

**Reconnaissance-level Biological Evaluation  
for  
Hageman Land Partners, LLC  
Section 14, T29S, R26E, M. D. B. & M.  
APN 529-012-37  
Bakersfield, California**

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## EXECUTIVE SUMMARY

This report documents the biological resources found during a reconnaissance-level biological survey conducted on December 8, 2018 on approximately 8.53 acres (3.45 hectares) of agricultural land in Bakersfield, California. The proposed project consists of a General Plan Amendment and Zone Change for the construction of a series of light industrial buildings within Assessor's Parcel Map Number (APN) 529-012-37, and is located in the northwest 1/4 of Section 14, Township (T) 29 South (S), Range (R) 26 East (E), Mount Diablo Base and Meridian (M. D. B. & M.) henceforth referred to as Project.

The purpose of this report is to document biological resources identified during the survey conducted for the proposed Project and to recommend avoidance and minimization measures for implementation prior to and during Project activities. This report includes an evaluation of the potential for special-status biological resources not observed during surveys to occur on the property based on the habitat conditions observed. The Project is located within the geographic range of several threatened and/or endangered wildlife taxa including San Joaquin kit fox (*Vulpes macrotis mutica*; SJKF) and blunt-nosed leopard lizard (*Gambelia sila*; BNLL). In addition, the site is within the range of listed plant taxa, including Bakersfield cactus (*Opuntia basilaris* var. *treleasei*).

Listed plant and animal species are protected primarily through the Federal Endangered Species Act (FESA) and/or the California Endangered Species Act (CESA). Each of these laws, among other provisions, prohibits *take* of listed threatened and endangered species. Although the definition of *take* under each law varies somewhat, in general, injuring or killing listed species without a permit issued from the United States Fish and Wildlife Service (USFWS) and/or the California Department of Fish and Wildlife (CDFW; formerly the California Department of Fish and Game [CDFG]) is unlawful. Under FESA, harassment and/or harm are also considered *take* for which the USFWS requires a permit. One of the potentially occurring species, BNLL is a California *fully protected* species. Under this designation, no *take* of this species is allowed, even under endangered species act permitting.

Based upon field survey results, the Project will not result in significant impacts to wetlands, riparian habitat or other special-status habitats. The Project does have the potential to affect some special-status species. Species-specific recommendations and a series of general recommendations are included that, when implemented, should mitigate any Project effects to biological resources. The Project will not conflict with existing or adopted Habitat Conservation Plans, Natural Community Conservation Plans, local or regional conservation plans, or local ordinances protecting biological resources.

Consideration of potential impacts to plant and animal species are required under the *Federal Endangered Species Act of 1973* (FESA 2018), the *California Endangered Species Act of 1970* (CESA 2018), and the *California Environmental Quality Act of 1970* (CEQA 2018) during a General Plan Amendment and Zone Change; however, the proposed Project is located within the Metropolitan Bakersfield Habitat Conservation Plan (MBHCP) CDFW, Incidental Take Permit (ITP) Number (No.) 2081-2013-058-04 boundaries. Potential impacts to species covered by the ITP, would be fully-mitigated by participation in the MBHCP.

## 1.0 INTRODUCTION

### 1.1 Purpose and Background

The purpose of this report is to document biological resources identified during a biological reconnaissance-level survey and literature review of the Project site, and to recommend avoidance and minimization measures for implementation prior to and during Project activities. The literature review, survey results, and the professional experience of McCormick Biological, Inc. (MBI) staff were combined to evaluate the potential Project effects on those resources. The fieldwork consisted of a single surface survey to evaluate habitat conditions suitable for occupation by potentially occurring special-status species; based on the existing natural vegetative communities, current site conditions, and diagnostic sign detected during the survey.

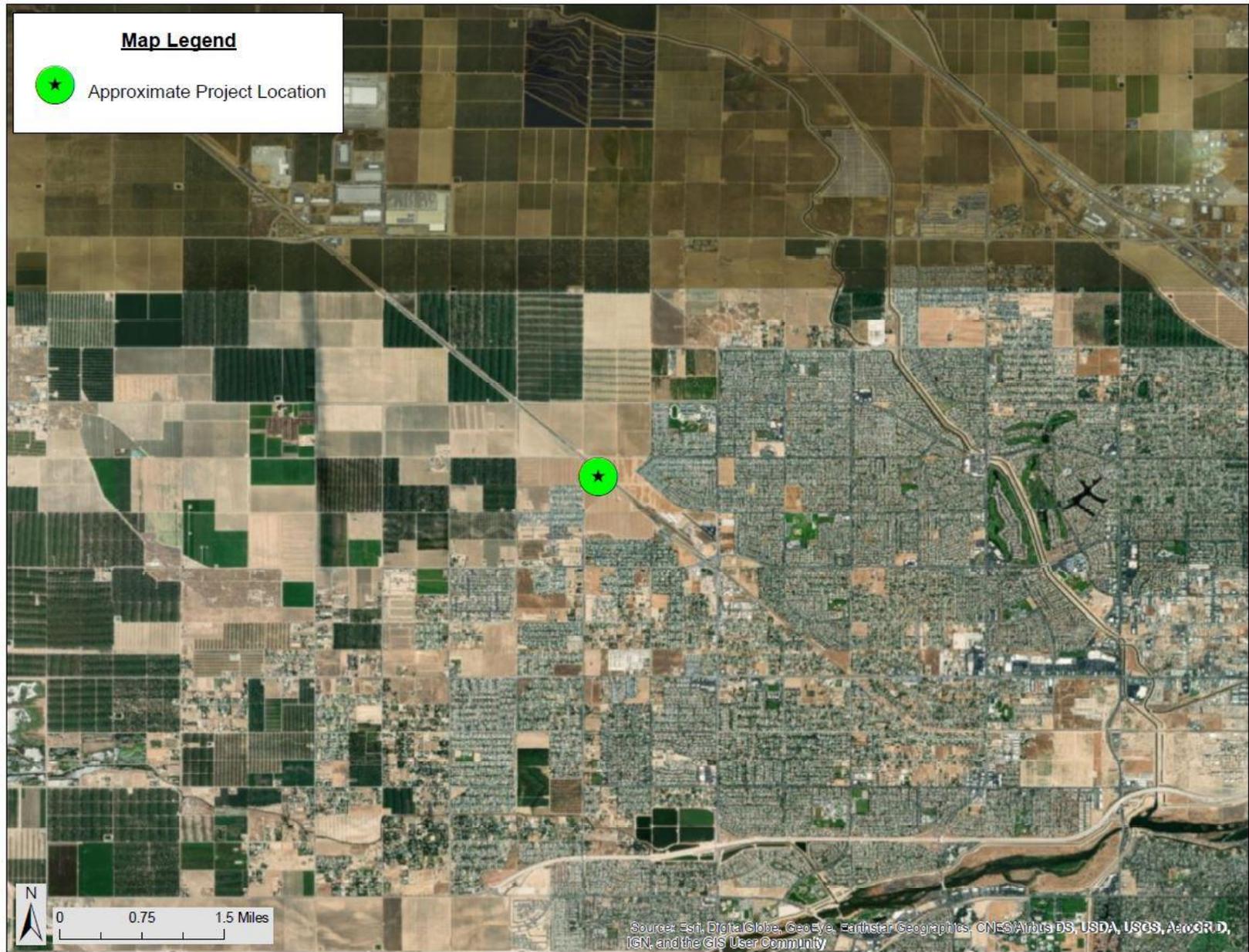
This report is intended to support CEQA review of the proposed Project for a General Plan Amendment and Zone Change. For the purposes of this report, potential impacts to the biological resources of the proposed Project were evaluated in accordance with the biological resources section in Appendix G of the *CEQA Guidelines* (2018).

### 1.2 Project Site and Surrounding Area Descriptions

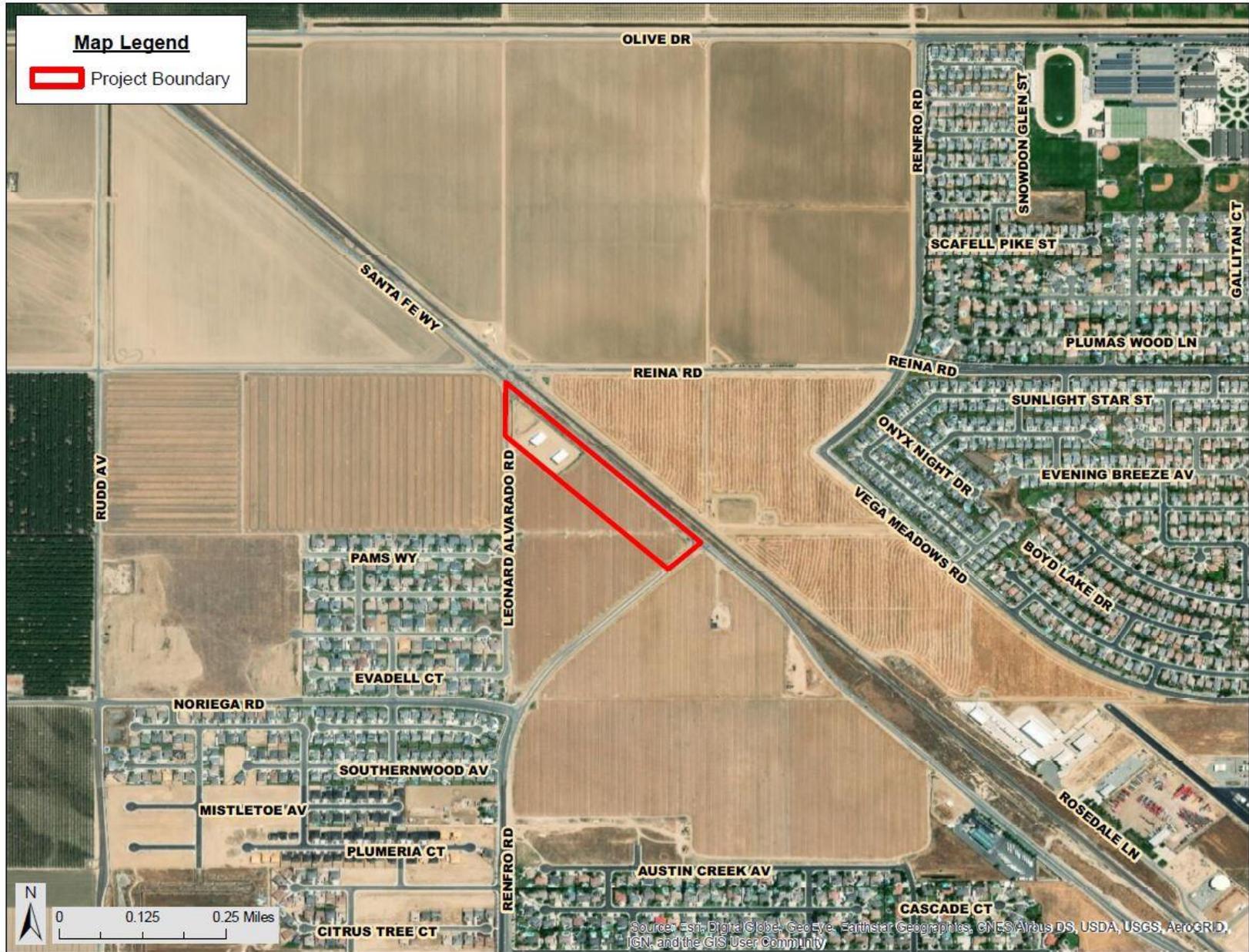
The Project consists of a single parcel of land (APN 529-012-37) in Section 14, T29S, R26E, M. D. B. & M, in western Kern County, California (Figures 1-1 and 1-2). The general topography of the area is generally level as the parcels have been historically farmed. Aerial imagery reflects that the entire Project area has been farmed since at least 1994. The average elevation of the Project area is approximately 355 feet (108 meters) above sea-level.

The Project is located in central San Joaquin Valley; a broad, treeless plain in the rain shadow of the Coast Ranges. The region's climate can be characterized as Mediterranean; with hot, dry summers and cool, moist winters. Summer high temperatures typically exceed 100 degrees Fahrenheit (°F; 38 degrees Celsius [°C]); with an average of 110 days per year over 90 °F (32 °C). Winter temperatures in the San Joaquin Valley are mild, with an average of only 16 days per year with frost (Twisselmann 1967).

Rainfall varies, increasing from west to east, with the west side of the valley receiving an average of around 4 inches (10 centimeters) per year and the east side averaging about 6 inches (15 centimeters) per year. Winter fog, called tule fog, sometimes forms during the months of November, December, and January, supplementing the annual precipitation. Approximately 90% of the rainfall in the region occurs between the 1<sup>st</sup> of November and the 1<sup>st</sup> of April. Drought cycles occur periodically, becoming severe enough that plant and animal populations can experience large fluctuations. The vegetation communities in the San Joaquin Valley are distinguishable from the Mojave Desert to the east due to tule fog, higher humidity, and isolation from continental climatic influences by mountain ranges (Twisselmann 1967).



**Figure 1-1:** Aerial Photograph of the Proposed Project Site – Vicinity



**Figure 1-2:** Aerial Photograph of the Proposed Project Site – Project Site

### 1.3 *Regulatory Background*

The following section identifies the regulatory compliance framework that has been considered during both the field work and development of this biological evaluation. The regulatory framework establishes criteria in which significance is determined and whether a project will have a significant impact on species, biological resources, or the environment.

#### 1.3.1 Federal and State Endangered Species Acts

The Project site is within the range of several state- and federal-listed species which are protected through various statutes. Listed plant and animal species are protected primarily through FESA and/or CESA. Each of these laws, among other provisions, prohibits *take* of listed threatened and endangered species. Although the definition of *take* under each law varies, in general, injuring or killing listed species without a permit issued from the USFWS and/or the CDFW is unlawful. Under FESA, harassment and/or harm could also be considered take, which requires a permit. The California Fish and Game Code (CFGC) has classified some species as *fully protected*. Under this designation, no take of these species is allowed, even with authorization under CESA or FESA permitting.

#### 1.3.2 Migratory Bird Treaty Act

Among other provisions, the *Migratory Bird Treaty Act (MBTA) of 1918* (2018) prohibits the destruction of nests, eggs, and/or young of all designated migratory bird species. With very limited exceptions, all birds are included in this prohibition (MBTA 2013).

#### 1.3.3 California Fish and Game Code (C.F.G.C. § 1580 et seq.)

The following paragraphs summarize several sections of the CFGC, and are applicable to analysis of biological resource impacts that may be associated with the Project.

##### *Section 1580*

This section declares the policy of the state is to protect threatened or endangered native plants; wildlife; aquatic organisms or specialized habitat types; both terrestrial and non-marine aquatic, or large, heterogeneous natural gene pools for the future use of mankind through the establishment of ecological reserves.

##### *Sections 1600–1616*

This portion of the CFGC requires notification to the CDFW if any of the following may occur within a river, stream, or lake in the state of California:

- Substantial diversion or obstruction of the natural flow,
- Substantially changing or using any material from the bed, channel, or bank,
- Depositing or disposing of debris, waste, or other material containing crumbled, flaked, or ground pavement where it may pass into any river, stream, or lake.

This notification may result in a Streambed Alteration Agreement between the Project applicant and the CDFW. Activities in intermittent streams and canals may require Streambed Alteration Agreements.

*Section 1900, et seq.*

This portion of the CFGC is known as the *California Native Plant Protection Act of 1977* (2018). The purpose of this chapter is to preserve, protect and enhance endangered or rare native plants of California. Many species and subspecies of native plants are endangered because their habitats are threatened with destruction, drastic modification, or severe curtailment. Commercial exploitation, disease, and other factors also represent threats to species and subspecies of native plants. This portion of the code designates rare, threatened, and endangered plant taxa of California.

*Section 1930–1933*

These sections established the Significant Natural Areas Program and declared it to be administered by the CDFW, because areas containing diverse ecological and geological characteristics are vital to the continual health and well-being of the state’s citizens and natural resources. The CDFW is responsible for obtaining access to the most recent information with respect to natural resources by maintaining, expanding, and keeping a current data management system (California Natural Diversity Database [CNDDDB]), designed to document information on these resources. This data is required to be made available to interested parties on request, and costs are to be shared by all who use the data management system.

The state’s most significant natural areas are to be designated and; after consultation with federal, state, and local agencies; educational institutions, civic and public interest organizations, private organizations, landowners, and other private individuals; periodic reports regarding the most significant natural areas are to be prepared. The CDFW is required to maintain and perpetuate these significant natural areas for present and future generations in the most feasible manner. The code also requires that the CDFW coordinate services to federal, state, local and private interests wishing to aid in the maintenance and perpetuation of significant natural areas.

*Section 3503*

This section prohibits taking, possessing, or needlessly destroying the nest or eggs or any bird. Birds of prey are included in Section 3503.5.

*Section 3513*

California’s migratory birds are protected under this section by making it unlawful to take or possess any migratory, non-game bird (or any part of such bird) as designated in the MBTA.

*Section 3511, 4700, 5050, and 5515*

These sections prohibit take of animals that are classified as fully protected in California. Take of fully protected species is specifically prohibited, even if other sections of the CFGC provide for incidental take of the species.

*Title 14 California Code of Regulations (CCR) Section 15000 et seq.*

This portion of the CCR prescribes the regulations to be followed by all local and state agencies in implementing CEQA.

*Porter-Cologne Water Quality Control Act (Clean Water Act Section 401 Certification or Waiver)*

The state of California regulates water quality related to discharge of fill material into waters of the state pursuant to Section 401 of the *Clean Water Act (CWA) of 1972* (2018). Section 401 compliance is a federal mandate implemented by the state. The local Regional Water Quality Control Board (RWQCB) has jurisdiction over all those areas defined as jurisdictional under Section 404 of the CWA and regulates water quality for all waters of the State. These waters may include isolated wetlands as defined under the California *Porter-Cologne Water Quality Control Act* (2018). Regulated discharges include those that can affect water quality, even if there is no significant nexus to a traditional navigable water body required for the United States (U.S.) Army Corps of Engineers (ACOE) determination of jurisdiction over waters of the U.S. A Waste Discharge Permit may be required to comply with the Porter-Cologne Water Quality Control Act even if the CWA (including Section 401 water quality certifications or Section 404 permits) would not apply.

The ACOE, under Section 404 of the CWA, regulates discharges of dredged or fill material in waters of the U.S. In addition to designated and traditional navigable waters, these terms include:

waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, the use, degradation or destruction of which could affect interstate or foreign commerce including any such waters: 1) Which are or could be used by interstate or foreign travelers for recreational or other purposes; or 2) From which fish or shellfish are or could be taken and sold in interstate or foreign commerce; or 3) Which are used or could be used for industrial purpose by industries in interstate commerce.

Tributaries to waters of the U.S. and adjacent wetlands would also be included. Some intermittent washes may be included in the defined waters of the U.S. depending on connection or nexus to navigable waters. Both wetlands and non-wetland areas can be included within the regulated area. Within non-wetlands that are classified as waters of the U.S., the ACOE maintains jurisdiction up to the ordinary high-water mark. If wetlands are present that meet the criteria established by the ACOE, the limit of jurisdiction is the ordinary high-water mark or the limit of the adjacent or associated wetland, whichever is greater. If waters are determined to be under the jurisdiction of the ACOE, the RWQCB would be the state-permitting authority. At the discretion of the ACOE, impacts to these areas could require a permit, depending on the type and size of the activity within ACOE jurisdiction.



## 2.0 METHODS

Special-status species considered in this evaluation include those that may occur in the Project vicinity that have statutory protections, and include federal- and state-listed (rare, threatened, or endangered; fully protected) species and candidates for listing under the respective endangered species acts. Species that are of special concern to the CDFW or the USFWS are included in this analysis. Special-status bird species that are also protected by the MBTA which may nest on or within an approximate 10-mile (16-kilometer) radius of the Project site are also evaluated.

Species meeting the criteria as special-status for inclusion in this document include those that occur on the lists of concern consulted during the literature review. Lists consulted include those prepared by a special interest group, such as the California Native Plant Society (CNPS) or Western Bat Working Group (WBWG), where such a group has concluded based on published and/or empirical data that the species is declining and warrants concern. Species meeting these criteria have been considered, if potential habitat for that species is present in the Project area. All species evaluated are collectively referred to as special-status species.

The list of special-status species that was evaluated was additionally compiled by consulting pertinent literature, obtaining the USFWS Information for Planning and Consultation (IPaC) list for the Project site, and accessing the CNDDDB. MBI staff reviewed these lists and other pertinent information to complete the list of special-status species evaluated (CNDDDB 2018; CNPS 2018; USFWS 2018a). The list was then reviewed based on site characteristics and observations to assess the potential for occurrence, and potential impacts were determined in relation to the special-status species likely occurring on the proposed Project site; rather than the overall Project vicinity. Species whose occurrence in the vicinity and life history makes them vulnerable to impacts, even if they do not occur directly on the Project site, were also evaluated.

A 10-mile (16-kilometer) CNDDDB report was generated for the Project location (i.e., USGS 7.5-minute topographic quadrangle in which the Project site is found as well as the quadrangles located within a 10-mile [16-kilometer] radius of the Project footprint). The CNDDDB contains records for special-status species and special-status natural communities that have been reported to the CDFW. The electronic version of the database is updated quarterly (CNDDDB 2018).

No focused surveys for special-status species were requested or conducted for this report. A reconnaissance-level survey was conducted on December 8, 2018, by Mr. Jared Pratt and Mr. Steven Pruett, MBI biologists. Survey methods consisted of walking the exterior of the Project area. The Project site area is currently being utilized for agriculture purposes and has rows of carrots throughout the entirety of the interior. As such, the interior of the Project site was inspected as thoroughly as possible from the accessible edges. A portion of the Project area is developed with two existing buildings surrounded by a block wall. The exterior of this developed area was inspected for any evidence of special-status species as well. Field notes included observations of all plant and wildlife species observed. Supporting documentation regarding species findings included direct observations and/or significant species *sign* (e.g., scat, tracks, feather/fur, prey remains, nests/burrows or any other indication of wildlife presence) deemed necessary to document potential occupation.

If encountered, coordinates for important biological resource elements and direct observations of special-status species were recorded using a handheld geographic positioning system unit (accuracy  $\pm 20$  feet,  $\pm 6$  meters).

All plant taxa encountered were identified to the extent possible given the diagnostic features present. Identifications were made using keys contained in *The Jepson Manual: Vascular Plants of California* and online updates containing revisions to taxonomic treatments (Baldwin et al. 2012; Jepson Flora Project 2018). When necessary, plant identifications were made using a 10X or greater magnification field hand lens and/or were collected and identified using a dissecting microscope. Locations of special-status plant species or tentatively identified special-status plant species were recorded using a handheld global positioning system unit.

General habitat and site conditions were photographed to visually depict conditions during the field surveys. In addition, special-status species or habitat features, such as vegetation communities or ephemeral channels, were also photographically documented when encountered.

Subsequent to conducting the reconnaissance-level survey, special-status resource occurrence information from the existing databases and literature was reviewed against field survey results to complete an occurrence evaluation. Potential impacts to each identified special-status resource were compiled based on this occurrence evaluation. If potentially significant impacts were identified during the evaluation process, recommendations for reducing these impacts are included in this report. The sources of these recommendations include agency guidelines and protocols, previously prepared environmental documents for similar projects, and MBI's experience and professional judgment.



### 3.0 RESULTS

The literature review resulted in identification of 21 special-status plant species and 14 special-status wildlife species for evaluation that could occur in the vicinity of the proposed Project (Appendix A; Tables A1–A2). Figures 3-1 through 3-4 provide the results of the CNDDDB records query within 10 miles (16 kilometers) of the proposed Project. The general site conditions combined with the habitat requirements and known ranges of these species were evaluated to determine potential for occurrence of these species on the proposed Project site. The remainder of this section discusses the 2018 field survey results and evaluation of those results based on the literature review and professional judgment of MBI personnel.

#### 3.1 General Conditions

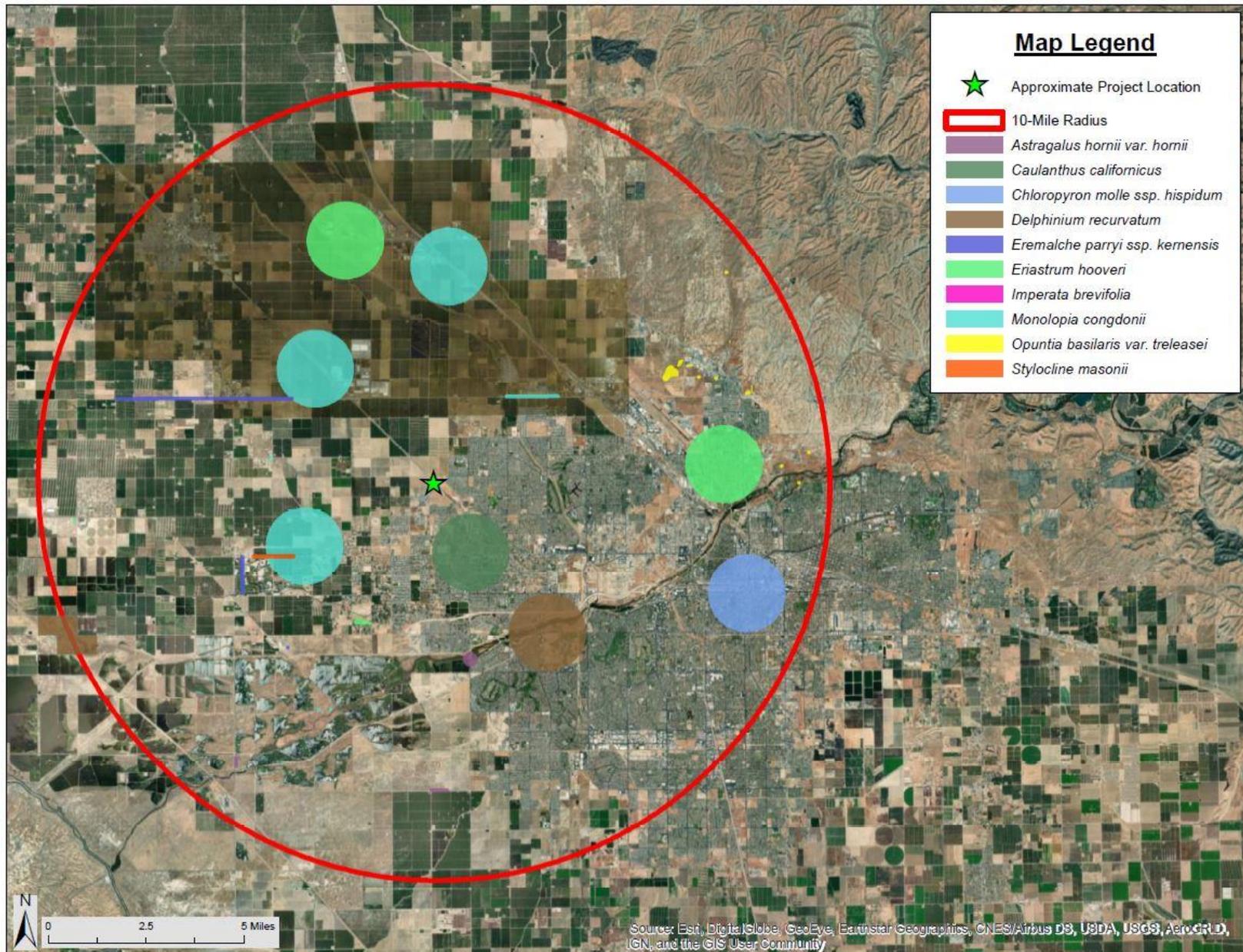
The proposed Project area has been used for intensive farming activities since at least 1994 and no native habitat exists onsite. During the survey, ongoing farming operations were observed on a majority of the Project site, and included existing facilities developed to support farming activities. A completed housing tract exists near the western border and additional intensive farming exists north, east and south of the Project area (Figure 1-2). Photographs taken during the field visit document the current site conditions (Appendix B).

All wildlife species observed during the survey were recorded (Appendix C; Table C1). No direct or indirect evidence of special-status species occupation was noted during the survey conducted on the Project site. The literature review and field survey results for all relevant special-status species are described in the following sections.

The USGS soil survey map describes the soil at the Project area as Unit 196, Milham sandy loam, 0 to 2 % slopes MLRA 17 (Table 3-1).

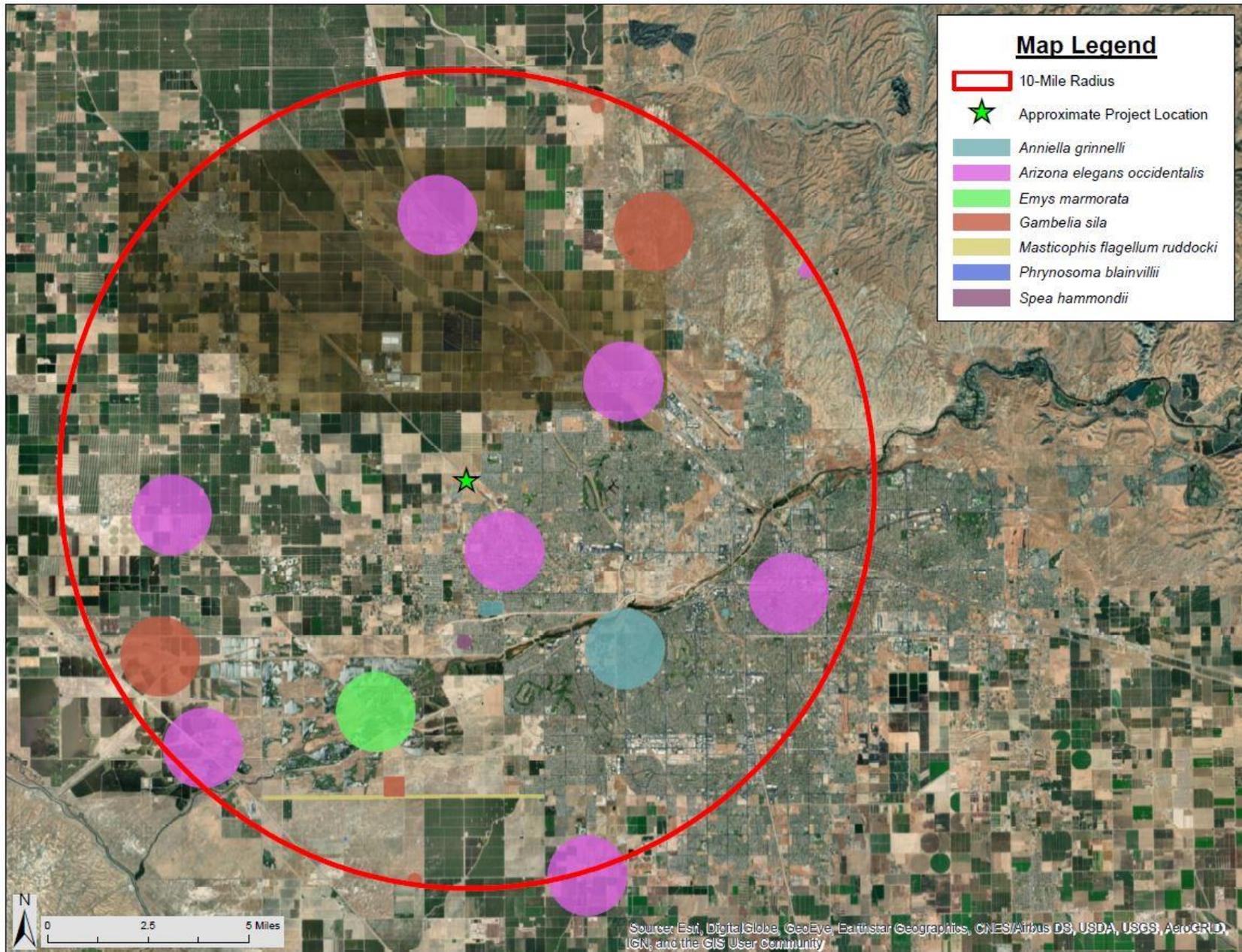
**Table 3-1:** Soil Map Units Within the Project Site

Soil Map Unit	Name	Brief Description/Project Site Distribution
196	Milham sandy loam, 0 to 2 % slopes MLRA 17	This soil is alluvium derived from igneous and sedimentary rock and is generally found on alluvial fans, terraces, fan remnants and plains. The typical profile is 10 inches (25 centimeters) sandy loam, 10 to 22 inches (25–56 centimeters) loam, 22 to 49 inches (56–125 centimeters) clay loam, and from 49 to 60 inches (125–152 centimeters) sandy loam. The soil is classified as well drained with medium run off.



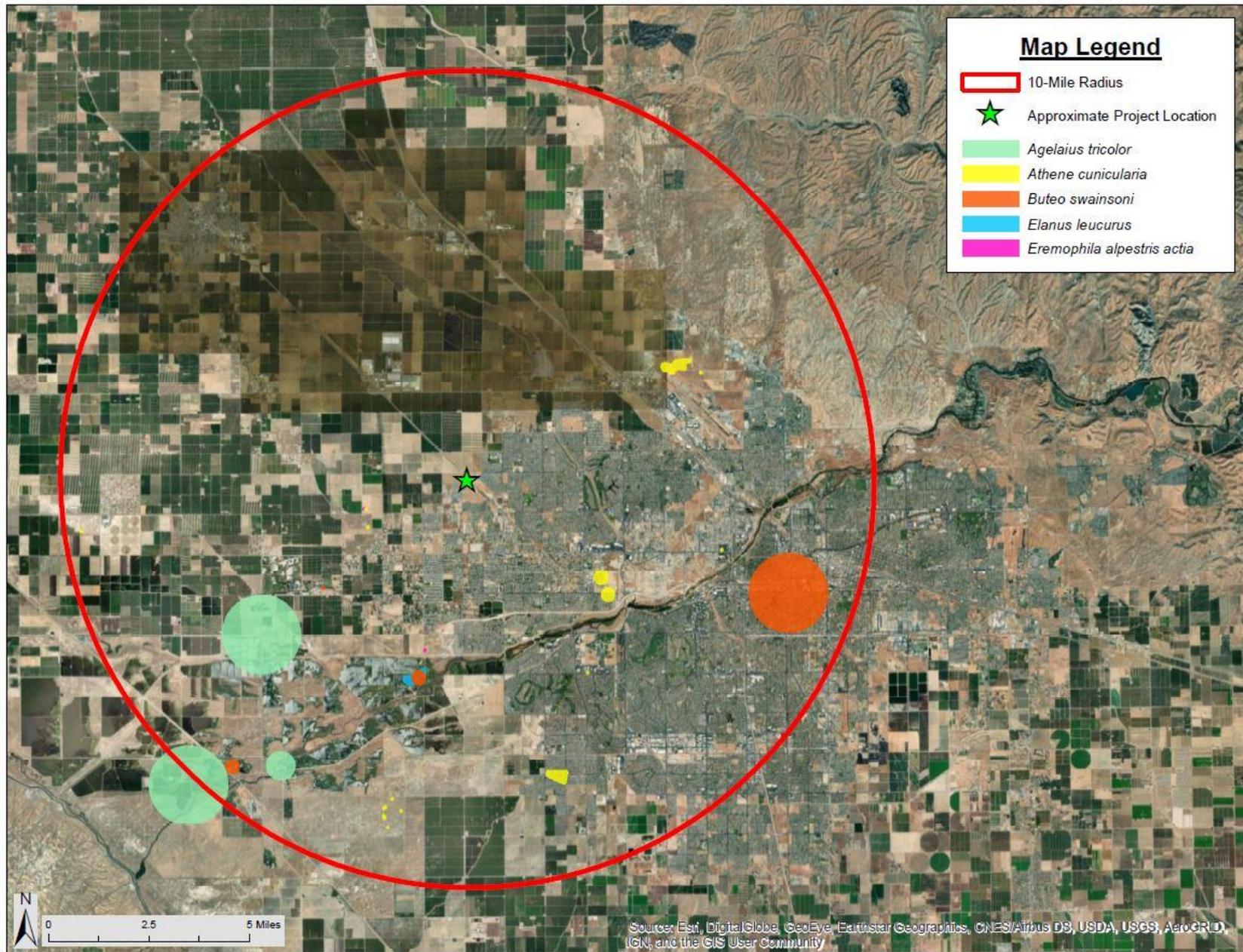
**Figure 3-1:** California Natural Diversity Database (CNDDDB) special-status plant results

CNDDDB version 2018. Please note: The occurrences shown on this map represent the known locations of the species listed here as of the date of this version. There may be additional occurrences of additional species within this area which have not yet been surveyed and/or mapped. Lack of information in the CNDDDB about a species or an area can never be used as proof that special-status species do not occur in an area.



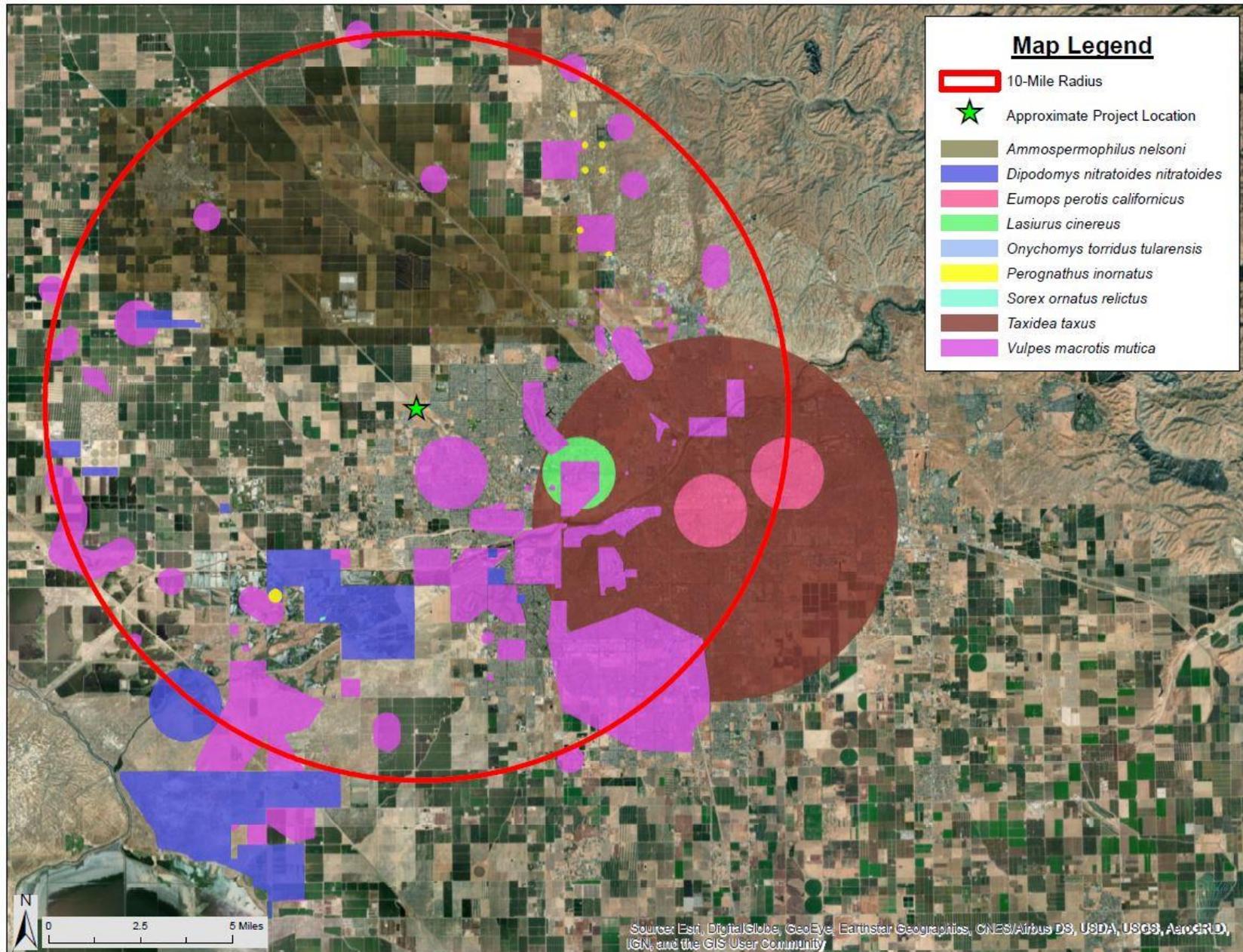
**Figure 3-2: California Natural Diversity Database (CNDDDB) special-status reptile results**

CNDDDB version 2018. Please note: The occurrences shown on this map represent the known locations of the species listed here as of the date of this version. There may be additional occurrences of additional species within this area which have not yet been surveyed and/or mapped. Lack of information in the CNDDDB about a species or an area can never be used as proof that special-status species do not occur in an area.



**Figure 3-3:** California Natural Diversity Database (CNDDDB) special-status bird results.

CNDDDB version 2018. Please note: The occurrences shown on this map represent the known locations of the species listed here as of the date of this version. There may be additional occurrences of additional species within this area which have not yet been surveyed and/or mapped. Lack of information in the CNDDDB about a species or an area can never be used as proof that special-status species do not occur in an area.



**Figure 3-4:** California Natural Diversity Database (CNDDDB) special-status mammal results.

CNDDDB version 2018. Please note: The occurrences shown on this map represent the known locations of the species listed here as of the date of this version. There may be additional occurrences of additional species within this area which have not yet been surveyed and/or mapped. Lack of information in the CNDDDB about a species or an area can never be used as proof that special-status species do not occur in an area.

### 3.2 *Special-status Biological Resources*

As a result of the literature review and based on general habitat conditions, 21 special-status plant species were identified through database queries as potentially occurring on the Project site. Fourteen animal species were identified as potentially occurring in the region of the Project site. Special-status plant and animal species identified to have the potential to be impacted by the Project are further discussed in the sections 3.2.1 and 3.2.2. The initial evaluation of special-status species that were found during the literature review with a potential to occur in the region are included in Appendix A. Those that the initial evaluation found unlikely to be impacted by the proposed Project are not discussed further in this report.

#### 3.2.1 Special-status Plant Species

For the purposes of this document, special status plants include all plant species that meet one or more of the following criteria:

- Listed or proposed for listing as threatened or endangered under FESA or candidates for possible future listing as threatened or endangered under FESA (50 CFR §17.12).
- Listed or candidates for listing by the State of California as threatened or endangered under CESA (CFGC §2050 et seq.). A species, subspecies, or variety of plant is endangered when the prospects of its survival and reproduction in the wild are in immediate jeopardy from one or more causes, including loss of habitat, change in habitat, over-exploitation, predation, competition, disease, or other factors (CFGC §2062). A plant is threatened when it is likely to become endangered in the foreseeable future in the absence of special protection and management measures (CFGC §2067).
- Listed as rare under the California Native Plant Protection Act (CFGC §1900 et seq.). A plant is rare when, although not presently threatened with extinction, the species, subspecies, or variety is found in such small numbers throughout its range that it may be endangered if its environment worsens (CFGC §1901).
- Meet the definition of rare or endangered under CEQA §15380(b) and (d). Species that may meet the definition of rare or endangered include the following:
  - Species considered by the California Native Plant Society (CNPS) to be rare, threatened or endangered in California (Lists 1A, 1B and 2);
  - Species that may warrant consideration on the basis of local significance or recent biological information;
  - Some species included on the CNDDDB Special Plants, Bryophytes, and Lichens List (CDFW 2018b);

- Considered a locally significant species, that is, a species that is not rare from a statewide perspective, but is rare or uncommon in a local context such as within a county or region (CEQA §15125) or is so designated in local or regional plans, policies, or ordinances (CEQA Guidelines, Appendix G). Examples include a species at the outer limits of its known range or a species occurring on an uncommon soil type.

Precipitation has been above average to date, resulting in an optimal year for annual plant species observations. Of the 21 special-status plant species evaluated for the Project vicinity, only 5 of these plant species have standing at either the state or federal level. Although CEQA requires consideration for impacts to locally significant plant species, no mitigation is legally required to compensate for impacts to non-listed species. No listed; or otherwise special-status plant species were observed during the fieldwork conducted for the preparation of this report. No listed, or otherwise special-status plant species, has been recorded as occurring within the Project footprint. All special-status plant species were eliminated from further consideration because the proposed The Project site does not provide suitable habitat or the proposed Project site is out of the known range of the species. Consequently, no additional discussion is provided for special-status plant species beyond the evaluation included in Appendix A (Table A-1).

### 3.2.2 Special-status Animal Species

Table 3-2 represents those special-status wildlife species included in Appendix A (Table A-2) identified as having the potential to be impacted by the proposed Project. A discussion for each of these species, is provided in the following paragraphs.

**Table 3-2: Special-status Animals That May Occur in the Project Area**

<i>Scientific Name</i>	Common Name	Status Federal/State <sup>1</sup>
<b>Reptiles</b>		
<i>Gambelia sila</i>	Blunt-nosed leopard lizard	E/E, SFP
<b>Birds</b>		
<i>Agelaius tricolor</i>	Tricolored blackbird	-/C, CSC
<i>Buteo swainsoni</i>	Swainson's hawk	-/T
<b>Mammals</b>		
<i>Ammospermophilus nelsoni</i>	San Joaquin antelope squirrel	-/T
<i>Dipodomys ingens</i>	Giant kangaroo rat	E/E
<i>Dipodomys nitratoides nitratoides</i>	Tipton kangaroo rat	E/E
<i>Sorex ornatus relictus</i>	Buena Vista Lake shrew	E/CSC
<i>Vulpes macrotis mutica</i>	San Joaquin kit fox	E/T

<sup>1</sup>Status:

Federal

- E Listed as Endangered
- No listing status

State

- C Candidate for Listing
- CSC California Species of Concern
- E Listed as Endangered
- T Listed as Threatened
- SFP California Department of Fish and Wildlife Designated Fully Protected

## Reptiles

### Blunt-nosed leopard lizard (*Gambelia sila*)

The BNLL is a relatively large lizard in the Iguanidae family. It is currently federal- and state-listed as endangered, and is fully protected by the state of California. It has a long, regenerative tail, long and powerful hind limbs, and a broad, triangular head with a short, blunt snout (USFWS 1998). Adult total length including tail may reach up to 13 inches (33 centimeters), with adults weighing up to 1.5 ounces (42.5 grams). Coloration consists of a light grayish, tan, or brown background with a conspicuous pattern of dark overlaying spots and/or pale crossbars. During the spring courtship season both sexes may develop reddish markings on the sides, tail, and ventral surfaces. Juveniles usually show a similar, but more yellowish pattern (CDFW 2018a; Native fish and wildlife 1967; Stebbins 1985).

BNLL were historically distributed over the San Joaquin Valley and in adjacent lower foothills, plains, and valleys. Currently, this species is found only in the San Joaquin Valley in sparsely vegetated desert scrub, lower canyon slopes, valley floors, arroyos, and washes. Associated vegetation may include a variety of grasses, saltbush, goldenbush, iodine bush, and seep weed (USFWS 2010a). Population behavior and stability are sensitive to temperature and precipitation changes, and population numbers will substantially decline if there are many years of drought or too frequent above average precipitation levels. Larger habitat patches of 865 acres (350 hectares) or more have a greater chance of BNLL occurrence (Bailey & Germano 2015). Males are territorial and will not procreate until they are large enough to attain a mate. Mating season is April to May and this taxon is mostly polygynous but sometimes may maintain the same mate for several years (Ahlborn 2000).

BNLL feed primarily on insects (particularly grasshoppers, crickets and moths), other lizards, and occasionally plant material (USFWS 1998). BNLL are active during the day, primarily from April to October, and peak daily activity usually occurs when air temperatures are between 75 and 95 °F (24–35 °C). During the winter months, and to seek shade during the summer months, animals can be found in underground small mammal burrows.

## Birds

### Tricolored blackbird (*Agelaius tricolor*)

The tricolored blackbird is considered a species of special concern in California, is currently a candidate for listing under CESA, and is under review for listing under the Federal Endangered Species Act (CDFW 2018a; CESA 2018; ETWP 2015; FESA 2014). It is about 8.75 inches (22.2 centimeters) in length with a pointed black conical bill. They are similar in size, shape, and coloring of the red-winged blackbird (*Agelaius phoeniceus*) but have slightly thinner bills, and pointed wings in flight. The species is sexually dimorphic: males are primarily black with red epaulets (shoulder patches) similar to the red-winged blackbird; however, epaulets are often a deeper red in the tricolored blackbird. The males are further distinguished from male red-winged blackbirds with epaulets broadly margined in white, rather than the yellow or absence of a marginal color seen in the red-winged blackbird. Males are best identified before late summer because the epaulet margins of male red-winged blackbirds can appear whitish as they fade. Females are sooty and often streaky like a sparrow, but larger than a sparrow, with a faint eyeline.

They are very similar to red-winged blackbird females but darker for the most part. Juveniles are similar to females but paler (Beedy 2016; Kaufman 2000).

The tricolored blackbird is an opportunistic feeder that forages on grains and seeds wherever available (often associated with dairies in the San Joaquin Valley), insects such as grasshoppers, and both terrestrial and aquatic insect larvae. Some individuals have been recorded to forage as far as 5.6 miles (9 kilometers) from their colony. Historically, their nests are built in vegetation dominated by cattail (*Typha* spp.) and bulrush (*Scirpus* or *Schoenoplectus* spp.), and consist of a platform of leaves woven around these and other substrates such as willow (*Salix* spp.), nettle (*Urtica* spp.), and blackberry (*Rubus* spp.). Platforms rest between 6.5 feet (2 meters) to a few centimeters above ground or water, and hold nests made of mud and materials similar to the platform material. In recent years, nesting of tricolored blackbirds in agricultural fields has been increasing, with the species using substrates such as mustards (*Brassica* spp.), mallows (*Malva* spp.), and agricultural silage. Eggs are laid from mid-April to late June in clutches of three to four oval-shaped eggs, are generally light blue to light green, and have dark reddish-brown splotches concentrated on one end. Incubation lasts approximately 11 days with young leaving the nest about 13 day after hatching. Tricolored blackbirds' nesting colonies are distinct from those of the red-winged blackbird which contain nests that are spread farther apart from one another. Tricoloreds' nests can be spread as little as 3.3 feet (1 meter) apart. Sometime in dense colonies, nests can even be vertically stacked (Beedy 2016; Granholm 2008; Grinnell & Miller 1944; Zeiner et al., 1990).

This species is a year-long resident of California, its range extending from Shasta County south to Kern County; and along the coast from Sonoma County to the Mexican border. Colonies located within the Sacramento-San Joaquin drainage system are somewhat migratory in the winter. In the fall, birds tend to be nomadic and venture outside the vicinity of the nesting colonies (Grinnell & Miller 1994; Zeiner et al. 1990).

#### Swainson's hawk (*Buteo swainsoni*)

Swainson's hawks are state-listed as a threatened species (CDFW 2018a). They are diurnal and similar in size to the red-tailed hawk, but lack their pale spotting on scapulars. There are two distinct color morphs with variations in between. Light morphs have a whitish forehead and white patch on the throat below the bill, while the rest of the head, sides of the throat, patch on its chest, and all other upper body parts are dark brown. The belly is white with brown barring, and in flight their wings have dark trailing edges that contrast with the light colored leading edges and the belly. Individuals of the dark morph are entirely dark brown, except for a patch under the tail (Brown 2006; Dunn & Alderfer 2008). The Swainson's hawk feeds on mice, gophers, ground squirrels, rabbits, large arthropods, amphibians, reptiles, birds and sometimes fish (Brown & Amadon 1968; Dunkle 1977).

Swainson's hawks are an uncommon resident and migrant in the Central Valley, Klamath Basin, Northeastern Plateau, Lassen County and Mojave Desert. Limited breeding has been reported from Lanfair Valley, Owens Valley, Fish Lake Valley and Antelope Valley (Bloom 1980; Garrett & Dunn 1981). The majority of the state's breeding sites are in two disjunct populations in the Great Basin and Central Valley. In the Central Valley, nest sites are strongly associated with riparian forest vegetation, whereas in the Great Basin nest sites are widely distributed in upland habitats (Woodbridge 1998). Typical habitat is open desert, grassland, or cropland containing

scattered, large trees or small groves. Migrating individuals move south through the southern and central interior of California in September and October, and move north from March through May (Grinnell & Miller 1944; Zeiner et al. 1990).

## **Mammals**

### San Joaquin Antelope Squirrel (*Ammospermophilus nelsoni*)

The San Joaquin antelope squirrel (SJAS) is currently state-listed as threatened (CDFW 2018a; USFWS 1998). This species is a small, yellow-brown squirrel with two distinguishing white stripes along the dorsal side of the body and a tail that is black on the top but white on the underside. SJAS frequently hold their tail curled over their back which exposes the white underhairs. Adults have a full body length of 8.5 to 9.4 inches (218–240 millimeters) and average 4.6 to 6.0 ounces (130–170 grams) in weight (Brown & Williams 2006).

SJAS are most often found in grasslands or open shrublands in areas free from flooding. Associated shrubs include saltbush (*Atriplex* spp.), bladder pod (*Isomeris arborea*), goldenbush (*Isocoma acradenius*=*Haplopappus a.*), snakeweed (*Gutierrezia bracteata*) and others. SJAS originally occurred on the western side of the San Joaquin Valley from southern Merced County south to Kern County, the Carrizo Plain in San Luis Obispo County, and the Cuyama Valley in San Luis Obispo and Santa Barbara Counties. Prior to cultivation of the San Joaquin Valley, SJAS occupied approximately 3,456,000 acres (1,398,593 hectares). More than 80 percent of this estimated original geographic range has been lost due to cultivation, which has nearly extirpated this species on the eastern side of the San Joaquin Valley. SJAS now only occur in the southwestern portion of the San Joaquin Valley and in adjacent valleys to the west (Harris & Stearns 1991). No large tracts of prime habitat remain and only about 15 percent of the remaining habitat is considered to be good to fair in quality, though non-natural habitats in which they are found include roadsides, oil fields, agricultural field edges, and surrounding areas of pipelines (Brown & Williams 2006).

SJAS are omnivorous, with a diet consisting primarily of grass and herb seeds, fungi, and insects (USFWS 1998). In contrast to other listed mammals in their range, these squirrels are diurnal and active year-round, and tend to be active at temperatures above 50 °F (10 °C). Shrubs and burrows are utilized to regulate temperature and avoid predation, though it appears that SJAS rarely occupy burrows they have dug; instead, they tend to use burrows dug by kangaroo rats. Harris and Stearns (1991) found SJAS in grassy, shrubless areas which also had high kangaroo rat densities. The same study found that there is little competition between SJAS and kangaroo rats due to differing microhabitats, but SJAS may be negatively impacted and/or displaced by California ground squirrels.

Individuals breed during late winter and early spring, with young born in March and April, appearing above ground at approximately 30 days old (Kakiba-Russell et al. 1991).

### Giant kangaroo rat (*Dipodomys ingens*)

Due to high vulnerability of the small, widely scattered colonies of giant kangaroo rat (GKR), this keystone species is currently federal- and state-listed as endangered (CDFW 2018a; ETWP 1987; USFWS 1998; Williams 1980). GKR is a small, tan, burrowing rodent with large hind limbs, five

toes on each of the hind feet, and a long tail with a tuft of long hairs at the end. All of these characteristics are adapted for bipedal locomotion, or two-footed hopping (Germano 2012; USFWS 2010b). GKR are the largest of their genus, with weight ranges from 4 to 7 ounces (120–185 grams) in males, and 4 to 5 ounces (100–151 grams) in females (USFWS 1998).

GKR originally occurred throughout the San Joaquin Valley from southern Merced County to southwestern Kern County and northern Santa Barbara County. By 1980, conversion of native valley grassland habitats to agricultural uses had reduced extant GKR distribution to approximately 2 to 3 percent of its historic range (Alhborn 1999). The remaining habitat has been broken into six major geographic units, including Lokern, and the Cuyama Valley is the farthest south of the identified extant populations of this species

Typical habitat of GKR occupation includes annual grasslands and sparse shrublands with well-drained, usually loamy or sandy loam soils (Alhborn 1999; USFWS 2010b). GKR favor flat to gently sloping terrain with low annual precipitation, typically 5 inches (13 centimeters) or less in the southwestern San Joaquin Valley, and adjacent plateaus and valleys in the Inner Coast Ranges. The species is found from elevations of about 300 to 2,900 feet (91–884 meters). Little extant habitat remains at elevations below 650 feet (198 meters) and few colonies are located above 2,500 feet (762 meters).

GKR precincts (burrow systems) are distinctive due to the size and orientation of individual entrances, and the presence of cleared vegetation in the vicinity of the system. Precincts may include one to several burrow openings and a colony may consist of two to thousands of precincts. Burrows of two types may be observed within GKR precincts: those with horizontal burrow openings, and those with vertical burrow openings (Germano 2012; USFWS 1998, 2010). While vertical burrow openings are a tell-tale sign of GKR precincts, horizontal burrow openings are similar in appearance compared to other kangaroo rats; however, these openings are usually quite large in comparison to other species. Other characteristics of GKR precincts include tracks from their distinctively large feet and tail drags, haystacks of seeds drying near burrows, and large scat near burrow entrances. Each precinct represents a territory occupied by a male that defends an area of complex burrow tunnels, as well as the food caches within them, while also monitoring neighboring females for mating opportunities (Cooper 2007). Individual precincts are usually connected to other precincts by well-worn paths and are relatively easy to detect, even from a distance. GKR are nocturnal and detection of characteristic burrow systems is used as a method of determining potential presence. When sign of presence is detected, small mammal trapping is needed to verify the species is actually present, since precincts could be abandoned or utilized by other species such as the San Joaquin antelope squirrel or blunt-nosed leopard lizard (USFWS 2010b).

GKR possess deep, fur-lined cheek pouches useful for seed caching, but also occasionally eat plants and insects. GKR are active year-round at night, mostly in the first few hours after sundown. Their highly developed caching behaviors and extensive burrow precincts allow longevity, even in years of severe drought (USFWS 1998). Breeding behavior is based on environmental factors like vegetation availability and population density, and individuals may breed into the summer when population density is low or breed briefly in the winter only producing one litter when population density is high (USFWS 1998).

### Tipton kangaroo rat (*Dipodomys nitratoides nitratoides*)

The Tipton kangaroo rat (TKR) is one of three subspecies of the San Joaquin kangaroo rat, and is considered federally and state critically endangered (USFWS 1998). It is a small rodent, measuring up to 9 inches (23 centimeters) in total length and 1 to 1.3 ounces (28–37 grams) in weight (USFWS 2010d). Compared to other rodents, it has a large head, large eyes, and small rounded ears. Coloration is dark above, changing to white on the belly with a white stripe extending laterally across each flank and along the sides of the black prominently-tufted tail (Brown & Williams 2006). The hind legs are elongated and serve as the principal means of bipedal locomotion, with the long tufted tail utilized for balance (USFWS 2010d). The presence of four toes on the hind feet of TKR helps to distinguish it from other sympatric kangaroo rat species which have five toes, and the hind feet average about 1.3 inches (3.4 centimeters) in length (Brown & Williams 2006; CDFG 2005; ETWP 1988; USFWS 2014).

Little information is available on the population densities of San Joaquin kangaroo rats; however, TKR are known to occur in fragmented subpopulations of various sizes and levels of connectivity in the Tulare Subbasin, extending from Lemoore and Hanford in Kings County southward to the Caliente Wash in central Kern County, and west to the north side of Buena Vista Lake (Brown & Williams 2006; USFWS 1998). The California Aqueduct is the approximate line between the ranges of the state- and federal-listed TKR and short-nosed kangaroo rat (*Dipodomys nitratoides brevinasus*). TKR is treated by the regulatory agencies as occupying scattered, isolated areas on lands to the east of the California Aqueduct and north of Buena Vista and Kern Lakes (USFWS 1998, 2010; Williams 1985). Cypher and colleagues (2016) modeled suitable habitat for TKR and determined 222,395 acres (90,000 hectares) of potential land from low to high quality exists within their range, with one-third of the total area considered high quality habitat.

TKR are typically found in arid scrub and grassland communities in level to near-level terrain not subject to flooding, having alluvial fan and floodplain soil with sparse grasses and woody vegetation such as iodine bush, saltbush, seep weed, and mesquite (Brown & Williams 2006; Cypher 2016). TKR excavate shallow burrows around 10 inches (25.4 centimeters) deep that are frequently located in elevated terrain such as berms and embankments. TKR are nocturnal and emerge from their burrows at night to forage for seeds and occasionally vegetation and insects. They hold seeds in fur-lined pouches on the sides of their mouth before caching a significant portion for later use. TKR reproduce in the winter through early April, mostly producing a single litter of two young (Brown & Williams 2006; USFWS 1998).

### Buena Vista Lake shrew (*Sorex ornatus relictus*)

The Buena Vista Lake ornate shrew (BVLOS) is currently federal-listed as endangered and is considered a California species of special concern (Brown et al. 2006; USFWS 1998). BVLOS is a small mammal that belongs to the family Soricidae, and is one of nine subspecies of the ornate shrew (ETWP 2002; USFWS 1998). Some unique characteristics are a long pointy nose, and five toes on both their front and hind legs which can help differentiate them from other small mammals having only four toes on their front feet, such as mice (Cypher et al. 2017). Their back is predominantly black with some buffy-brown speckling, their sides are buffy-brown, and their underside is smoky-gray. They are about 4 inches (10 centimeters) in length including a tail of about 1.5 inches (4 centimeters) that blackens toward the end (Brown et al. 2006; USFWS 2011a).

The Buena Vista Lake ornate shrew thrives in areas with dense vegetation usually made up of cottonwoods, willows, rushes, cattails and alkali heath; areas with thick leaf litter; and areas with moist soils (Brown et al. 2006; Cypher et al. 2017; USFWS 1998, 2011). Historically, BVLOS occupied the wetlands around Buena Vista Lake, Kern County, and throughout the Tulare Basin in the marshes of the San Joaquin Valley. Its range has become restricted due to loss of about 95% of habitable land, and current distribution is unknown (Brown et al. 2006; CDFW 2; ETWP 2013). Habitable land exists only in isolated patches, and shrews have been detected in a handful of unconnected patches in the southern San Joaquin Valley, with the largest existing populations located on the Wind Wolves Preserve and Kern National Wildlife Refuge (Cypher et al. 2017; USFWS 1998, 2011)

BVLOS forage for food constantly, particularly insects, during both the day and night to support their high metabolism, but during the hottest months of the year their activity is typically limited to the cooler hours of the night. BVLOS have astute visual, olfactory and tactile abilities, and are also able to echolocate (Brown et al. 2006). Specifics of their reproduction and mating system are currently unknown, but the breeding season is thought to begin in autumn and end with the onset of the dry season in May or June. Litters are thought to average 4–6 individuals per litter (Brown et al. 2006; USFWS 2014).

#### San Joaquin Kit Fox (*Vulpes macrotis mutica*)

The SJKF currently federal-listed as endangered and state-listed as threatened, resembles a small, lanky dog in appearance, with disproportionately large ears containing an abundance of large white, inner guard hairs. This species is the largest subspecies of kit fox, with adults weighing 4.5 to 5 pounds (2–2.3 kilograms). Total length is about 32 inches (81 centimeters), including a bushy black-tipped tail up to 12 inches (30 centimeters) long, and total height is about 12 inches (30 centimeters) tall. Coloration ranges from light buff to grayish along the back and tail; gray, rust, or yellowish along the sides; and white on the belly.

SJKF occur in a variety of open grassland, oak savannah, and shrub vegetation types/habitats as well as oil-producing and urban areas in Kern County. Predation is an appreciable cause of SJKF mortality, with urban kit foxes yielding higher survival rates due to lack of competition with large carnivores such as coyotes (USFWS 2010c). In the southern San Joaquin Valley portion of the range, SJKF are generally found in sparse, annual grassland and scrub communities (e.g., valley sink scrub, saltbush scrub) with low annual precipitation. Home ranges for the taxon have been reported by several authors to range from 1 to 12 square miles (1.6–19 square kilometers) with large overlap in home ranges among individuals, though dens are restricted to a single family. They change dens on a regular basis, likely due to prey depletion; in one study, a single kit fox was tracked to 70 dens during a 2-year period (Native fish and wildlife 1967; USFWS 1998). Dens are used for temperature regulation, shelter, reproduction, and safety from potential predators, but characteristics such as number of entrances varies across the taxon's range. In the southern portion of its range the taxon often creates dens with two entrances, and natal dens generally have multiple entrances. Entrances are usually 8 to 10 inches (20–25 centimeters) in diameter and are normally greater in height than width, but kit foxes can utilize dens with entrances as small as 4 inches (10 centimeters) in diameter. Kit foxes do not typically excavate their own dens, but rather enlarge the burrows of other species, such as California ground squirrels and American Badgers, or utilize human-made structures such as culverts and pipelines.

The diet of this taxon consists largely of nocturnal kangaroo rats and other small mammals, though they may also eat ground-nesting birds or insects (USFWS 2010c). Similar to many desert species, kit fox do not need drinking water and obtain hydration from their diet. Breeding season is December-March with pups typically born between February and March. Adult breeding pairs remain monogamous within the same year, but pairs may change between years (Morrell 1972; USFWS 1998).

SJKF are primarily nocturnal but can be seen during the day when activities on the surface get their attention or when pups are present and play outside of the den in late afternoon. Potential site occupation is determined based on observation of canid scat and/or tracks within a size range appropriate for this species, and presence of dens that meet the criteria for classification as known or natal/pupping per the USFWS guidelines (USFWS 2011b).

### 3.2.3 Riparian Habitat, Wetlands, and Other Waters

A search of the USFWS National Wetlands Inventory resulted in no wetlands mapped on the Project site (USFWS 2018b). These results are consistent with the observed conditions within the survey area.



#### 4.0 IMPACT ANALYSIS AND RECOMMENDATIONS

This section provides an analysis of the potential impacts of the Project following the standards of CEQA and CEQA Guidelines. The Project is located within the MBHCP boundaries (CDFW ITP No. 2081-2013-058-04); however, the proposed Project includes a General Plan Amendment and Zone Change. Consideration of potential impacts to plant and animal species are required under FESA, CESA, and CEQA during a General Plan Amendment and Zone Change. Any impacts to species covered by the ITP would be fully-mitigated by participation in the MBHCP.

CEQA Appendix G thresholds have been used to evaluate potential impacts to the biological resources from the proposed Project. The Project would create a significant impact to biological resources, based on the specifications in the biological resources section in Appendix G of the CEQA Guidelines, if the following were to occur:

1. Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the CDFW or the USFWS;
2. Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations; or by the CDFW or the USFWS;
3. Have a substantial adverse effect on federally protected wetlands as defined by section 404 of the CWA (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means;
4. Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites;
5. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance;
6. Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

The following analysis discusses potential impacts associated with the development of the Project and provides recommendations where appropriate to further reduce potential impacts.

- 1. Would the project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the CDFW, or the USFWS?**

Direct impacts, in the form of *incidental take* of a threatened, endangered, or otherwise protected species, are not expected with the proposed Project mitigation through participation in the MBHCP. Any impacts to species covered by the ITP would be fully-mitigated by participation in the MBHCP.

**2. Would the project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the CDFW or the USFWS?**

No riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations; or by the CDFW or the USFWS will be disturbed by the proposed Project; therefore, no further measures are recommended.

**3. Would the project have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?**

The proposed Project does not propose any disturbance to wetland vegetation. No features identified in wetland categories appear on the USFWS National Wetlands Inventory mapping (USFWS 2018b) within the proposed Project area. No wetland features or vegetation indicative of wetland conditions were observed during the field survey. Consequently, no substantial adverse effect will occur as a result of the development of the Project.

**4. Would the project interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?**

Wildlife corridors can be defined as connections between wildlife blocks that meet specific habitat needs for species movement generally during migratory periods, but seasonally as well. Wildlife corridors generally contain habitat dissimilar to the surrounding vicinity and include examples such as riparian areas along rivers and streams, washes, canyons, or otherwise undisturbed areas within urbanization. Corridor width requirements can vary based on the needs of the species utilizing them. No impacts are expected; consequently, no additional measures are included.

**5. Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?**

There are no biological resources on the site which are protected by local policies. Therefore, conflicts with local policies will not occur.

**6. Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.**

The Project is not known to conflict with any Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

## **5.0 SUMMARY OF FINDINGS**

The Project will not impact special-status plant species as the entire site has had and continues to have disturbance. Ruderal weedy species dominate the Project site and no special-status plant species were observed during the field surveys.

While no SJKF were observed, and no potential or known dens were discovered, SJKF are known to occur in the area; therefore, by following the 2011 USFWS guidelines and participation in the MBHCP, potential impacts to SJKF can be reduced to less than significant

## **6.0 CONCLUSION**

The Project is located on a disturbed parcel within the City of Bakersfield, is relatively small in size, lacks small mammal burrows, and is isolated from contiguous habitat. If the measures recommended above are implemented, potential impacts to special-status species that have the potential to use the Project site would be reduced. Therefore, a conclusion/decision can be made that this proposed Project would have a less than significant impact on special-status species and their habitat.



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**Appendix A**  
**Special-Status Plant and Animal Evaluation**

**Table A-1:** Special-status Plants That May Occur in the Vicinity of the Project Site

<i>Scientific Name</i> Common Name	<sup>1</sup> Status Fed/State/CNPS	Brief Description	Blooming Period	Survey Results
<i>Astragalus hornii</i> var. <i>hornii</i> Horn's milk vetch	S/-/1B.1	Annual herb in the Fabaceae found in meadows and seeps, and on playas and lake margins on alkaline soils between 197 and 2,789 feet (60–850 meters) in elevation. Known from occurrences in the Southern San Joaquin Valley, the Tehachapi Mountains and the Western Transverse Ranges in Kern, Los Angeles, and San Bernardino Counties.	May to October	No Horn's milk vetch was observed during the fieldwork conducted. No occurrence is expected. No significant impacts to this species are expected to occur as a result of the development of this project.
<i>Atriplex cordulata</i> var. <i>cordulata</i> Heartscale	S/-/1B.2	Herbaceous annual in the Chenopodiaceae found in chenopod scrub, meadows and seeps, and valley and foothill grasslands in sandy, saline or alkaline soils below 1,837 feet (560 meters) in elevation. Known to occur in the Great Central Valley from Kern County north to Southern Butte County.	April to October	No heartscale was observed during the fieldwork conducted. No occurrence is expected. No significant impacts to this species are expected to occur as a result of the development of this project.
<i>Atriplex coronata</i> var. <i>vallicola</i> Lost Hills crownscale	S/-/1B.2	Annual herb in the Chenopodiaceae that occurs between 164 and 2,083 feet (50–635 meters) in elevation in chenopod scrub, valley and foothill grasslands, and vernal pools on alkaline soils. Known from occurrences in Southeastern San Joaquin Valley from Kern County north to Fresno County and on the Carrizo Plain.	April to August	No Lost Hills crownscale was observed during the fieldwork conducted. No occurrence is expected. No significant impacts to this species are expected to occur as a result of the development of this project.
<i>Atriplex tularensis</i> Bakersfield smallscale	-/E/1A	Herbaceous annual in the Chenopodiaceae found in chenopod scrub, between 295 and 656 feet (90–200 meters) in elevation. Known to occur in the Southern San Joaquin Valley in Kern County.	June to October	No Bakersfield smallscale was observed during the fieldwork conducted. No occurrence is expected. No significant impacts to this species are expected to occur as a result of the development of this project.
<i>Calochortus striatus</i> Alkali mariposa lily	S/-/1B.2	Bulbiferous perennial herb in the Liliaceae found in chaparral, chenopod scrub, Mojavean desert scrub, meadows and seeps on alkaline, mesic soils, between 230 and 5,234 feet (70–1,595 meters) in elevation. Known to occur in the Southern San Joaquin Valley and Southern Sierra Nevada in Kern County and the Mojave Desert in Kern, Los Angeles and San Bernardino Counties.	April to June	No alkali mariposa lily was observed during the fieldwork conducted. No occurrence is expected. No significant impacts to this species are expected to occur as a result of the development of this project.

<b>Scientific Name Common Name</b>	<b><sup>1</sup>Status Fed/State/CNPS</b>	<b>Brief Description</b>	<b>Blooming Period</b>	<b>Survey Results</b>
<i>Caulanthus californicus</i> California jewelflower	E/E/1B.1	Herbaceous annual in the Brassicaceae that occurs between 200 and 3,281 feet (61–1,000 meters) in elevation on sandy soils in chenopod scrub, pinyon and juniper woodland, and valley and foothill grasslands. Although many populations are thought to have been extirpated from the San Joaquin Valley, occurrences are known from Kern, Kings, Tulare, San Luis Obispo, Santa Barbara, and Fresno Counties.	February to May	No California jewelflower was observed during the fieldwork conducted. No occurrence is expected. No significant impacts to this species are expected to occur as a result of the development of this project.
<i>Chloropyron molle</i> ssp. <i>hispidum</i> Hispid bird's-beak	S/-/1B.1	Hemiparasitic annual herb in the Orobanchaceae found on alkaline soils in meadows and seeps, playas, and valley and foothill grasslands below 509 feet (155 meters) in elevation.	June to September	No hispid bird's-beak was observed during the fieldwork conducted. No occurrence is expected. No significant impacts to this species are expected to occur as a result of the development of this project.
<i>Cirsium crassicaule</i> Slough thistle	S/-/1B.1	Herbaceous annual or perennial in the Asteraceae occurring between 10 and 328 feet (3–100 meters) in elevation in chenopod scrub, marshes and swamps (sloughs), and riparian scrub. Known to occur in the Southern San Joaquin Valley in Kern and Southern Kings Counties, and in the Northern San Joaquin Valley in San Joaquin County.	May to August	No slough thistle was observed during the fieldwork conducted. No occurrence is expected. No significant impacts to this species are expected to occur as a result of the development of this project.
<i>Delphinium recurvatum</i> Recurved larkspur	S/-/1B.2	Perennial herb in the Ranunculaceae occurring between 10 and 2,461 feet (3–750 meters) in elevation in chenopod scrub, cismontane woodland, and valley and foothill grasslands on alkaline soils. Known to occur in the Mojave Desert and Southern San Joaquin Valley in Kern County north to Solano County; the South Inner Coastal Ranges from San Luis Obispo County north to Stanislaus County, and the Sacramento Valley from San Joaquin County north to Butte County.	March to June	No recurved larkspur was observed during the fieldwork conducted. No occurrence is expected. No significant impacts to this species are expected to occur as a result of the development of this project.
<i>Diplacus pictus</i> Calico monkeyflower	-/-/1B.2	Annual herb in the Phrymaceae found in broadleaved upland forest and cismontane woodlands between 328 and 4,691 feet (100–1430 meters) in elevation in Kern and Tulare counties.	March to May	No calico monkeyflower was observed during the fieldwork conducted. No occurrence is expected. No significant impacts to this species are expected to occur as a result of the development of this project.

<b>Scientific Name Common Name</b>	<b><sup>1</sup>Status Fed/State/CNPS</b>	<b>Brief Description</b>	<b>Blooming Period</b>	<b>Survey Results</b>
<i>Eremalche parryi</i> ssp. <i>kernensis</i> Kern mallow	E/-/1B.2	Annual herb in the Malvaceae that occurs between 230 and 4,232 feet (70–1,290 meters) in elevation in chenopod scrub, and valley and foothill grasslands. Distribution includes Kern and Tulare Counties and the Inner South Coast Ranges in San Luis Obispo and Santa Barbara Counties.	March to May	No Kern mallow was observed during the fieldwork conducted. No occurrence is expected. No significant impacts to this species are expected to occur as a result of the development of this project.
<i>Eschscholzia lemmonii</i> ssp. <i>kernensis</i> Tejon poppy	-/-/1B.1	Annual herb in the Papaveraceae that occurs between 525 and 3,281 feet (160–1000 meters) in elevation in chenopod scrub, and valley and foothill grasslands. Known from occurrences in the Southern Sierra Nevada Foothills and the Southern San Joaquin Valley in Kern County.	March to May	No Tejon poppy was observed during the fieldwork conducted. No occurrence is expected. No significant impacts to this species are expected to occur as a result of the development of this project.
<i>Imperata brevifolia</i> California satintail	-/-/2B.1	Perennial rhizomatous herb in the Poaceae found in chaparral, Coastal scrub, Mojavean desert scrub, meadows and seeps on alkaline soils, and riparian scrub usually found on mesic soils below 3,986 feet (1,215 meters) in elevation. Known from occurrences in the Eastern San Joaquin Valley from Kern County to Fresno County. It is more widespread in the southwestern portion of the state.	September to May	No California satintail was observed during the fieldwork conducted. No occurrence is expected. No significant impacts to this species are expected to occur as a result of the development of this project.
<i>Layia leucopappa</i> Comanche Point layia	S/-/1B.1	Annual herb in the Asteraceae found in chenopod scrub, and valley and foothill grassland between 328 and 1,148 feet (100–350 meters) in elevation. Known to occur in Kern County.	March to April	No Comanche Point layia was observed during the fieldwork conducted. No occurrence is expected. No significant impacts to this species are expected to occur as a result of the development of this project.
<i>Monardella linoides</i> ssp. <i>oblonga</i> Tehachapi monardella	S/-/1B.3	Perennial rhizomatous herb in the Lamiaceae found in lower montane coniferous forest, pinyon and juniper woodland, and upper montane coniferous forest between 2,953 and 8,104 feet (900–2,470 meters) in elevation. Known from the Southern Sierra Nevada to the Transverse Ranges in Kern, Tulare and Ventura Counties.	June to August	No Tehachapi monardella was observed during the fieldwork conducted. No occurrence is expected. No significant impacts to this species are expected to occur as a result of the development of this project.

<b>Scientific Name Common Name</b>	<b><sup>1</sup>Status Fed/State/CNPS</b>	<b>Brief Description</b>	<b>Blooming Period</b>	<b>Survey Results</b>
<i>Monolopia congdonii</i> San Joaquin woolly-threads	E/-/1B.2	Annual herb in the Asteraceae found between 197 and 2,625 feet (60–800 meters) in elevation in chenopod scrub, and valley and foothill grasslands, on sandy soils. Known to occur in the San Joaquin Valley from Kern County north to San Benito County, and the Carrizo Plain in San Luis Obispo and Santa Barbara Counties.	February to May	No San Joaquin woolly-threads was observed during the fieldwork conducted. No occurrence is expected. No significant impacts to this species are expected to occur as a result of the development of this project.
<i>Navarretia setiloba</i> Piute Mountains navarretia	S/-/1B.1	Herbaceous annual in the Polemoniaceae found on clay or gravelly loam soils in cismontane woodland, pinyon and juniper woodland, and valley and foothill grasslands from 1,001 and 6,890 feet (305–2,100 meters) in elevation. Known from occurrences in the Southern Sierra Nevada in Kern and Tulare Counties.	April to June	No Piute Mountain navarretia was observed during the fieldwork conducted. No occurrence is expected. No significant impacts to this species are expected to occur as a result of the development of this project.
<i>Opuntia basilaris</i> var. <i>treleasei</i> Bakersfield cactus	E/E/1B.1	Perennial stem succulent in the Cactaceae found in chenopod scrub, cismontane woodland, and valley and foothill grasslands between 394 and 1,804 feet (120–550 meters) in elevation. Known to occur in the Southeast San Joaquin Valley and Southern Sierra Nevada Foothills in Kern County.	April to May	No Bakersfield cactus was observed during the fieldwork conducted. No occurrence is expected. No significant impacts to this species are expected to occur as a result of the development of this project.
<i>Stylocline citroleum</i> Oil neststraw	S/-/1B.1	Annual herb in the Asteraceae found in chenopod scrub, coastal scrub, and valley and foothill grasslands on clay soils between 164 and 1,312 feet (50–400 meters) in elevation. Known from locations in Kern and San Diego Counties.	March to April	No oil neststraw was observed during the fieldwork conducted. No occurrence is expected. No significant impacts to this species are expected to occur as a result of the development of this project.
<i>Stylocline masonii</i> Mason's neststraw	S/-/1B.1	Annual herb in the Asteraceae found in chenopod scrub and pinyon and juniper woodland on sandy soils between 328 and 3,937 feet (100–1,200 meters) in elevation. Known to occur in Kern, Los Angeles, Monterey, and San Luis Obispo Counties.	March to May	No Mason's neststraw was observed during the fieldwork conducted. No occurrence is expected. No significant impacts to this species are expected to occur as a result of the development of this project.

<i>Scientific Name</i> Common Name	<sup>1</sup> Status Fed/State/CNPS	Brief Description	Blooming Period	Survey Results
<i>Tortula californica</i> California screw-moss	S/-/1B.2	Moss in the Pottiaceae found in chenopod scrub, and valley and foothill grasslands below 4,790 feet (1,460 meters) in elevation. Known to occur in Kern, Los Angeles, Monterey, Modoc, Riverside, Santa Barbara, San Diego, and Ventura Counties; and Santa Rosa Island.	Not Applicable	No California screw moss was observed during the fieldwork conducted. No occurrence is expected. No significant impacts to this species are expected to occur as a result of the development of this project.

<sup>1</sup>STATUS: Federal and State Listing Code

D Delisted  
E Federally or State-listed Endangered  
S BLM Sensitive Species  
T Federally or State-listed Threatened  
- No listing status

CNPS

1A Plants presumed extirpated in California, and either rare or extinct elsewhere  
1B.1 Plants considered rare, threatened, or endangered in California and elsewhere; seriously threatened in California  
1B.2 Plants considered rare, threatened, or endangered in California and elsewhere; fairly threatened in California  
1B.3 Plants considered rare, threatened, or endangered in California and elsewhere; not very endangered in California  
2B.1 Plants considered rare, threatened, or endangered in California, but more common elsewhere; seriously threatened in California

**Table A-2: Special-status Animals That May Occur in the Vicinity of the Project Site.**

<i>Scientific Name</i> Common Name	<sup>1</sup> Status Federal/State	General Habitat	Survey Results
<b>Invertebrates</b>			
<i>Branchinecta lynchi</i> Vernal pool fairy shrimp	T/-	Occupies a variety of different vernal pool habitats, from small, clear, sandstone rock pools to large, turbid, alkaline, grassland valley floor pools. They are most frequently found in pools measuring less than 0.05 acres (0.02 hectares). Distribution in the Central Valley ranges from Shasta County to Tulare County. Kern County has no documented occurrences.	No suitable habitat for this species exists on the project site. No impacts are expected.
<i>Desmocerus californicus dimorphus</i> Valley elderberry longhorn beetle	T/-	Central Valley riparian forest; nearly always found on or close to its host plant, elderberry ( <i>Sambucus</i> species).	No suitable habitat for this species exists on the project site. Species has been extirpated from Kern County. No impacts are expected.
<b>Fish</b>			
<i>Hypomesus transpacificus</i> Delta smelt	T/T	Found only in the Sacramento-San Joaquin Estuary in the interface between salt and freshwater.	No suitable habitat for this species exists on the project site. No impacts are expected.
<b>Amphibians</b>			
<i>Rana draytonii</i> California red-legged frog	T/-	Found in dense, shrubby riparian vegetation associated with deep (0.6 meters; 2 feet), still or slow-moving water; arroyo willow ( <i>Salix lasiolepis</i> ) seems to be most suitable, but cattails ( <i>Typha</i> sp.) and bulrushes ( <i>Scirpus</i> sp.) also provide good habitat.	No suitable habitat for this species exists on the project site. No impacts are expected.
<b>Reptiles</b>			
<i>Gambelia sila</i> Blunt-nosed leopard lizard	E/E,SFP	Found only in the San Joaquin Valley, adjacent Carrizo Plain, Elkhorn Plain, Cuyama Valley, and Panoche Valley; inhabits sparsely vegetated plains, lower canyon slopes, on valley floors, and washes; open grassland, saltbush scrub, and alkali sink are more common habitat types.	No suitable habitat for this species exists on the project site. No impacts are expected.

<i>Scientific Name</i> Common Name	<sup>1</sup> Status Federal/State	General Habitat	Survey Results
<i>Thamnophis gigas</i> Giant garter snake	T/T	Highly aquatic; usually found in areas of freshwater marsh low-gradient streams, drainage canals and irrigation ditches, especially those associated with rice farming; historically occurred in the San Joaquin Valley from the vicinity of Sacramento southward to Buena Vista and the Tulare Lake Basin; currently known from near Chico, Butte County, to the vicinity of Burrel, Fresno County.	No suitable habitat for this species exists on the project site. Species has been extirpated from Kern County. No impacts are expected.
<b>Birds</b>			
<i>Agelaius tricolor</i> Tricolored blackbird	S/C, CSC	Forages in grasslands, wetlands, rice fields, croplands, and weedy uplands dominated by mustards and thistles, etc.; breeds in marshes containing heavy growth of bulrushes, cattails, and blackberries; found throughout the Central Valley.	No suitable nesting habitat exists on the project for this species. The site represents adequate foraging habitat. No impacts are expected.
<i>Buteo swainsoni</i> Swainson's hawk	-/T	Riparian and sometimes large isolated trees used for nesting; grasslands and agricultural lands used for foraging; in California, breeds primarily in the Sacramento Valley, with occasional nesting to the south through Kern County; migrate through the Central and San Joaquin Valleys to their wintering grounds in South America.	No suitable nesting habitat exists on the project for this species. The site represents poor foraging habitat. No impacts are expected.
<i>Vireo bellii pusillus</i> Least Bell's vireo	E/E	Dense, low, shrubby vegetation, generally early successional stages in riparian areas, brushy fields, young second-growth forest or woodland, scrub oak, coastal chaparral, and mesquite brushlands, often near water in arid regions.	No suitable nesting habitat exists on the project for this species. The site represents poor foraging habitat. No impacts are expected.
<b>Mammals</b>			
<i>Ammospermophilus nelsoni</i> San Joaquin antelope squirrel	-/T	Found in grasslands or open shrublands; formerly more extensive, current range includes southwestern portion of the San Joaquin Valley and in adjacent valleys to the west.	No San Joaquin antelope squirrel was observed during the fieldwork conducted for the preparation of this report. The site is beyond the current known range of the species. No impacts are expected.

<i>Scientific Name</i> Common Name	<sup>1</sup> Status Federal/State	General Habitat	Survey Results
<i>Dipodomys ingens</i> Giant kangaroo rat	E/E	Western side of the San Joaquin Valley, including the Carrizo Plain and the Panoche Valley; grassland and shrub-land habitats with sparse vegetative cover and soils that are well-drained, fine sandy loams with gentle slopes.	No Giant kangaroo rat was observed during the fieldwork conducted for the preparation of this report. The site is beyond the published range of the species. No impacts are expected.
<i>Dipodomys nitratoides nitratoides</i> Tipton kangaroo rat	E/E	Found in arid communities on the valley floor portions of Kern, Tulare, and Kings counties in scrub and grassland communities in level to near-level terrain with alluvial fan-floodplain soil (fine sands and sandy loams) with sparse grasses and woody vegetation such as iodine bush, saltbush, seep weed, and mesquite.	No Tipton kangaroo rat was observed during the fieldwork conducted for the preparation of this report. The site is beyond the current known range of the species. No impacts are expected.
<i>Sorex ornatus relictus</i> Buena Vista Lake shrew	E/CSC	Formerly occupied marshlands of the San Joaquin Valley and the Tulare Basin. Its range has become much restricted due to the loss of lakes and sloughs in the area. It has been recorded from the Kern Lake Preserve area and the Kern National Wildlife Refuge. Current distribution is unknown but likely to be very restricted due to the loss of habitat.	No Buena Vista Lake shrew was observed during the fieldwork conducted for the preparation of this report. The site is beyond the current known range of the species. The site does not represent suitable habitat for the species. No impacts are expected.
<i>Vulpes macrotis mutica</i> San Joaquin kit fox (SJKF)	E/T	Found in valley saltbush scrub, valley sink scrub, Interior Coast Range saltbush scrub, upper Sonoran sub-shrub scrub, non-native grassland, and valley sacaton grassland in the Central Valley and adjacent foothills and valleys, infrequently to the outer Coast Ranges; generally not found in densely wooded areas, wetland areas, or areas subject to frequent periodic flooding.	The periphery of this site represents suitable habitat for the species. No potential SJKF dens were identified during the fieldwork conducted for the preparation of this report. Participation in the MBHCP would reduce potential impacts to this species to less-than-significant.

<sup>1</sup>STATUS:

Federal

S Listed as a Bureau of Land Management (BLM) Sensitive Species  
E Listed as Endangered  
T Listed as Threatened

State

C Candidate for Listing  
CSC California Department of Fish and Wildlife Designated Species of Special Concern  
E Listed as Endangered  
SFP California Department of Fish and Wildlife Designated Fully Protected  
T Listed as Threatened

**Appendix B**  
**Photographs of the Project Site and Surrounding Area**  
**December 8, 2018**



**Photo B-1:** Photograph of the project site taken at the northwest corner facing southeast (December 8, 2018)



**Photo B-2:** Photograph of the project site taken near the center of the project on the eastern edge facing south (December 8, 2018)



**Photo B-3:** Photograph of the project site taken at the southeast corner facing north (December 8, 2018)



**Photo B-4:** Photograph of the project site taken at the southwest corner facing east (December 8, 2018)

**Appendix C**  
**Plants and Animals Observed During the Reconnaissance-level Survey**  
**December 8, 2018**

**Table C-1:** Plant Species Observed During the Survey Conducted on December 8, 2018.

<i>Scientific Name</i>	<b>Common Name</b>
<b>Amaranthaceae</b>	
<i>Amaranthus palmeri</i>	Palmer's amaranth
<b>Apiaceae</b>	
<i>Daucus carota</i>	Domesticated carrot
<b>Asteraceae</b>	
<i>Lactuca serriola</i>	Prickly lettuce
<i>Senecio vulgaris</i>	Common groundsel
<b>Boraginaceae</b>	
<i>Amsinckia</i> sp.	Fiddleneck
<b>Brassicaceae</b>	
<i>Capsella bursa-pastoris</i>	Shepard's purse
<i>Caulanthus lasiophyllus</i>	California mustard
<i>Sisymbrium irio</i>	London rocket
<b>Chenopodiaceae</b>	
<i>Salsola tragus</i>	Russian thistle
<b>Chenopodiaceae</b>	
<i>Cyperus rotundus</i>	Nut grass
<b>Fabaceae</b>	
<i>Medicago sativa</i>	Alfalfa
<b>Geraniaceae</b>	
<i>Erodium cicutarium</i>	Red-stem filaree
<b>Malvaceae</b>	
<i>Malva parviflora</i>	Cheeseweed
<b>Poaceae</b>	
<i>Avena fatua</i>	Slender wild oat
<i>Bromus madritensis</i> ssp. <i>rubens</i>	Red brome
<i>Cynodon</i> sp.	Bermuda grass
<i>Digitaria</i> sp.	Crabgrass
<i>Distichlis spicata</i>	Salt grass
<i>Hordeum murinum</i> ssp. <i>leporinum</i>	Farmer's foxtail
<i>Sorghum</i> sp.	Johnsongrass
<b>Solanaceae</b>	
<i>Datura wrightii</i>	Jimsonweed
<i>Solanum tuberosum</i>	Domestic potato

<i>Scientific Name</i>	<b>Common Name</b>
<b>Zygophyllaceae</b>	
<i>Tribulus terrestris</i>	Puncture vine

**Table C-2:** Animal Species Observed during the Survey Conducted on December 8, 2018

<i>Scientific Name</i>	<b>Common Name</b>
<b>Birds</b>	
<i>Haemorhous mexicanus</i>	House finch