# Biological Resource Assessment of
# APNs 3111-001-063 and 088
# Palmdale, California

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**Abstract**

Development has been proposed for APNs 3111-001-063 and 088. The approximately 20 acre (8 ha) study area was located north of Avenue M-8 and west of 35th Street West, T6N, R12W, the E1/2 of the SE1/4 of the NW1/4 Section 6**,** S.B.B.M. A line transect survey was conducted on 30 May and 14 June 2022 to inventory biological resources. The proposed project area was characteristic of a highly impacted Joshua tree (*Yucca brevifolia*) woodland and desert scrub plant community. A total of 34 plant species and 19 wildlife species or their sign were observed during the line transect survey. No desert tortoises (*Gopherus agassizii*) or their sign were observed during the field survey. No Mohave ground squirrels (*Xerospermophilus mohavensis*) were observed or audibly detected during the field survey. There was no suitable habitat for Mohave ground squirrels within the study area. No desert kit foxes (*Vulpes macrotis*) or their sign were observed during the field surveys. No burrowing owls (*Athene cunicularia*), or their sign were observed during the field survey. California ground squirrels (*Citellus beecheyi*) and their sign were abundant throughout the study site. California ground squirrel burrows can provide future potential cover sites for burrowing owls. Vegetation within the study area provided nesting sites for migratory birds. No Swainson's hawk nests have been sighted within 5 miles of the project site. There was an estimate of approximately 55 Joshua trees observed within the study area. No other sensitive plants, specifically, alkali mariposa lily (*Calochortus striatus*), desert cymopterus (*Cymopterus deserticola*), and Barstow woolly sunflower (*Eriophyllum mohanense*) were observed during the field survey. No other state or federally listed species are expected to occur within the proposed project area. No wetlands or ephemeral desert washes were observed within the study area.

**Recommended Protection Measures**:

Joshua trees are currently being considered for listing under the California Endangered Species Act. Consultation with California Department of Fish and Wildlife would be required to take Joshua trees. Compensation and mitigation for impacts to Joshua trees will be determined through the Section 2081 permit process and development of a California Endangered Species Act Incidental Take Permit.

Consistent with the "Staff Report on Burrowing Owl Mitigation" a take avoidance (preconstruction) burrowing owl survey will be accomplished no more than 14 days prior to ground disturbance activities to ensure no owls have moved into the study site (CDFG 2012). If burrowing owls are found to have moved into the site methods noted within the Staff Report will be applied as appropriate.

If possible, removal of vegetation will occur outside the breeding season for migratory birds. Breeding generally lasts from February to July but may extend beyond this time frame. If vegetation removal will occur during or close to the nesting season, a qualified biologist will survey all potential nesting areas to be disturbed as close as possible but no more than one week prior to removal. If active bird nests are found, impacts to nests will be avoided by either delaying work or establishing initial buffer areas of a minimum of 50 feet around active migratory bird species nests. The project biologist will determine if the buffer areas should be increased or decreased based on the nesting bird response to disturbances.

**Significance:**

Given the condition of the study area, the adjacent land uses, isolated and fragmented location, and lack of sensitive wildlife species sign this project is not expected to result in a significant adverse impact to biological resources.

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Development has been proposed for APNs 3111-001-063 and 088 (Figure 1). Development would include installation of access roads and utilities (water, sewer, electric, etc.). The entire project area would be graded prior to construction activities.

An environmental analysis should be conducted prior to any development project. An assessment of biological resources is an integral part of environmental analyses (Gilbert and Dodds 1987). The purpose of this study was to provide an assessment of biological resources potentially occurring within or utilizing the proposed project area. Specific focus was on the presence/absence of rare, threatened, and endangered species of plants and wildlife. Species of concern included the desert tortoise (*Gopherus agassizii*), Mohave ground squirrel (*Xerospermophilus mohavensis*), desert kit fox (*Vulpes macrotis*), burrowing owl (*Athene cunicularia*), Swainson's hawk (*Buteo swainsoni*), Joshua tree (*Yucca brevifolia*), desert cymopterus (*Cymopterus deserticola*), Barstow woolly sunflower (*Eriophyllum mohanense*), and alkali mariposa lily (*Calochortus striatus*).

**Study Area**

The approximately 20 acre (8 ha) study area was located north of Avenue M-8 and west of 35th Street West, T6N, R12W, T6N, R13W, the E1/2 of the SE1/4 of the NW1/4 Section 6**,** S.B.B.M. (Figures 2 and 3). Avenue M-4, a dirt road, formed the northern boundary of the study site. Joshua tree woodland and desert scrub habitat was present north of Avenue M-4 with residential housing a short distance further north. Avenue M-8 formed the southern boundary of the study site. Residential homes were present south of Avenue M-8. The eastern boundary was formed by 35th Street West. Disturbed Joshua tree woodland and desert scrub habitat was present east of 35th Street West. A dirt road formed the western boundary. Disturbed Joshua tree woodland and desert scrub habitat was present west of this dirt road (Figure 3).

**Methods**

A line transect survey was conducted to inventory plant and wildlife species occurring within the proposed project area (Cooperrider et al. 1986, Davis 1990). The USFWS (2010) has provided recommendations for survey methodology to determine presence/absence and abundance/distribution of desert tortoises. Line transects were walked in an east-west orientation. Consistent with survey protocol line transects were approximately 660 feet (201 m) long and spaced about 30 feet (10 m) apart (U.S. Fish & Wildlife Service 2010). The California Department of Fish and Game (2012) prepared recommendations for burrowing owl survey methodology. Consistent with the survey protocol the entire site was surveyed, and adjacent areas were evaluated (CDFG 2012). A habitat assessment was conducted for Mohave ground squirrels to determine shrub species diversity, cover, and forage potential on the study site.

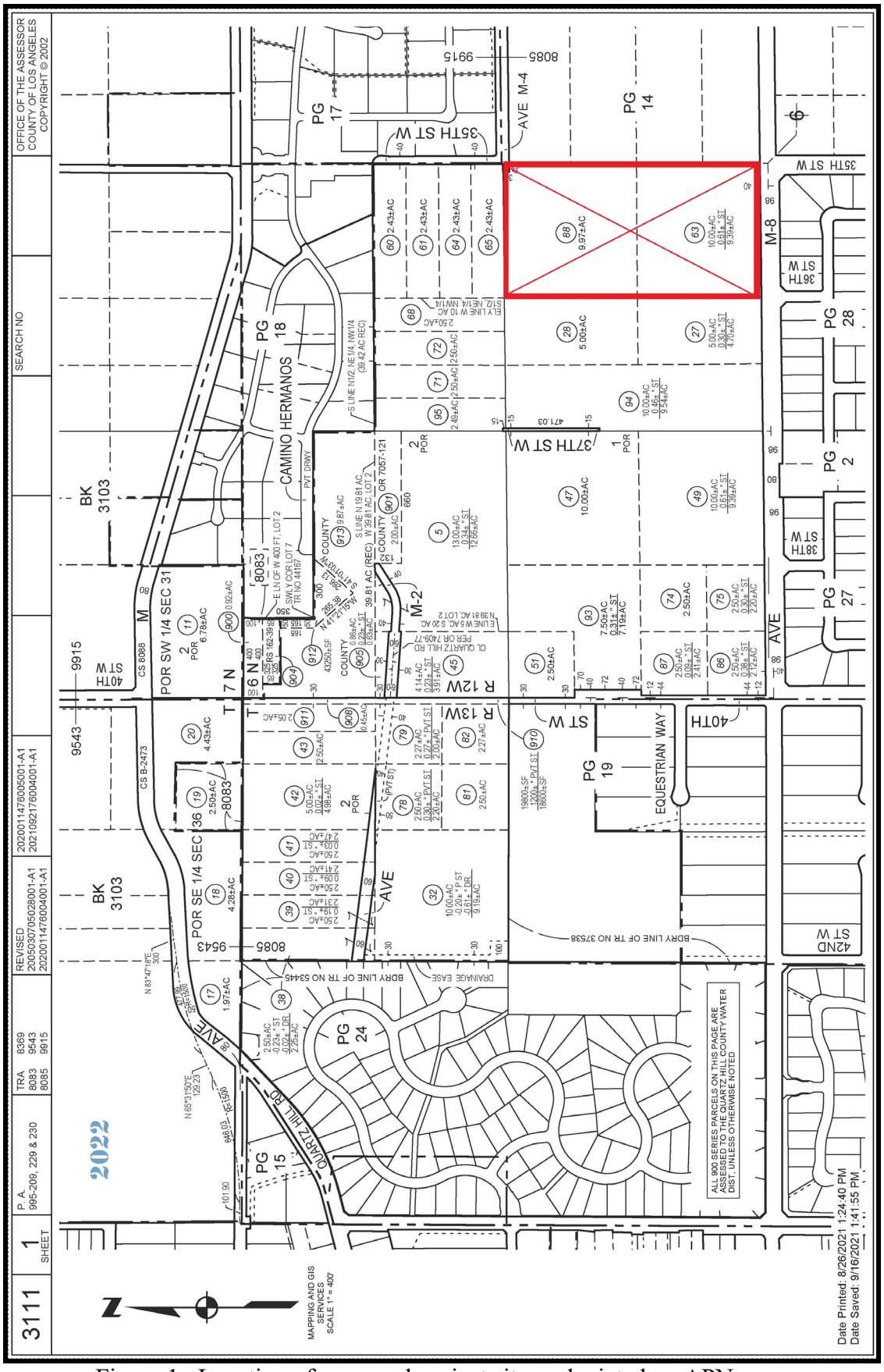


Figure 1. Location of proposed project site as depicted on APN map.

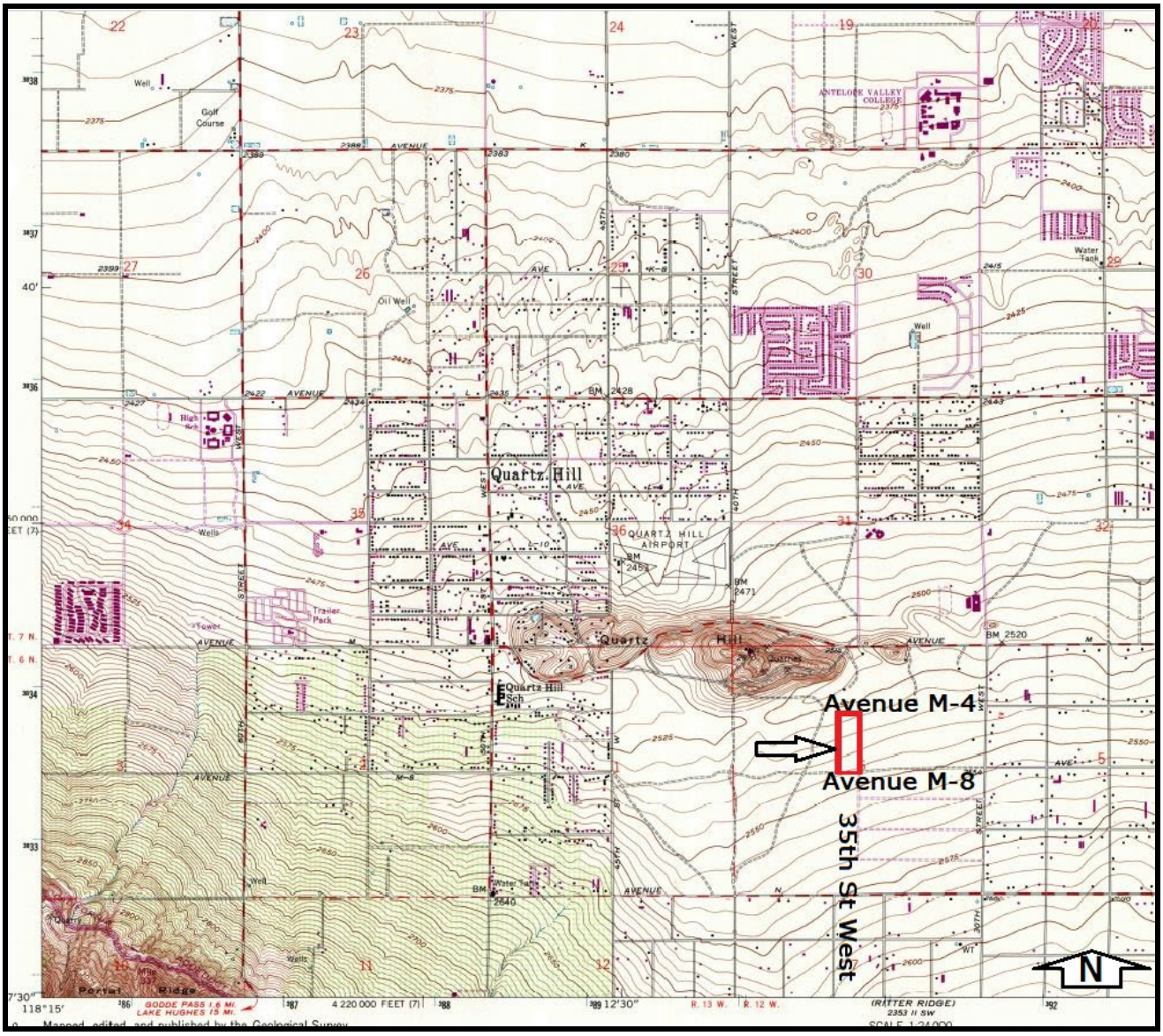


Figure 2. Approximate location of study area as depicted on excerpt from Lancaster West, 1974, and Del Sur, 1995, USGS Topographical Maps.


Figure 3. Approximate location of study area as depicted on excerpt from Google Earth Aerial Photography, dated July 2021, showing where the study site is located within a larger area of vacant land surrounded by development.

All observations of plant and animal species were recorded in field notes. Field guides were used to aid in the identification of plant and animal species (Arnett and Jacques 1981, Blatt 2019, Borror and White 1970, Burt and Grossenheider 1976, eBird 2021, Gould 1981, Jaeger 1969, Knobel 980, Robbins et al. 1983, Stark 2000). Observations were aided with the use of 10x42 binoculars. Observations of animal tracks, scat, and burrows were also utilized to determine the presence of wildlife species inhabiting the proposed project area (Cooperrider et al. 1986, Halfpenny 1986, Murie 1974, Lowrey 2006). Review of documented sightings of sensitive plant and wildlife species was accomplished using the California Natural Diversity Database (CNDDB 2020a-b), and eBird.org. Previous surveys in the area (Hagan 2013, 2014, 2016, 2018, 2019, 2020, 2021, 2022) were reviewed for historical sightings and background information. Photographs were taken of the study site (Appendix A).

**Results**

A total of 32 line transects were walked on 30 May and 14 June 2022 within the study site. Weather conditions consisted of warm temperatures (estimated 75 degrees F), 0% cloud cover, and light to moderate winds. A sandy loam surface soil texture was characteristic throughout the study area. No blue line streams were noted within the study site on the USGS topographic map. No streams or washes were noted within the study site on Google Earth aerial photography of the area. No wetlands or ephemeral desert washes were observed within the study area. Topography of study site was approximately 2,529 to 2,545 feet (771 to 776 m) above sea level.

The proposed project area was characteristic of a highly impacted Joshua tree woodland desert scrub plant community (Barbour and Major 1988, Barbour et.al. 2007). A total of 34 plant species were observed during the line transect survey (Table 1). Approximately 15 acres (6 ha) of the study site was all but devoid of shrub species. The dominant shrub species in the remaining 5 acres (2 ha) was mormon tea (*Ephedra nevadensis*). The dominant annual within the study site was red stemmed filaree (*Erodium cicutarium*). Approximately 55 Joshua trees were present within the study site. Approximately 11 California juniper (*Juniperus californica*) trees were present within the study site. No alkali mariposa lilies, desert cymopterus, or Barstow woolly sunflowers or their habitat were observed within the study site.

A total of 19 wildlife species, or their sign were observed during the line transect survey (Table 2). No desert tortoises or their sign were observed during the field survey. No suitable desert tortoise habitat was present within the study site. No burrowing owls or their sign were observed during the field survey. California ground squirrels (*Citellus beecheyi*) and their sign were abundant throughout the study site. California ground squirrel burrows can provide future available cover sites for burrowing owls. Vegetation within the study area provided potential nesting sites for migratory birds. A total of 4 bird nests were observed within the study site, 3 inactive and 1 active. A pair of cactus wrens (*Campylorhynchus brunneicapillus*) were observed within the study site. No Swainson's hawk nests have been sighted within 5 miles of the project site. No MGS were observed or audibly detected during the field survey. Suitable habitat for Mohave ground squirrels was not present within or adjacent to the study site (CDFW 2019, Lietner and Leitner 2017). No desert kit foxes, or their sign were observed during the field survey. No other wildlife species of concern were observed within the study site.

Table 1. List of plant species that were observed during the line transect survey of APNs 3111-001-063 and 088, Palmdale, California.

| Common Name | Scientific Name |
|---|---|
| Joshua tree | *Yucca brevifolia* |
| California juniper | *Juniperus californica* |
| Four-wing saltbush | *Atriplex canescens* |
| Mormon tea | *Ephedra nevadensis* |
| Peachthorn | *Lycium cooperi* |
| Cotton thorn | *Tetradymia spinosa* |
| Spiny hopsage | *Grayia spinosa* |
| Rabbit brush | *Chrysothamnus nauseosis* |
| Silver cholla | *Opuntia echinocarpa* |
| Desert straw | *Stephanomeria pauciflora* |
| Flattop buckwheat | *Eriogonum deflexum* |
| Spotted buckwheat | *Eriogonum maculatum* |
| Turkey mullein | *Eremocarpus setigerus* |
| Wishbone plant | *Mirabilis bigelovii* |
| Sun cups | *Camiissonia campestris* |
| Autumn vinegar-weed | *Lessingia germanorum* |
| California poppy | *Eschscholtzia californica* |
| Pygmy-leaved lupine | *Lupinus bicolor* |
| Goldfields | *Lasthenia californica* |
| Lacy phacelia | *Phacelia tanacetifolia* |
| California poppy | *Eschscholtzia californica* |
| Comb-bur | *Pectocarya recurvata* |
| Jimson weed | *Datura meteloides* |
| Blue mantle | *Eriastrum diffusum* |
| Fiddleneck | *Amsinckia tessellata* |
| Desert needlegrass (1 small individual) | *Stipa comata* |
| Rattlesnake weed | *Euphorbia albomarginata* |
| Red stemmed filaree | *Erodium cicutarium* |
| Tumble mustard | *Sisymbrium altisissiimum* |
| Tansy mustard | *Descurainia sophia* |
| Sahara mustard | *Brassica tournefortii* |
| Annual burweed | *Franseria acanthicarpa* |
| Cheatgrass | *Bromus tectorum* |
| Red brome | *Bromus rubens* |

Table 2. List of wildlife species, or their sign, that were observed during the line transect survey of APNs 3111-001-063 and 088, California.

| Common Name | Scientific Name |
|---|---|
| Rodents | Order: Rodentia |
| Pocket gopher | *Thomomys bottae* |
| Desert cottontail | *Sylvilagus auduboni* |
| Black-tailed jackrabbit | *Lepus californicus* |
| California ground squirrel | *Citellus beecheyi* |
| Coyote | *Canis latrans* |
| Domestic dog | *Canis familiaris* |
| Horse | *Equus* sp. |
| Western whiptail | *Cnemidophorus tigris* |
| Common raven | *Corvus corax* |
| Cactus wren | *Campylorhynchus brunneicapillus* |
| Greater roadrunner | *Geococcyx californianus* |
| Northern mockingbird | *Mimus polyglottos* |
| Cabbage white butterfly | *Pieris rapae* |
| Spider | Order: Araneida |
| Tarantula wasp | *Pepsis formosa* |
| Harvester ants | Order: Hymenoptera |
| Grasshopper | Order: Orthoptera |
| Fly | Order: Diptera |

Dirt roads surrounded and intersected the study site. Evidence of a large historical fire was observed within the south-southwest portion of the study site. Large trash dumps containing, construction debris, yard waste, and household waste were observed within the north-northeast portion of the study site. A large number of soil piles were observed within the northeast corner of the study site. Off-highway vehicle (OHV) tracks were observed within the study site. OHV riders were observed within and around the study site.

**Discussion**

It is probable that most annual species were visible during the time the field survey was performed. Approximately 10 acres (4 ha) of the southern and northwestern portion of the study site and areas to the south and west appeared to have impacted by a historical fire which removed nearly all perennial vegetation leaving a few Joshua trees and California juniper trees. Based on historical Google Earth photos this fire appears to predate 2003. Large amounts of soil piles appear between 2009 and 2011 with amount of areal extent expanding each year through 2021 based on historical Google Earth photos until they covered nearly 5 acres (2 ha) in the northeastern corner of the study site. Trash dumps containing household waste and construction debris have been added to the edges and within those soil piles. Joshua trees are present within and around the dump sites. Several wildlife species would be expected to occur within the proposed project area (Table 3).

Human impacts in the area have severely degraded and fragmented the study site and general area. These impacts are expected to increase as urban development continues to occur near the study area. This development has effectively removed wildlife corridor potential to all but birds and urbanized wildlife. Burrowing animals within the proposed project area are not expected to survive construction activities. More mobile species, such as lagomorphs (rabbits and hares), coyotes (*Canis latrans*), and birds are expected to survive construction activities. Development of this site will result in less cover and foraging opportunities for the species occurring within and adjacent to the study area.

The desert tortoise is listed as a state endangered and federal threatened species. The proposed project area was located within the geographic range of the desert tortoise. The proposed project site was not located in critical habitat designated for the Mojave population of the desert tortoise. No desert tortoises or their sign were observed within the study area. No suitable habitat for desert tortoises was present within the study area. No desert tortoises are considered present within the study site. No protection measures are recommended for desert tortoises.

Burrowing owls are considered a species of special concern by the California Department of Fish and Wildlife (CDFW). No burrowing owls, or their sign were observed during the survey. California ground squirrel burrows could become cover sites for burrowing owls within the study site in the future.

Many species of birds and their active nests are protected under the Migratory Bird Treaty Act. Vegetation within the study area provides nesting sites for migratory birds. Swainson's hawk is a state listed threatened species. Swainson's hawks appear to be tied most often to active agricultural fields, parks, and large retention basins within the Antelope Valley.

Table 3. List of wildlife species that may occur within of APNs 3111-001-063 and 088, Palmdale, California.

| Common Name | Scientific Name |
|---|---|
| Deer mouse | *Peromyscus maniculatus* |
| Merriam kangaroo rat | *Dipodomys merriami* |
| Rock dove | *Columba livia* |
| Cactus wren | *Campylorhynchus brunneicapillus* |
| Horned lark | *Eremophila alpestris* |
| White crowned sparrow | *Zonotrichia leucophrys* |

This is based on an assessment of the pattern of Swainson's hawk sightings documented over time within eBird.org (eBird 2022). There are none of these features near the study site. No Swainson's hawk nest sightings have been documented within 5 miles of the study site (eBird 2022). No mitigation measures for Swainson's hawks are recommended.

The Mohave ground squirrel (MGS) is a state listed threatened species. The proposed project area was not located within the geographic range of the MGS. The western limit of the geographic range of the MGS is State Highway 14. In addition, the study area lacked suitable habitat to support MGS (CDFW 2019, Leitner and Leitner 2017). No protection measures are recommended for MGS.

Joshua trees are currently being considered for listing under the California Endangered Species Act. Although an exact count of Joshua trees was not taken a rough count indicates approximately 55 trees would be present within the study site.

No suitable habitat for alkali mariposa lilies, Barstow woolly sunflowers, or desert cymopterus was observed within the study site. Based on the results of the field survey these species do not occur within the study area and no protection measures are recommended. No other state or federally listed threatened or endangered species are expected to occur within the proposed project area (California Department of Fish and Wildlife 2020, 2021, U.S. Fish & Wildlife Service 2016).

Landscape design should incorporate the use of native plants to the maximum extent feasible. Native plants that have food and cover value to wildlife should be used in landscape design (Adams and Dove 1989). Diversity of native plants should be maximized in landscape design (Adams and Dove 1989).

**Recommended Protection Measures**:

Joshua trees are currently being considered for listing under the California Endangered Species Act. Consultation with California Department of Fish and Wildlife would be required to take Joshua trees. Compensation and mitigation for impacts to Joshua trees will be determined through the Section 2081 permit process and development of a California Endangered Species Act Incidental Take Permit.

Consistent with the "Staff Report on Burrowing Owl Mitigation" a take avoidance (preconstruction) burrowing owl survey will be accomplished no more than 14 days prior to ground disturbance activities to ensure no owls have moved into the study site (CDFG 2012). If burrowing owls are found to have moved into the site methods noted within the Staff Report will be applied as appropriate.

If possible, removal of vegetation will occur outside the breeding season for migratory birds. Breeding generally lasts from February to July but may extend beyond this time frame. If vegetation removal will occur during or close to the nesting season, a qualified biologist will survey all potential nesting areas to be disturbed as close as possible but no more than one week prior to removal. If active bird nests are found, impacts to nests will be avoided by either delaying work or establishing initial buffer areas of a minimum of 50 feet around active migratory bird species nests. The project biologist will determine if the buffer areas should be increased or decreased based on the nesting bird response to disturbances.

**Significance:**

Given the condition of the study area, the adjacent land uses, isolated and fragmented location, and lack of sensitive wildlife species sign this project is not expected to result in a significant adverse impact to biological resources.

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# Appendix A. Photographs

View is from same location near center of site, top photo is showing some of the trails within the fire affected portion, bottom photo is looking towards the east showing the portion not affected by fire or dumping.

Top photo shows the southwest corner of the study site and is representative of the fire affected area, bottom photo is the northwest corner of the study site.

Top photo is the northeast corner of the study site, bottom photo is within the eastern boundary; representative of the dump sites present.

View from further into the eastern portion of the study site.