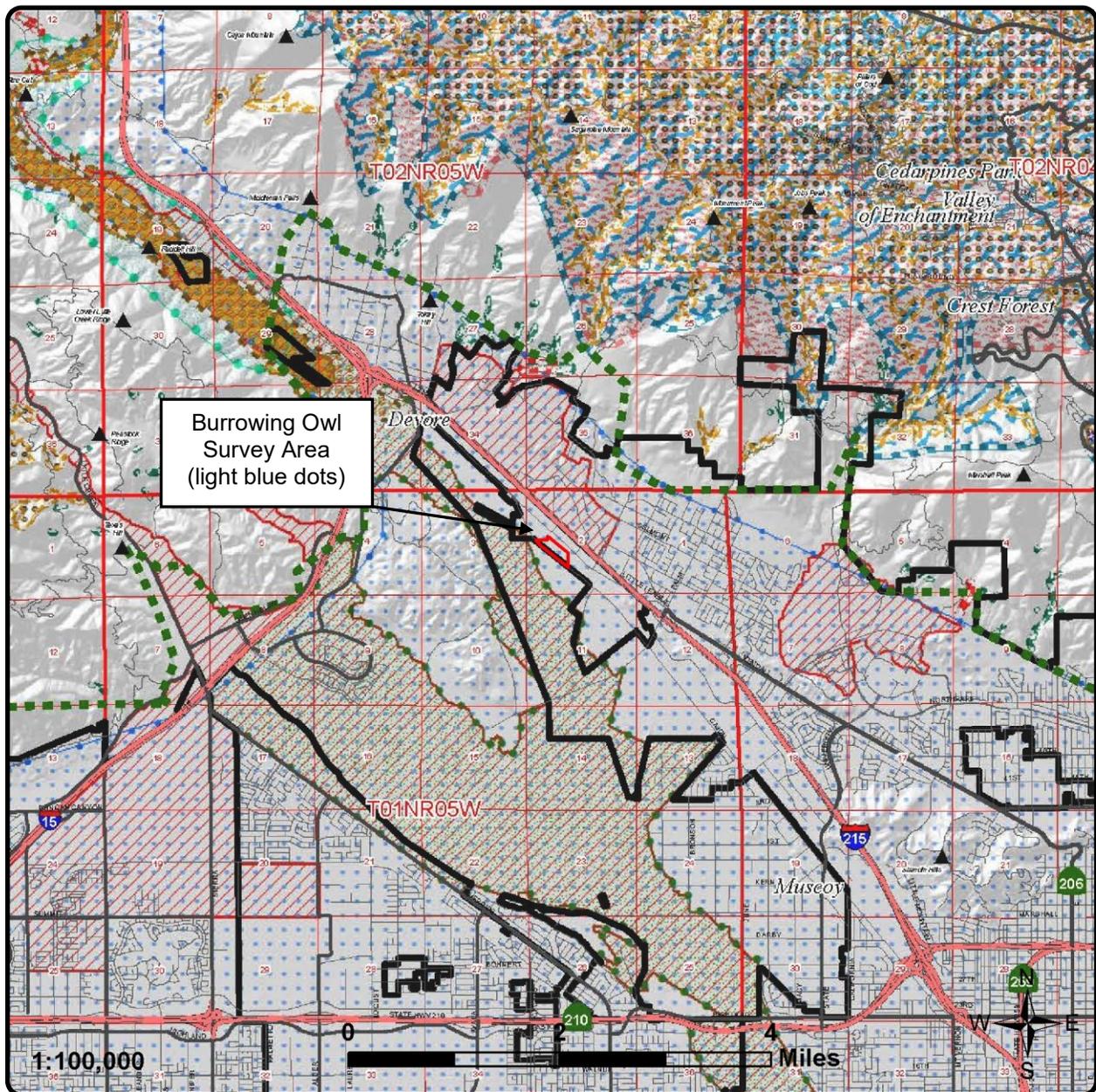
The Biotic Resources Overlay (Figure 11) applies to all of the Glen Helen Specific Plan area.”

1. Application Submittal

The Biotic Resources Overlay requires that, as part of submitting a development or a land use application that would result in an expansion or alteration of 25% or more of the ground area covered by the existing land use within potentially sensitive habitats identified in the Resource Management Plan (RMP), an applicant/landowner shall conduct a biological survey of the project site and submit a report that characterizes the habitat types and identifies the presence or the potential occurrence of sensitive species. The survey and report shall be in accordance with the requirements specified in the RMP. All applicable mitigation measures outlined in the RMP shall be implemented for the project.

2. Raptor Nests

Prior to the removal of any stand of trees, a biologist shall visit the site to determine if raptor nests are present. If active nests are observed, tree removal will be postponed until the nest is considered inactive, or until the end of the nesting season (August 31). Existing windrows and other assemblages of trees, native as well as ornamental, that provide viable raptor habitat shall be retained and incorporated into the design of individual development projects where practical. If retention is demonstrated to be impractical to the satisfaction of the County, the developer shall provide for the replacement of the trees per the guidelines contained in the RMP.



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TB-17-606
June 2018

Figure 11

Biotic Resources

Cajon Blvd. Project, San Bernardino Area
County of San Bernardino, California

APPENDIX D

CNDDDB Forms

Mail to:
 California Natural Diversity Database
 Department of Fish and Game
 1807 13th Street, Suite 202
 Sacramento, CA 95811
 Fax: (916) 324-0475 email: CNDDDB@dfg.ca.gov

For Office Use Only	
Source Code _____	Quad Code _____
Elm Code _____	Occ. No. _____
EO Index No. _____	Map Index No. _____

Date of Field Work (mm/dd/yyyy): 05/23/2018

California Native Species Field Survey Form

Scientific Name: Eremophila alpestris

Common Name: Horned Lark

Species Found? Yes No _____ If not, why? _____
 Total No. Individuals 3-5 Subsequent Visit? yes no
 Is this an existing NDDDB occurrence? _____ no unk.
 Yes, Occ. # _____
 Collection? If yes: _____
 Number _____ Museum / Herbarium _____

Reporter: Guy Bruyca
 Address: L&L Environmental, Inc.
700 East Redlands Blvd., Suite U, PMB#351, Redlands, CA
 E-mail Address: chrygina@hotmail.com
 Phone: (951) 681-4929

Plant Information
 Phenology: 50 % vegetative 40 % flowering 10 % fruiting

Animal Information
0 # adults 0 # juveniles 0 # larvae 0 # egg masses 0 # unknown
 wintering breeding nesting rookery burrow site other

Location Description (please attach map AND/OR fill out your choice of coordinates, below)

County: San Bernardino Landowner / Mgr.: Unknown
 Quad Name: _____ Elevation: 1812 ft.
 T _____ R _____ Sec _____, _____ ¼ of _____ ¼, Meridian: H M S Source of Coordinates (GPS, topo. map & type): GPS
 T _____ R _____ Sec _____, _____ ¼ of _____ ¼, Meridian: H M S GPS Make & Model _____
DATUM: NAD27 NAD83 WGS84 Horizontal Accuracy 12m meters/feet
Coordinate System: UTM Zone 10 UTM Zone 11 OR Geographic (Latitude & Longitude)
Coordinates: 34.200054, -117.377677

Habitat Description (plants & animals) plant communities, dominants, associates, substrates/soils, aspects/slope:
Animal Behavior (Describe observed behavior, such as territoriality, foraging, singing, calling, copulating, perching, roosting, etc., especially for avifauna):

HOLA was observed on partially disturbed open areas between RR tracks and Cajon Blvd. Dominants: distant phacelia (Phacelia distans), California croton (Croton californicus), evening primrose (Cammisoniopsis species), fiddleneck (Amsinckia intermedia), mustards (Sisymbrium spp.), and various non-native grasses. Adjacent less disturbed areas dominant with California buckwheat (Eriogonum fasciculatum), scalebroom (Lepidospartum squamatum), yerba santa (Eriodictyon trichocalyx), chamise (Adenostoma fasciculatum), spiny redberry (Rhamnus crocea) and skunkbrush (Rhus trilobata).

Please fill out separate form for other rare taxa seen at this site.

Site Information Overall site/occurrence quality/viability (site + population): Excellent Good Fair Poor
 Immediate AND surrounding land use: Disturbed/Industrial/Railroad/Low-Density Residential

Visible disturbances: Grading, disking, developments on and adjacent to site. Low density residential to east. Industrial to south and west.

Threats: industrial / urban development

Comments:

Determination: (check one or more, and fill in blanks)
 Keyed (cite reference): _____
 Compared with specimen housed at: _____
 Compared with photo / drawing in: _____
 By another person (name): _____
 Other: extensive field experience in ID of species

Photographs: (check one or more) Slide Print Digital
 Plant / animal
 Habitat
 Diagnostic feature
 May we obtain duplicates at our expense? yes no

Mail to:
California Natural Diversity Database
Department of Fish and Game
1807 13th Street, Suite 202
Sacramento, CA 95811
Fax: (916) 324-0475 email: CNDDDB@dfg.ca.gov

For Office Use Only	
Source Code _____	Quad Code _____
Elm Code _____	Occ. No. _____
EO Index No. _____	Map Index No. _____

Date of Field Work (mm/dd/yyyy): 04/26/2018

Reset

California Native Species Field Survey Form

Send Form

Scientific Name: Eremophila alpestris

Common Name: Horned Lark

Species Found? Yes No _____ If not, why? _____

Total No. Individuals 3 Subsequent Visit? yes no

Is this an existing NDDDB occurrence? _____ no unk.
Yes, Occ. # _____

Collection? If yes: _____
Number _____ Museum / Herbarium _____

Reporter: Guy Bruyey

Address: L&L Environmental, Inc.
700 East Redlands Blvd., Suite U, PMB#351, Redlands, CA

E-mail Address: chrygina@hotmail.com

Phone: (951) 681-4929

Plant Information

Phenology: 50 % vegetative 40 % flowering 10 % fruiting

Animal Information

0 # adults 0 # juveniles 0 # larvae 0 # egg masses 0 # unknown

wintering breeding nesting rookery burrow site other

Location Description (please attach map AND/OR fill out your choice of coordinates, below)

County: San Bernardino Landowner / Mgr.: Unknown

Quad Name: _____ Elevation: 1818 ft.

T _____ R _____ Sec _____, _____ ¼ of _____ ¼, Meridian: H M S Source of Coordinates (GPS, topo. map & type): GPS

T _____ R _____ Sec _____, _____ ¼ of _____ ¼, Meridian: H M S GPS Make & Model _____

DATUM: NAD27 NAD83 WGS84 Horizontal Accuracy 12m meters/feet

Coordinate System: UTM Zone 10 UTM Zone 11 OR Geographic (Latitude & Longitude)

Coordinates: 34.199539, -117.378781

Habitat Description (plants & animals) plant communities, dominants, associates, substrates/soils, aspects/slope:

Animal Behavior (Describe observed behavior, such as territoriality, foraging, singing, calling, copulating, perching, roosting, etc., especially for avifauna):

HOLA was observed along and just NE of Cajon Blvd on partially disturbed open areas with RR tracks in the distance. Dominants: distant phacelia (Phacelia distans), California croton (Croton californicus), evening primrose (Cammisoniopsis species), fiddleneck (Amsinckia intermedia), mustards (Sisymbrium spp.), and various non-native grasses. Adjacent less disturbed areas dominant with California buckwheat (Eriogonum fasciculatum), scalebroom (Lepidospartum squamatum), yerba santa (Eriodictyon trichocalyx), chamise (Adenostoma fasciculatum), spiny redberry (Rhamnus crocea) and skunkbrush (Rhus trilobata).

Please fill out separate form for other rare taxa seen at this site.

Site Information Overall site/occurrence quality/viability (site + population): Excellent Good Fair Poor

Immediate AND surrounding land use: Disturbed/Industrial/Railroad/Low-Density Residential

Visible disturbances: Grading, diskings, developments on and adjacent to site. Low density residential to east. Industrial to south and west.

Threats: industrial / urban development

Comments:

Determination: (check one or more, and fill in blanks)

- Keyed (cite reference): _____
- Compared with specimen housed at: _____
- Compared with photo / drawing in: _____
- By another person (name): _____
- Other: extensive field experience in ID of species

Photographs: (check one or more)

	Slide	Print	Digital
Plant / animal	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Habitat	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Diagnostic feature	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

May we obtain duplicates at our expense? yes no

Mail to:
 California Natural Diversity Database
 California Dept. of Fish & Wildlife
 1416 9th Street, Suite 1266
 Sacramento, CA 95814
 Fax: (916) 324-0475 email: CNDDDB@wildlife.ca.gov

For Office Use Only	
Source Code: _____	Quad Code: _____
Elm Code: _____	Occ No.: _____
EO Index: _____	Map Index: _____

Date of Field Work (mm/dd/yyyy): _____

California Native Species Field Survey Form

Scientific Name: Perognathus longimembris brevinasus

Common Name: Los Angeles Pocket Mouse

Species Found? <input checked="" type="radio"/> Yes <input type="radio"/> No If not found, why? _____ Total No. Individuals: <u>4</u> Subsequent Visit? <input type="radio"/> Yes <input checked="" type="radio"/> No Is this an existing NDDDB occurrence? <input type="radio"/> Yes, Occ. # _____ <input checked="" type="checkbox"/> No <input type="checkbox"/> Unk. Collection? If yes: _____ Number _____ Museum / Herbarium _____	Reporter: <u>ENVIRA</u> Address: <u>P.O. Box 2612</u> E-mail Address: <u>phvergne@aol.com</u> Phone: <u>619-885-0236</u>
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Plant Information	Animal Information
Phenology: <u>70</u> % vegetative % flowering % fruiting	# adults: <u>4</u> # juveniles _____ # larvae _____ # egg masses _____ # unknown _____ <input type="checkbox"/> wintering <input checked="" type="checkbox"/> breeding <input type="checkbox"/> nesting <input type="checkbox"/> rookery <input type="checkbox"/> burrow site <input type="checkbox"/> lek <input type="checkbox"/> other

Location Description (please attach map AND/OR fill out your choice of coordinates, below)
 The survey area discussed in this report is located adjacent to the northwestern most limits of the City of San Bernardino, between the 5th and 6th Wards on a narrow band of San Bernardino County land that juts into the City of San Bernardino (Figure 1).

County: San Bernardino Landowner / Mgr: _____ Elevation: _____
 Quad Name: Devore
 T 1N R 5W Sec 2, _____ 1/4 of _____ 1/4, Meridian: H M S Source of Coordinates (GPS, topo. map & type): _____
 T _____ R _____ Sec _____, _____ 1/4 of _____ 1/4, Meridian: H M S GPS Make & Model: Garmin e-trex
DATUM: NAD27 NAD83 WGS84 Horizontal Accuracy: 1 meter meters/feet
 Coordinate System: UTM Zone 10 UTM Zone 11 OR Geographic (Latitude & Longitude)
 Coordinates: 34 11.59 48 N and 117 22.43 26 W

Habitat Description (plants & animals) plant communities, dominants, associates, substrates/soils, aspects/slope:
Animal Behavior (Describe observed behavior, such as territoriality, foraging, singing, calling, copulating, perching, roosting, etc., especially for avifauna):
Three vegetation types currently exist in the survey area. In order of decreasing importance they are: un-vegetated/developed areas, disturbed alluvial fan sage scrub, and Alluvial Fan Sage Scrub (AFSS).

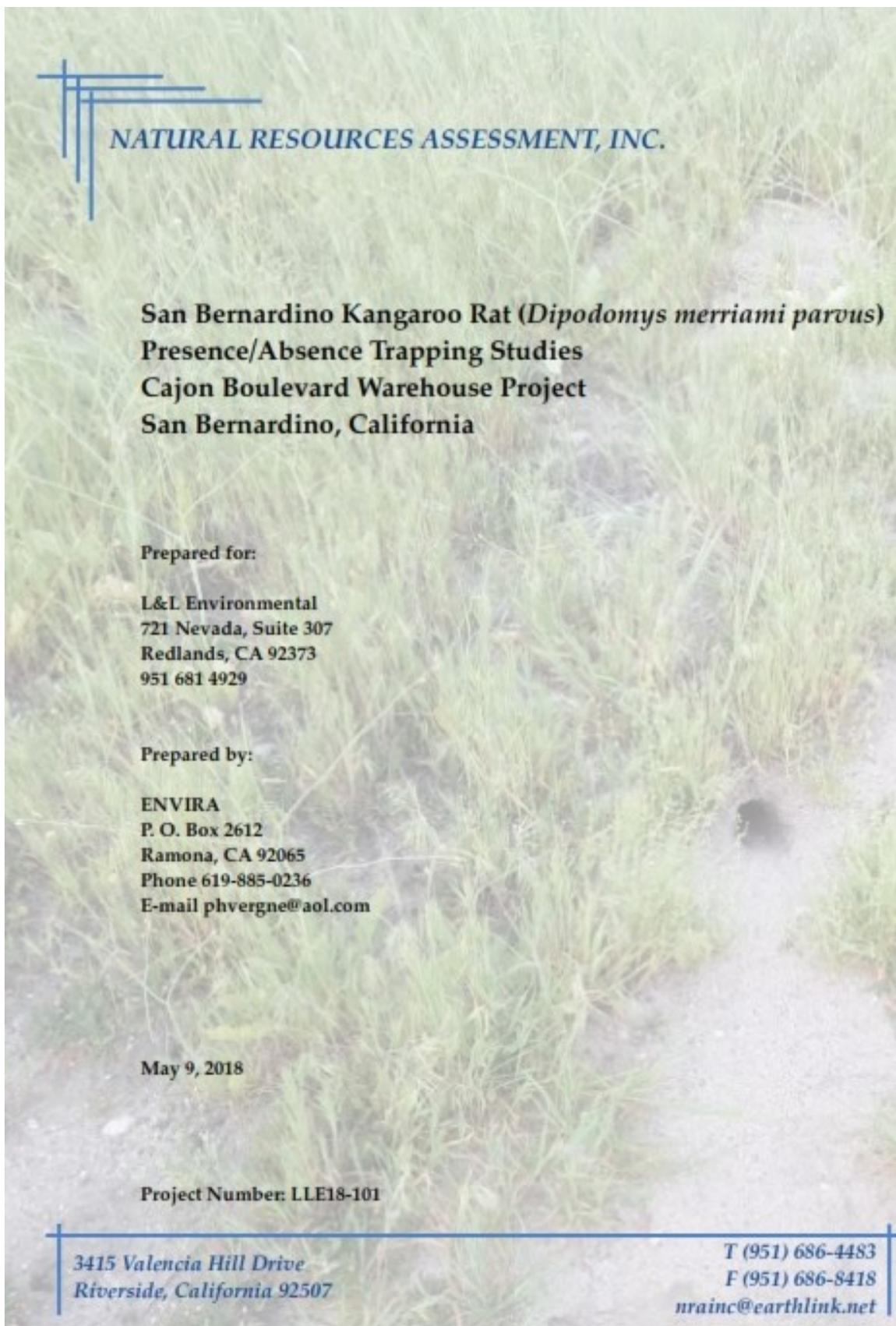
Please fill out separate form for other rare taxa seen at this site.

Site Information Overall site/occurrence quality/viability (site + population): Excellent Good Fair Poor
 Immediate AND surrounding land use: open degraded
 Visible disturbances: vehicle storage and repair yard, soils/gravel storage. ORV
 Threats: Development
 Comments: _____

Determination: (check one or more, and fill in blanks) <input type="checkbox"/> Keyed (cite reference): _____ <input type="checkbox"/> Compared with specimen housed at: _____ <input type="checkbox"/> Compared with photo / drawing in: _____ <input type="checkbox"/> By another person (name): _____ <input checked="" type="checkbox"/> Other: <u>field id</u>	Photographs: (check one or more) <table border="0"> <tr> <td></td> <td>Slide</td> <td>Print</td> <td>Digital</td> </tr> <tr> <td>Plant / animal</td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> </tr> <tr> <td>Habitat</td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> </tr> <tr> <td>Diagnostic feature</td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> </table> May we obtain duplicates at our expense? <input checked="" type="radio"/> yes <input type="radio"/> no		Slide	Print	Digital	Plant / animal	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Habitat	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Diagnostic feature	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Slide	Print	Digital														
Plant / animal	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>														
Habitat	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>														
Diagnostic feature	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>														

APPENDIX E

Natural Resource Assessment, Inc. Report: Small Mammal Trapping Study



Cajon Boulevard Warehouse Development
San Bernardino Kangaroo Rat Trapping Survey

NATURAL RESOURCES ASSESSMENT, INC.

CERTIFICATION

This Phase One Survey and report were conducted and prepared in accordance with professional requirements for small

mammal trapping studies by Philippe Vergne (USFWS Permit TE068072-3).



Philippe Jean Vergne, Field Biologist and Author.

Cajon Boulevard Warehouse Development
 San Bernardino Kangaroo Rat Trapping Survey

NATURAL RESOURCES ASSESSMENT, INC.

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Appendices

Appendix A - Plants and Animal Species Observed

Cajon Boulevard Warehouse Development
San Bernardino Kangaroo Rat Trapping Survey

NATURAL RESOURCES ASSESSMENT, INC.

1.0 Introduction

Natural Resources Assessment, Inc. (NRAI) was contracted by L&L Environmental, Inc. to conduct a habitat assessment and live-trapping effort for the federally listed endangered San Bernardino kangaroo rat (*Dipodomys merriami parvus*). The study was conducted on an estimated 20-acre site located in the Devore area of the city San Bernardino, San Bernardino County, California.

This report describes the existing conditions of the project site, the general biological resources observed on site, and the results of the trapping studies. The assessment and trapping work were required to determine the presence or absence of the San Bernardino kangaroo rat (SBKR) on the property.

2.0 Site Location and Project Description

The survey area discussed in this report is located adjacent to the northwestern most limits of the City of San Bernardino, between the 5th and 6th Wards on a narrow band of San Bernardino County land that juts into the City of San Bernardino (Figure 1).

The survey area is located in Section 2m Township 1 North, Range 5 West in San Bernardino County, California, San Bernardino baseline and meridian (Figure 2). This location is shown on the Devore, California 7.5-minute U. S. Geological Survey (USGS) quadrangle (Devore, 1988). The Assessor's Parcel Numbers (APNs) are 026-204-109, 026-204-113, 026-204-118, and 026-204-120.

The proposed project is for construction and operation of a warehouse.

3.0 Methods

A literature review and records check was conducted for sensitive resources within the vicinity of the proposed project. In addition to the literature review, a general field survey of the project area was conducted. The field survey provided information on the existing conditions of the site and the potential for sensitive resources to be present. Trapping surveys for SBKR were conducted in areas containing potential SBKR habitat.

3.1 Literature Review and Records Check

The literature review and records check included a review of standard field guides and texts on sensitive and non-sensitive biological resources potentially onsite, as well as the following sources:

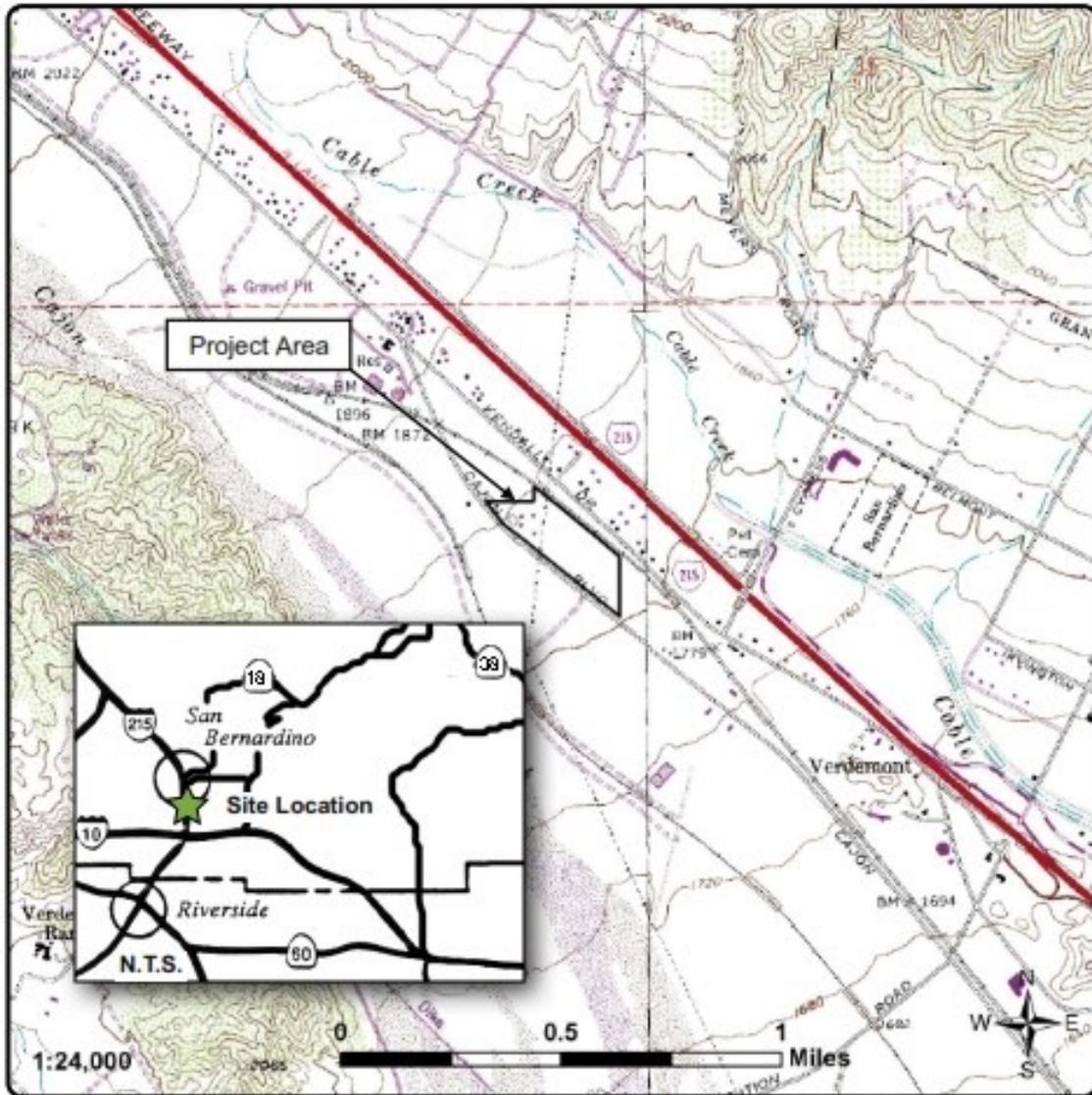
- List of sensitive biological resources provided by the California Natural Diversity Data Base (CNDDDB).
- *The Status and Known Distribution of the San Bernardino Kangaroo Rat (Dipodomys merriami parvus)*. Field surveys conducted between 1987 and 1996 (McKernan 1997).
- Endangered and Threatened Wildlife and Plants; Final Rule to List the San Bernardino Kangaroo Rat as Endangered; and Notice of Public Hearing (U. S. Fish and Wildlife Service 1998).

3.2 Habitat Evaluation Surveys

Mr. Philippe Vergne, a certified kangaroo rat biologist holding U.S. Fish and Wildlife Permit No. TE831207-4 and current California Department of Fish and Wildlife (CDFW) Memorandum of Understanding, inventoried and evaluated the condition of the soils and plant communities on site in order to assess the potential trapping locations for SBKR or other sensitive species. Mr. Vergne took notes during the surveys of all plant and animal species observed.

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San Bernardino Kangaroo Rat Trapping Survey

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Map Base: Devore USGS topographic quadrangle (1988).

Figure 1. Property Location and Original Topography

Map courtesy of L&L Environmental, Inc.

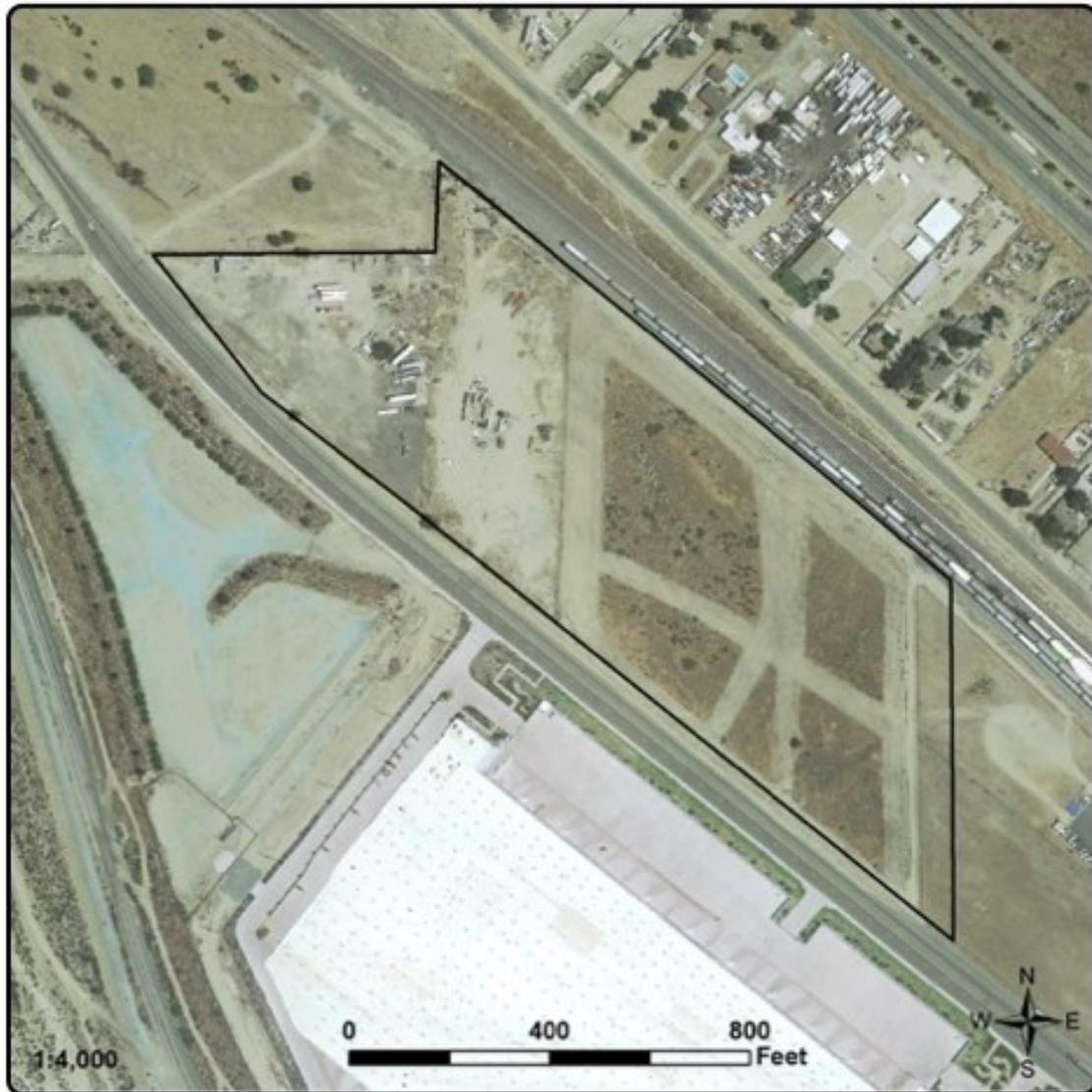
May 9, 2018 Cajon Warehouse Trapping LLE18-101

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Source: Google Earth 2017

Figure 2. Property Aerial Showing 2017 Property Conditions

Map courtesy of L&L Environmental, Inc.

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An intensive search was conducted in all potential habitat areas for such diagnostic kangaroo rat sign as habitat, scat, tracks, dust bowls and burrows (Photo 1). All species identified by sight, call or sign (burrows, scat, tracks, etc.) and visual observation were recorded. Mr. Vergne identified sign belonging to one or more kangaroo rat species.



Photo 1. Dulzura kangaroo rat burrow on site.

In addition, site characteristics such as soils, topography, the condition of the plant communities, and evidence of human use of the site were noted. A list of plant and wildlife species observed during the survey is included in Appendix A.

3.3 San Bernardino Kangaroo Rat Trapping Surveys

The current trapping surveys for SBKR were conducted according to U.S. Fish and Wildlife Service (USFWS) protocols established for SBKR. The current protocol calls for five nights of trapping, preferably during a new moon phase. One trapping session was conducted from April 5 to 9, 2018.

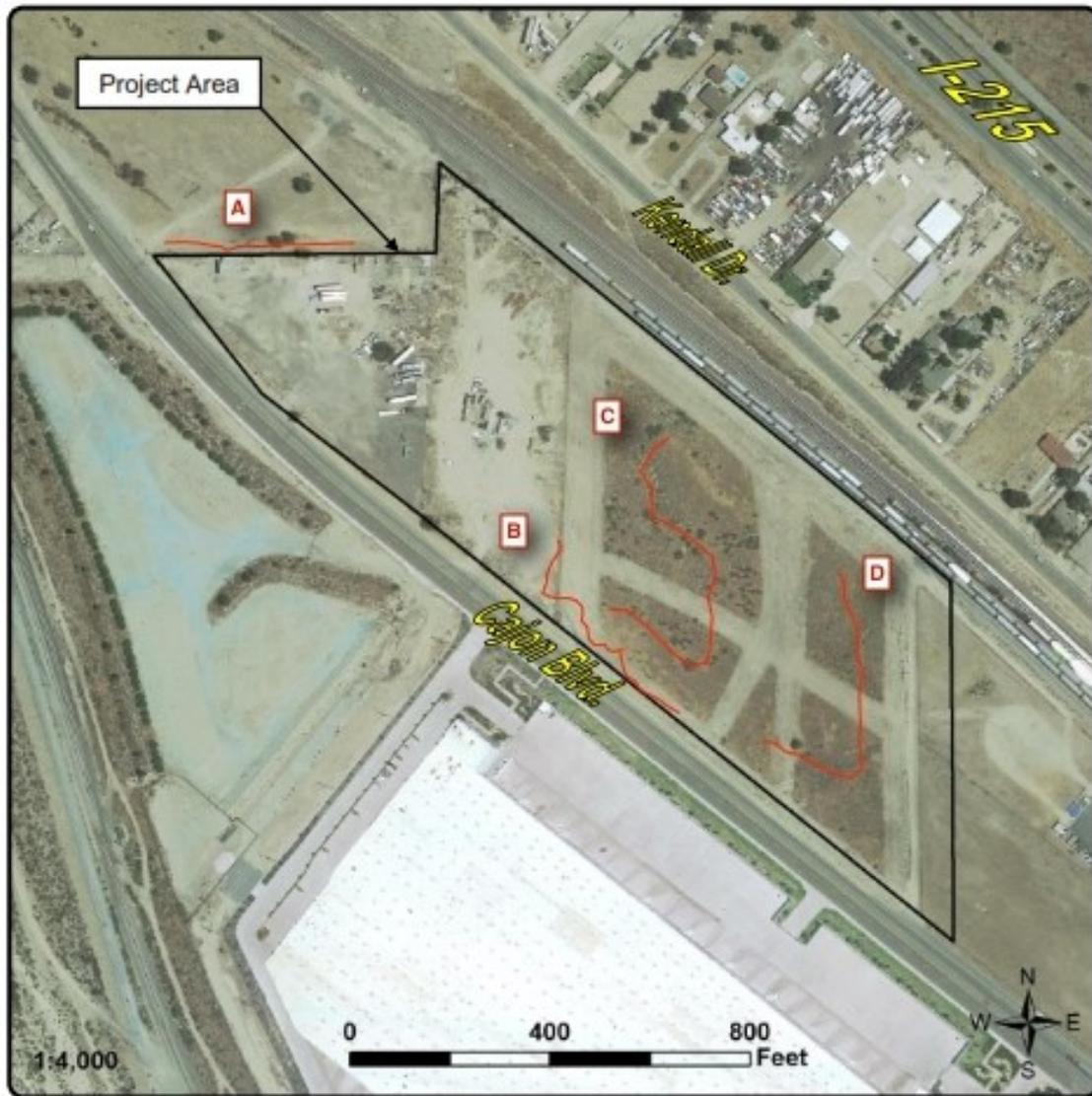
Five areas on the property were trapped. Trapping lines of 20-40 traps, set 12 meters apart, were set in trapping areas A through D (Figure 3). Traps were placed in areas containing sandy loam soils showing sign of small mammal use.

Each trap was baited with birdseed placed at the back of the traps. The traps were left in place each day. Each trap was set at dusk each night and inspected once during the night and at dawn each morning. All animals were identified and released at the point of capture.

Notes were taken on the habitat conditions where the traps were placed. Weather conditions at the time of the trapping were also noted.

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Source: Google Earth 2017

Figure 3. Trapline Locations

 Trapline

Map courtesy of L&L Environmental, Inc.

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4.0 Results

Four sensitive mammal species were identified as potentially present in the vicinity of the project site: the San Bernardino kangaroo rat, northwestern San Diego pocket mouse (*Chaetodipus fallax fallax*), Los Angeles pocket mouse (*Perognathus longinembris brevinasus*), and San Diego desert woodrat (*Neotoma lepida intermedia*).

Of the animal species potentially present, only the San Bernardino kangaroo rat requires specific survey protocols to establish presence or absence. These specific survey protocols are required for areas where impacts may occur to the sensitive species or their occupied habitat. The remaining species are usually identified through casual observation or as part of the overall trapping effort.

4.1 Sensitive Biological Resources

4.1.1 San Bernardino Kangaroo Rat

The San Bernardino kangaroo rat is primarily associated with a variety of sage scrub vegetation, where the common elements are the presence of sandy soils and relatively open vegetation structure (McKernan 1997). Flood events break out of the main river channel in a complex pattern, resulting in a braided appearance to the flood plain. This dynamic nature to the habitat leads to a situation where not all the alluvial scrub habitat is suitable for the kangaroo rat at any point in time.

The SBKR prefers open habitat characterized by a low stature open scrub canopy cover of less than 22 percent. Occupied SBKR habitat also typically exhibits a reduced herbaceous cover with a low abundance of European grasses, such as brome species. This type of habitat is best described as early to intermediate phase alluvial sage scrub communities that are subject to frequent flooding/scouring. The open vegetation structure in these communities support the highest densities of SBKR.

Mature phase alluvial chaparral, which are usually located above the active channel or on higher benches are not usually occupied by SBKR, although individuals have been trapped in dense upland scrub adjacent to open habitat and SBKR populations (Vergne 2008).

4.1.2 Northwestern San Diego Pocket Mouse

The northwestern San Diego pocket mouse prefers habitat similar to that preferred by the SBKR. The northwestern San Diego pocket mouse occurs in open, sandy areas in the valleys and foothills of southwestern California.

The range of this species extends from Orange County to San Diego County, and includes Riverside and San Bernardino counties. This mouse is a California Species of Concern (CSC) whose historical range has been reduced by urban development and agriculture.

4.1.3 Los Angeles Pocket Mouse

The Los Angeles pocket mouse is one of two pocket mice found in this area of San Bernardino County. Both the Los Angeles pocket mouse and the San Diego pocket mouse occupy similar habitats, but the San Diego pocket mouse has a wider range extending south into San Diego County. The habitat of the Los Angeles pocket mouse is described as being confined to lower elevation grasslands and coast sage scrub habitats, in areas with soils composed of fine sands (Williams, 1986). The present known distribution of this species extends from Rancho Cucamonga east to Morongo Valley and south to the San Diego County border.

Los Angeles pocket mouse forages in open ground and underneath shrubs. Pocket mice dig burrows in loose soil, although this has not been completely documented for this subspecies.

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The L.A. pocket mouse is listed as a California Species of Concern by the California Department of Fish and Wildlife (CDFW).

4.2 Soils and Topography

Soils data for the survey area were obtained from the U. S. Department of Agriculture, Natural Resource Conservation Service and Soil Survey Geographic (SSURGO) Database. The survey area is a mixture of Soboba gravelly loamy sand (0-9% slopes) and Tujunga gravelly loamy sand (0-9% slopes, Figure 4). The majority of the survey area is characterized as Tujunga gravelly loamy sand.

Located on a slightly raised bench within the historic flood plain between Cajon Wash and Cable Creek, the survey area is relatively flat with a slight slope that drops downward to the southeast. Soils observed within the developed portion of the site were compacted or had imported gravel. The undeveloped area soils were compacted where there are roadways cut across the site but appeared sandy in less disturbed areas and adjacent to the railroad tracks to the north and east.

4.3 Land Uses

The survey area is located between Cajon Boulevard to the southwest and the railroad tracks, with Kendall Drive just beyond to the northeast. It is generally bounded to the northeast and southwest by commercial and industrial development with Cajon Wash beyond to the southwest. Undeveloped disturbed land is immediately adjacent to the site to the northwest and southeast with industrial and commercial land beyond.

4.4 Plant Communities

Three vegetation types currently exist in the survey area. In order of decreasing importance they are: un-vegetated/developed areas, disturbed alluvial fan sage scrub, and Alluvial Fan Sage Scrub (AFSS) (Photos 2, 3 and 4).



Photo 2. Scrub/grassland habitat in the southeast portion of the property.

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Photo 3. Disturbed habitat in the southeastern portion of the property. Looking northeast.



Photo 3. Developed portion of the property. Looking northwest.

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 San Bernardino Kangaroo Rat Trapping Survey

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4.5 Wildlife

Wildlife activity was low during the trapping surveys. One reptile species, the side-blotched lizard (*Uta stansburiana*) was observed. Bird species observed included mourning dove (*Zenaida macroura*), ravens (*Corvus corax*) and American kestrel (*Falco sparverius*).

A list of species observed is given in Appendix A.

4.6. San Bernardino Kangaroo Rat Trapping Surveys

4.6.1 Weather Conditions

Weather conditions during the trapping surveys included morning temperatures in the mid sixties to low seventies degrees Fahrenheit, with clear to partly cloudy skies and winds of less than five miles per hour. With night/early morning fog occurring on one day of the survey period. The moon was new during the protocol survey. Daily weather conditions for each day are summarized in Table 1 below.

Table 1. Weather Summary

Date	Cloud Cover	Morning Temperatures (F)	Wind Speed (miles per hour)
April 5, 2018	Clear	53	0
April 6, 2018	Clear	54	0
April 7, 2018	Clear	55	0-3
April 8, 2018	Fog	55	0
April 9, 2018	Clear	54	0

4.6.2 Trap Site Descriptions

Traps were set within open areas on sites that had small fossorial mammal sign or that were near less disturbed areas adjacent to the property.

4.6.3 Trapping Survey Results

Trapping success was low over the entire trapping period. A total of four small mammal species were trapped during the survey period. Table 2 provides summary information on the species trapped per trapping location.

Table 2. Trapping Results for the Cajon Boulevard Warehouse Development

Trap Site	Number of Trap Nights	Dulzura Kangaroo Rat	Cactus Mouse	Deer Mouse	Los Angeles Pocket Mouse
		<i>Dipodomys simulans</i>	<i>Peromyscus eremicus</i>	<i>Peromyscus maniculatus</i>	<i>Perognathus longimembris brevinius</i>
A	80	2	1	4	0
B	125			3	1
C	150	11	2	7	3
D	150	14		6	0
Totals	505	27	3	20	4

Cajon Boulevard Warehouse Development
San Bernardino Kangaroo Rat Trapping Survey

NATURAL RESOURCES ASSESSMENT, INC.

5.0 Discussion

SBKR were not captured during the protocol survey. Based on survey results, the SBKR does not currently occur on site and project implementation will have no direct impacts to the SBKR.

One sensitive mammal species, the Los Angeles pocket mouse, was captured during the focused survey. Impacts to this species from project implementation are not considered to be significant on a regional scale.

Cajon Boulevard Warehouse Development
San Bernardino Kangaroo Rat Trapping Survey

NATURAL RESOURCES ASSESSMENT, INC.

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Cajon Boulevard Warehouse Development
San Bernardino Kangaroo Rat Trapping Survey

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Appendix A - Plant and Animal Species Observed

* denotes non-native plant species

Plants

ANGIOSPERMAE: DICOTYLEDONES

Asteraceae

Artemisia californica
Helianthus annuus
Heterotheca grandiflora

Boraginaceae

Amsinckia menziesii

Brassicaceae

**Hirschfeldia incana*

Cactaceae

Opuntia sp.

Chenopodiaceae

**Salsola tragus*

Euphorbiaceae

Croton californica
Croton setigerus

Fabaceae

Lotus scoparius
Lupinus bicolor

Hydrophyllaceae

Eriodictyon trichocalyx

Polygonaceae

Eriogonum fasciculatum
Eriogonum gracile

Rosaceae

Adenostoma fasciculatum
Cercocarpus betuloides

Poaceae

**Bromus diandrus*
**Bromus tectorum*
**Cenchrus* sp.
**Schismus barbatus*

DICOT FLOWERING PLANTS

Sunflower family

California sagebrush
Annual sunflower
Telegraph weed

Borage family

Fiddleneck

Mustard family

Short-podded mustard

Cactus family

Cholla

Saltbush family

Russian thistle

Spurge family

Croton
Doveweed

Pea family

Deer weed
Miniature lupine

Waterleaf family

Yerba santa

Buckwheat family

California buckwheat
Graceful buckwheat

Rose family

Chamise
Mountain mahogany

Grass family

Ripgut brome
Cheatgrass
Sandbur
Mediterranean grass

Taxonomy and nomenclature follow Baldwin & Goldman 2012 and Munz 1974.

May 18, 2016 Greenspot Trapping 2016 LLE16-102

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Cajon Boulevard Warehouse Development
San Bernardino Kangaroo Rat Trapping Survey

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Animals

REPTILIA

Iguanidae

Uta stansburiana

Colubridae

Masticophis flagellum

AVES

Charadriidae

Charadrius vociferus

Cathartidae

Cathartes aura

Accipitridae

Buteo lineatus

Falconidae

Falco sparverius

Phasianidae

Callipepla californica

Columbidae

Columba livia

Zenaidura macroura

Tytonidae

Tyto alba

Emberizidae

Zonotrichia leucophrys

MAMMALIA

Leporidae

Sylvilagus audubonii

Sciuridae

Spermophilus beecheyi

Geomysidae

Thomomys bottae

May 9, 2018 Cajon Warehouse Trapping LLE18-101

REPTILES

Iguanas and their allies

Side-blotched lizard

Colubrids

Coachwhip

BIRDS

Plovers and relatives

Killdeer

Vultures

Turkey vulture

Kites, hawks and eagles

Red-shouldered hawk

Caracaras and falcons

American kestrel

Quails and pheasants

California quail

Pigeons and doves

Rock dove

Mourning dove

Barn owl

Barn owl

Warblers, sparrows, blackbirds and relatives

White-crowned sparrow

MAMMALS

Rabbits and hares

Audubon's cottontail

Squirrels, chipmunks and marmots

California ground squirrel

Pocket gophers

Botta's pocket gopher

A-2

Cajon Boulevard Warehouse Development
San Bernardino Kangaroo Rat Trapping Survey

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Heteromyidae

Perognathus longimembris brevinasus
Dipodomys simulans

Pocket mice and kangaroo rats

Los Angeles pocket mouse
Dulzura kangaroo rat

Cricetidae

Peromyscus eremicus
Peromyscus maniculatus

Cricetine mice and rats

Cactus mouse
Deer mouse

Canidae

Canis latrans

Foxes, wolves and relatives

Coyote

Nomenclature follows California Department of Fish and Wildlife 2016 and Stebbins 1966.