

Biological Resource Assessment of  
APN 3176-004-018  
Lancaster, California

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## **Abstract**

Development has been proposed for APN 3176-004-018, Lancaster, California. The approximately 25 acre (10 ha) study area was located east of 5th Street East and north of Avenue H-8, T7N, R12W, a portion of the S1/2 of the N1/2 of Section 11, SBBM. Transect surveys were conducted on 29 March and 6 April 2021 to inventory biological resources. The proposed project area was characteristic of a heavily impacted saltbush (*Atriplex* spp.) scrub habitat. Forty plant species and twenty-six wildlife species or their sign were observed during the transect surveys. No desert tortoises (*Gopherus agassizii*) or their sign were observed during the field survey. The proposed project site was located within the geographic range of the Mohave ground squirrel (*Xerospermophilus mohavensis*). No Mohave ground squirrels (*Xerospermophilus mohavensis*) were observed or audibly detected during the field survey. The habitat within the study area did not appear suitable to support Mohave ground squirrels. No desert kit fox (*Vulpes macrotis*) or their sign were observed within the study site. No American badgers (*Taxidea taxus*) or their sign were observed within the study site. No burrowing owls (*Athene cunicularia*) or their sign were observed during the field surveys. California ground squirrel (*Citellus beecheyi*) burrows were observed within the study site. California ground squirrel burrows can provide potential future cover sites for burrowing owls. Potential alkali mariposa lily habitat occurs within the study site. Joshua trees (*Yucca brevifolia*) were present within the study site. No other sensitive plants or suitable habitat, specifically, desert cymopterus (*Cymopterus deserticola*) or Barstow woolly sunflower (*Eriophyllum mohanense*) were observed within the study area or are expected to be present. Vegetation within the study area provides nesting sites for migratory birds. No Swainson's hawks (*Buteo swainsoni*) were observed during the field surveys. No other state or federally listed species are expected to occur within the proposed project area. No blue line streams were observed on the topographic map. Two storm run-off channels from the residential areas adjacent to the study site were observed during the field survey. Impacted washes and clay pans were observed within the the study site.

## **Recommended Protection Measures:**

An area that has any of the following characteristics which will be impacted by development: distinct bed, bank, channel, signs of scouring, evidence of water flow, may require a Streambed Alteration Agreement from the California Department of Fish and Wildlife (CDFW) prior to development activities. Discussions with CDFW should be accomplished to determine whether a Lake and Streambed Alteration (LSA) application is required for the water features within the site. Mitigation for Joshua trees and alkali mariposa lily, if required, may be able to be combined with measures that may be required for water features in the area.

Consistent with the "Staff Report on Burrowing Owl Mitigation" a take avoidance (preconstruction) burrowing owl survey will be accomplished no less 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 nesting season for migratory birds. Nesting 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 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 (16 m) around active migratory bird species nests and a minimum of 500 feet (161 m) around raptor nests. The project biologist will determine if the buffer areas should be increased or decreased based on the nesting bird response to disturbances.

Consultation with CDFW for an Incidental Take Permit (Section 2081) is required for Joshua trees present within the study site. An application for an ITP should be completed along with a Joshua tree report following CDFW requirements.

**Significance:** Based on the condition of the habitat, and results of the survey, this project is not expected to result in a significant adverse impact to biological resources.

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Development has been proposed for APN 3176-004-018, Lancaster, California (Figure 1). Development would include installation of access roads, parking 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*), American badger (*Taxidea taxus*), burrowing owl (*Athene cunicularia*), prairie falcon (*Falco mexicanus*), 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 25 acre (10 ha) study area was located east of 5th Street East and north of Avenue H-8, T7N, R12W, a portion of the S1/2 of the N1/2 of Section 11, SBBM. (Figures 2 and 3). The northwestern boundary of the study site was formed by 5th Street East. Highly impacted saltbush scrub (*Atriplex* spp.) was present to the west of 5th Street East. The southwest boundary of the study site was formed by a block wall and single-family housing. The eastern and northern boundaries were formed by dirt roads, 7th Street East and Avenue H-4 respectively. Impacted saltbush scrub was present east and north of the study site. The southern boundary was formed by single-family homes and Avenue H-8. Single-family homes existed to the south of Avenue H-8.

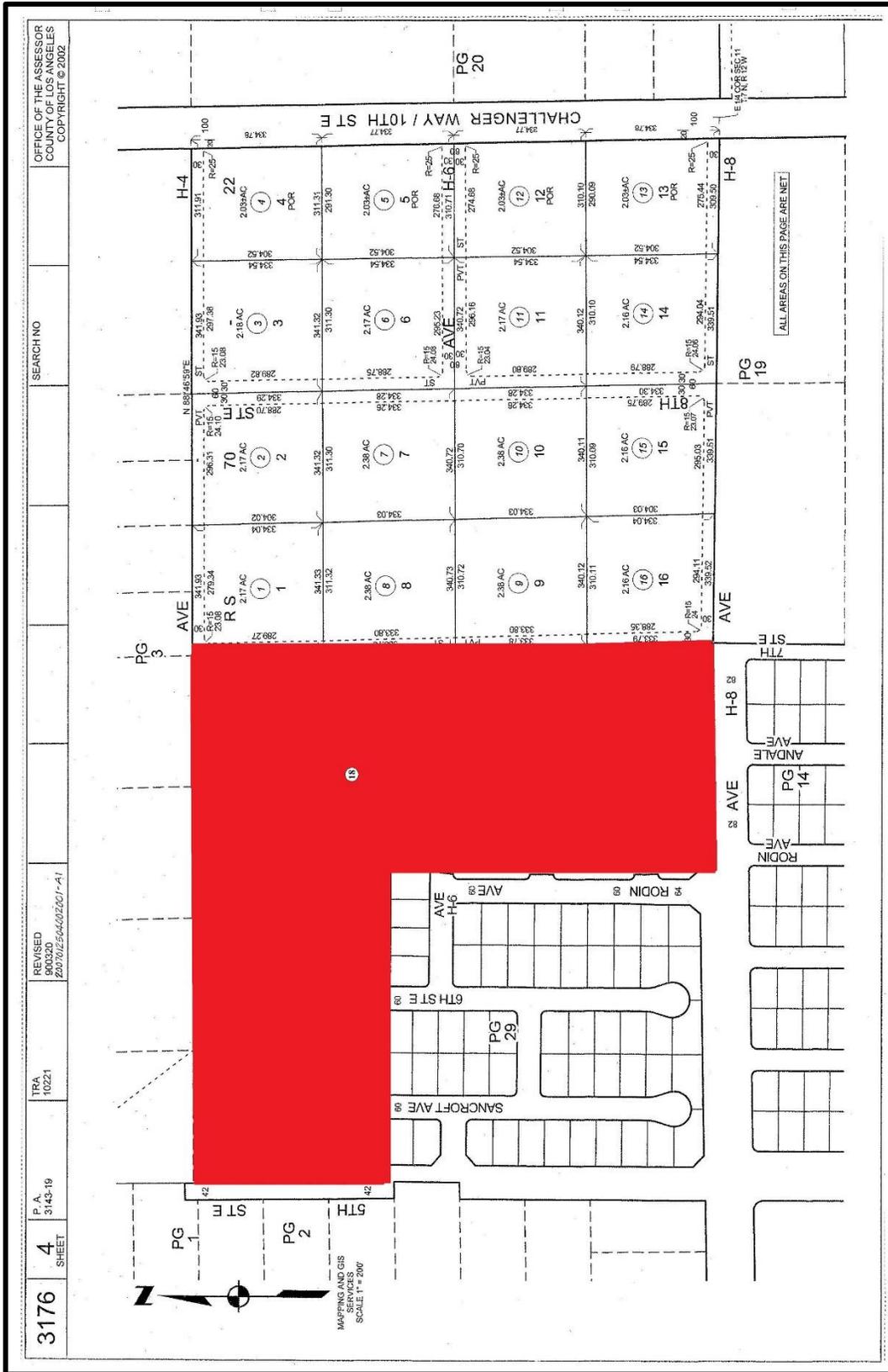


Figure 1. Approximate location of proposed project area as depicted on APN map.

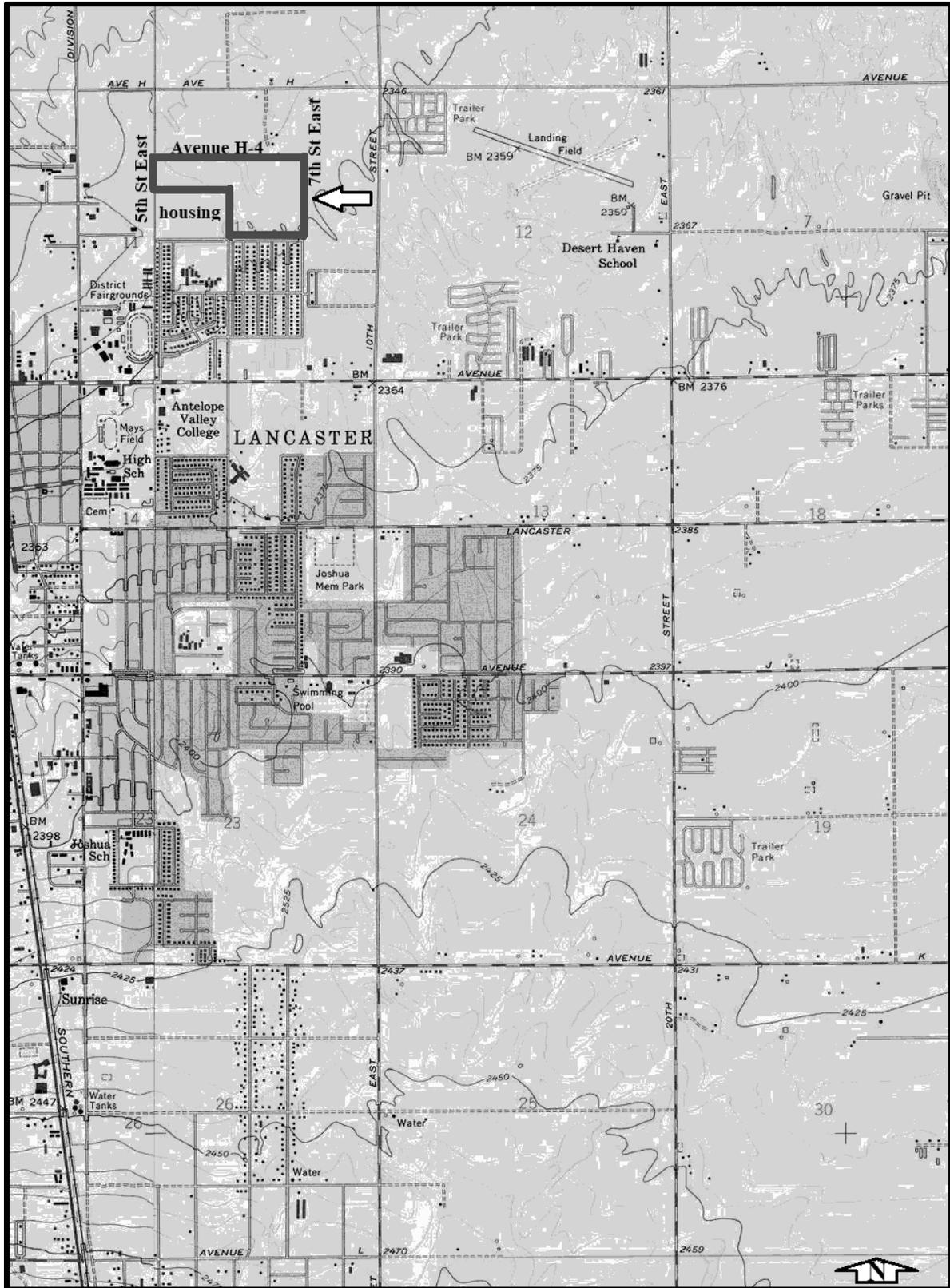


Figure 2. Approximate location of study area as depicted on excerpt from USGS Quadrangles, Lancaster East, Calif., 7.5', 1974 and Lancaster West, Calif., 7.5', 1974.



Figure 3. Aerial photograph showing surrounding land use (Google Earth, 2017).

## Methods

Line transect surveys were conducted to determine habitat suitability for sensitive species and 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 of desert tortoises. Line transects were walked in a north-south orientation and east-west orientation. Line transects ranged from approximately 750 to 1,320 feet (229 to 402 m) long and spaced about 30 feet (10 m) apart within the study area based on terrain and disturbance level (U.S. Fish & Wildlife Service 2010). The California Department of Fish and Game (2012) prepared recommendations for burrowing owl survey methodology. This survey protocol for burrowing owls was used to survey the entire site and evaluate adjacent areas. A habitat assessment was conducted for Mohave ground squirrels to determine shrub species diversity, cover, and forage potential on the study site.

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, Borror and White 1970, Burt and Grossenheider 1976, Gould 1981, Jaeger 1969, Knobel 1980, Robbins et al. 1983, Stark 2000). Observations were aided with the use of 10x50, and 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, Lowrey 2006, Murie 1974). Aerial photographs, CNDDDB Lancaster East 2021, and the USGS topographic map were reviewed. Photographs of the study site were taken (Figure 4).

## Results

Eighteen line transects were walked within the study site on 29 March 2021 and eighteen line transects were walked within the study site on 6 April 2021. Weather conditions on 29 March 2021 consisted of warm temperatures (estimated 80 degrees F), 0% cloud cover, and high winds. Weather conditions on 6 April 2021 consisted of warm temperatures (estimated 85 degrees F), 50% cloud cover, and light to moderate wind. The USGS topographic map did not indicate the presence of any blue line streams within the study area. Two stormwater/irrigation channels were present due to runoff from the housing development within the eastern portion of the study site. Impacted ephemeral washes and clay pans were present within the the study site.

The proposed project area was characteristic of a heavily impacted saltbush scrub habitat (Barbour and Major 1988, Barbour et. al. 2007). Forty plant species were observed during the line transect survey (Table 1). The dominant shrub species throughout the study area were four-wing saltbush (*Atriplex canescens*) and shadscale (*Atriplex confertifolia*). Invasive grasses (*Schismus* sp., *Bromus* spp.) were the dominant annual species. Perennial pepperweed (*Lepidium latifolium*), a noxious weed, dominated the manmade storm drainages and several of the washes. No Barstow woolly sunflowers, desert cymopterus or suitable habitat for these species were observed within the study site. No alkali mariposa lilies were observed within the study site. Potential habitat for alkali mariposa lily is present within the study site. Approximately eleven Joshua trees were present within the study site.



Figure 4. Representative photographs of the study site.



Figure 5. Representative photographs of the study site. The bottom photograph is within the northeastern corner, the only area not previously impacted by grading.

Table 1. List of plant species that were observed during the line transect survey of APN 3176-004-018, Lancaster, California.

| <u>Common Name</u>                       | <u>Scientific Name</u>          |
|--|---------------------------------|
| Joshua tree                              | <i>Yucca brevifolia</i>         |
| Salt cedar                               | <i>Tamarix aphylla</i>          |
| Great basin sagebrush                    | <i>Artemisia tridentata</i>     |
| Four-wing saltbush                       | <i>Atriplex canescens</i>       |
| Shadscale                                | <i>Atriplex confertifolia</i>   |
| Allscale                                 | <i>Atriplex polycarpa</i>       |
| Silverscale                              | <i>Atriplex argentea</i>        |
| Rabbit brush                             | <i>Chrysothamnus nauseosis</i>  |
| Spiny hop sage (very low number)         | <i>Grayia spinosa</i>           |
| Winterfat (very low number)              | <i>Eurotia lanata</i>           |
| Felt thorn                               | <i>Tetradymia stenolepis</i>    |
| Cotton thorn                             | <i>Tetradymia spinosa</i>       |
| Anderson thorn                           | <i>Lycium andersonii</i>        |
| Skeleton weed                            | <i>Eriogonum</i> sp.            |
| Mormon tea                               | <i>Ephedra nevadensis</i>       |
| Turkey mullein                           | <i>Eremocarpus setigerus</i>    |
| Blue mantle                              | <i>Eriastrum diffusum</i>       |
| Desert straw                             | <i>Stephanomeria pauciflora</i> |
| Loco weed                                | <i>Astragalus</i> sp.           |
| Autumn vinegar-weed                      | <i>Lessingia germanorum</i>     |
| Fremont pincushion (last years)          | <i>Chaenactis fremontii</i>     |
| Comb-bur (very few single individuals)   | <i>Pectocarya recurvata</i>     |
| Goldfields (very few single individuals) | <i>Lasthenia californica</i>    |
| Angle-stem buckwheat                     | <i>Eriogonum angulosum</i>      |
| Flattop buckwheat                        | <i>Eriogonum deflexum</i>       |
| Indian ricegrass                         | <i>Oryzopsis hymenoides</i>     |
| Alkali sacaton                           | <i>Sporobolus airoides</i>      |
| Salt grass                               | <i>Distichlis spicata</i>       |
| Red-stem filaree                         | <i>Erodium cicutarium</i>       |
| Black-eyed susan                         | <i>Rudbeckia hirta</i>          |
| Perennial pepperweed                     | <i>Lepidium latifolium</i>      |
| Tumble mustard                           | <i>Sisymbrium altissimum</i>    |
| Annual burweed                           | <i>Franseria acanthicarpa</i>   |
| Five-hook bassia                         | <i>Bassia hyssopifolia</i>      |
| Russian thistle                          | <i>Salsola iberica</i>          |
| Chilean chess                            | <i>Bromus trinii</i>            |
| Foxtail barley                           | <i>Hordeum murinum</i>          |
| Cheat grass                              | <i>Bromus tectorum</i>          |
| Red brome                                | <i>Bromus rubens</i>            |
| Schismus                                 | <i>Schismus</i> sp.             |

Twenty-six 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 desert kit foxes or their sign were observed within the study area. No American badgers or their sign were observed within the study site. No Mohave ground squirrels were detected visually or audibly during the field survey. No burrowing owls were observed within the study area. California ground squirrels (*Citellus beecheyi*) and their burrows were observed during the field survey. Two bird nests were observed in the study area in Joshua trees. One had a raven (*Corvus corax*) sitting on the nest.

Vehicle tracks were observed within the study site. Dirt roads and trails traversed the study site. Off-road vehicle riders were present within and around the study site during the survey. Children were observed playing within the study site during the field survey. Homeless individuals were observed adjacent to the study site. Trash dumps containing household waste and furniture were observed throughout the study site. Broken concrete and other construction waste were observed within the study site. Evidence of fire were observed within a wash and other areas within the study site. A domestic dog (*Canis familiaris*) was observed loose within the study site. Except for a few acres in the northwest corner of the study site the entire site was graded or heavily disturbed from 2006 through 2008, based on Google Earth historical aerial photography.

## **Discussion**

It is probable that some annual species were not visible during the time the field survey was performed. Little rainfall occurred during the prior winter rainfall season. Germination of annual plants, both native and invasive, is not occurring at this time. Given the climatic conditions little germination is expected to occur this year. Further spring surveys are unlikely to produce any significant results this year. Although not observed, several wildlife species would be expected to occur within the proposed project area (Table 3).

Human impacts to the area are expected to continue. Trash dumping and OHV use is extremely high within this entire study site. Habitat in the general area will continue to become degraded and fragmented. California ground squirrel sign was high in this study site. Sign of both domestic dog and cat (*Felis* sp.) were observed within this study site and would be expected to have a high impact on native 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 species occurring within and adjacent to the study area.

The desert tortoise is a state endangered and federally threatened listed species. The proposed project area was located within the geographic range of the desert tortoise. The proposed project area was not located in critical habitat designated for the Mojave population of the desert tortoise. No desert tortoises are expected within the study area or adjacent areas. No minimization measures are recommended for desert tortoise.

Table 2. List of wildlife species, or their sign, that were observed during the line transect survey of APN 3176-004-018, Lancaster, California.

| <u>Common Name</u>         | <u>Scientific Name</u>           |
|----------------------------|----------------------------------|
| Rodents                    | Order: Rodentia                  |
| California ground squirrel | <i>Citellus beecheyi</i>         |
| Antelope ground squirrel   | <i>Ammospermophilus leucurus</i> |
| Desert cottontail          | <i>Sylvilagus auduboni</i>       |
| Black-tailed jackrabbit    | <i>Lepus californicus</i>        |
| Coyote                     | <i>Canis latrans</i>             |
| Domestic dog               | <i>Canis familiaris</i>          |
| Domestic cat               | <i>Felis sp.</i>                 |
| Red-tailed hawk            | <i>Buteo jamaicensis</i>         |
| American kestrel           | <i>Falco sparverius</i>          |
| Mourning dove              | <i>Zenaida macroura</i>          |
| Rock dove                  | <i>Columba livia</i>             |
| Ring-neck dove             | <i>Streptopelia capicola</i>     |
| Western meadowlark         | <i>Sturnella neglecta</i>        |
| Swallow sp.                | Family: Hirundinidae             |
| Common raven               | <i>Corvus corax</i>              |
| Say's phoebe               | <i>Sayornis saya</i>             |
| Northern mockingbird       | <i>Mimus polyglottos</i>         |
| Western meadowlark         | <i>Sturnella neglecta</i>        |
| Sage sparrow               | <i>Amphispiza belli</i>          |
| White crowned sparrow      | <i>Zonotrichia leucophrys</i>    |
| Side blotched lizard       | <i>Uta stansburiana</i>          |
| Harvester ants             | Order: Hymenoptera               |
| Butterfly                  | Order: Lepidoptera               |
| Grasshopper                | Order: Orthoptera                |
| Spider                     | Order: Araneida                  |

Table 3. List of wildlife species that may occur within the study area, APN 3176-004-018, Lancaster, California.

| <u>Common Name</u>      | <u>Scientific Name</u>          |
|-------------------------|---------------------------------|
| Deer mouse              | <i>Peromyscus maniculatus</i>   |
| Northern harrier        | <i>Circus cyaneus</i>           |
| Killdeer                | <i>Charadrius vociferus</i>     |
| Loggerhead shrike       | <i>Lanius ludovicianus</i>      |
| Song sparrow            | <i>Melospiza melodia</i>        |
| Gopher snake            | <i>Pituophis melanoleucus</i>   |
| Western whiptail        | <i>Cnemidophorus tigris</i>     |
| White lined sphinx moth | <i>Hyles lineata</i>            |
| Wasp                    | Order: Hymenoptera              |
| Darkling beetle         | <i>Coelocnemis californicus</i> |
| Ladybird beetle         | <i>Hippodamia convergens</i>    |
| Dragonfly               | Order: Odonata                  |
| Painted lady butterfly  | <i>Vanessa cardui</i>           |
| Cabbage white butterfly | <i>Pieris rapae</i>             |
| Fly                     | Order: Diptera                  |

Burrowing owls are considered a species of special concern by the CDFW. The first step in burrowing owl surveys is to accomplish a habitat assessment. A habitat assessment is intended to evaluate the likelihood that a site supports burrowing owls (CDFG 2012). If a burrowing owl or cover site, indicated by burrowing owl sign (pellets, prey remains, whitewash, feathers) is discovered, then further surveys to establish their presence and number would be warranted. No cover sites with burrowing owl or their sign were observed within the study site. Once it is established that no burrowing owl cover sites are present based on the lack of burrowing owl sign or the lack of a suitable cover site there is no need for further surveys. Given that California ground squirrel burrows present within a study site may provide potential future opportunities to become a cover site; a burrowing owl take avoidance survey would typically be warranted closer to site disturbance. This assessment would be to ensure no burrowing owls have moved into available California ground squirrel burrows. If at that time burrowing owls or their sign are present at least four surveys between February and July would be necessary. However, given the extremely high and ongoing disturbance levels at this study site, occupation in the future by burrowing owls is unlikely. Although burrowing owls can be tolerant of disturbance, we have found that this level of active human presence, along with the presence of dogs, and cats usually excludes them. No burrowing owls have been documented near the study site (CNDDDB 2021). Given the lack of burrowing owl sign within the study site, take of individual burrowing owls or their nests is not expected by development of the site.

Many species of birds and their active nests are protected under the Migratory Bird Treaty Act. Common ravens were observed nesting within the study site and smaller migratory birds were fairly common. Vegetation within the study site provides suitable habitat for nesting migratory birds.

Swainson's hawk is state threatened species. A Swainson's hawk was documented nesting off Division and Avenue G in 2016 which is within the 5 mile radius of concern (eBird 2021). This same siting is noted in the CNDDDB with a comment that air photos show no likely habitat at the coordinates documented in eBird and therefore are considered approximate (CNDDDB 2021). Other than this sighting, no Swainson's hawks have been documented nesting in the last 5 years within a 5 mile radius of the study site. Review of documented sightings within the Antelope Valley show a preference by Swainson's hawk to nest within or close to active agricultural fields such as those at 50th and Avenue L (eBird 2021). The site on Avenue G appears to be an outlier location and is nearing the end of the 5 years within the next few months. Although small prey for Swainson's hawk, such as California ground squirrels, desert cottontail (*Sylvilagus auduboni*), and antelope ground squirrels (*Ammospermophilus leucurus*) are present; the intense human presence and their activities (OHV use, playing, dumping, homeless) precludes foraging by Swainson's hawk for a large part of the day. During both survey dates at this study site human related activities were ongoing. Activities such as a roaming dog, children in the field playing, homeless digging through the immense amount of trash, motorcycle and moped riding within and around the study site were ongoing throughout most of the survey times. It is unlikely Swainson's hawk would nest within or close to this study site given their documented trends. Foraging at this site would be expected to be minimal if at all. Given the present and projected future conditions of the study site no loss of nesting or foraging for Swainson's hawk will occur due to development. No minimization measures are recommended for Swainson's hawk.

The Mohave ground squirrel (MGS) is a state listed threatened species. The proposed project site was located within the geographic range of the MGS. However, in the CDFW publication “A Conservation Strategy for the Mohave Ground Squirrel, *Xerospermophilus mohavensis*” page 28 they indicate the study site is outside of CDFW’s accepted population area. The CNDDDB for Lancaster East, 2021 did not document any MGS sightings in the last 35 years. Forage for MGS is limited within and around the study site. Low numbers of winterfat (*Eurotia lanata*), and spiny hopsage (*Grayia spinosa*) were found on the study site. These two species are considered important forage for MGS. Dr. Leitner (2008) determined that combined densities of winterfat and spiny hopsage greater than 250 to 300 per ha (2.5 acres) are associated with occupancy of MGS. Dr. Leitner postulated based on trapping surveys in the southern portion of the MGS range that densities < 24/ha of spiny hopsage and < 100/ha of winterfat on a site was considered poor forage and may be related to the absence of MGS. California ground squirrels (CGS) are present on and around the study site. Since MGS prefer natural habitats, interactions with CGS would not occur often (CDFW 2019). CGS are larger and more aggressive than MGS (CDFW 2019) which would seem to indicate they would be unlikely to coexist. No MGS are expected to be present within or around the study area. Based on the lack of forage, high disturbance of the area, presence of California ground squirrels, dogs, and cats no MGS would be expected to occur within this site. Further surveys or mitigation for Mohave ground squirrels are not considered necessary.

Joshua trees are currently being considered for listing under the California Endangered Species Act. A petition for listing was accepted in November 2019 and on 22 September 2020 the California Department of Fish and Game Commission decided that listing may be warranted and started a 1 year listing review. This decision made the Joshua tree a candidate species until the listing review is completed. Based on Section 2085 of the Fish and Game Code candidate species are to be treated as though listed during the review period. Although a Joshua tree survey/assessment was not the focus of this study most of the Joshua trees within the study site appeared to be in poor to fair condition. Nearly all the Joshua trees were 12 to >12 feet (4 m). Since it is unlikely for the project to feasibly proceed while avoiding the Joshua trees within the study site; consultation with the CDFW would be necessary.

Alkali mariposa lilies are considered a special status plant by the CDFW. Suitable habitat for alkali mariposa lily was observed within the study site. The study site and adjacent areas are highly disturbed and viable populations of this plant species are not expected. All but approximately 5 acres (2 ha) in the northeast corner of the study site were graded or heavily disturbed due to construction activities between 2006 and 2008 (Figures 6 and 7). The easiest period to survey for alkali mariposa lilies within an area is in May. However, the presence of blooming alkali mariposa lilies are dependent on the rainfall levels during the previous rainfall season. The rainfall year for 2020-2021 was not sufficient to provide meaningful survey opportunity for alkali mariposa lily during the 2021 blooming season. However, alkali mariposa lily presence can be observed at other times of the year due to their skeletal remains. No skeletal remains of alkali mariposa lilies were detected within this study site. No real germination of annuals, either native or invasive, is taking place in the desert at this time and is not expected to change significantly as spring proceeds. The lack of skeletal remains does not indicate no alkali mariposa lilies are present. The lack of skeletal remains may indicate the likelihood that alkali mariposa lily levels are relatively low. Due to the habitat conditions and lack of rainfall, no further surveys for alkali mariposa lilies are recommended.



Figure 6. Aerial showing 2006 disturbance extent within the study site.

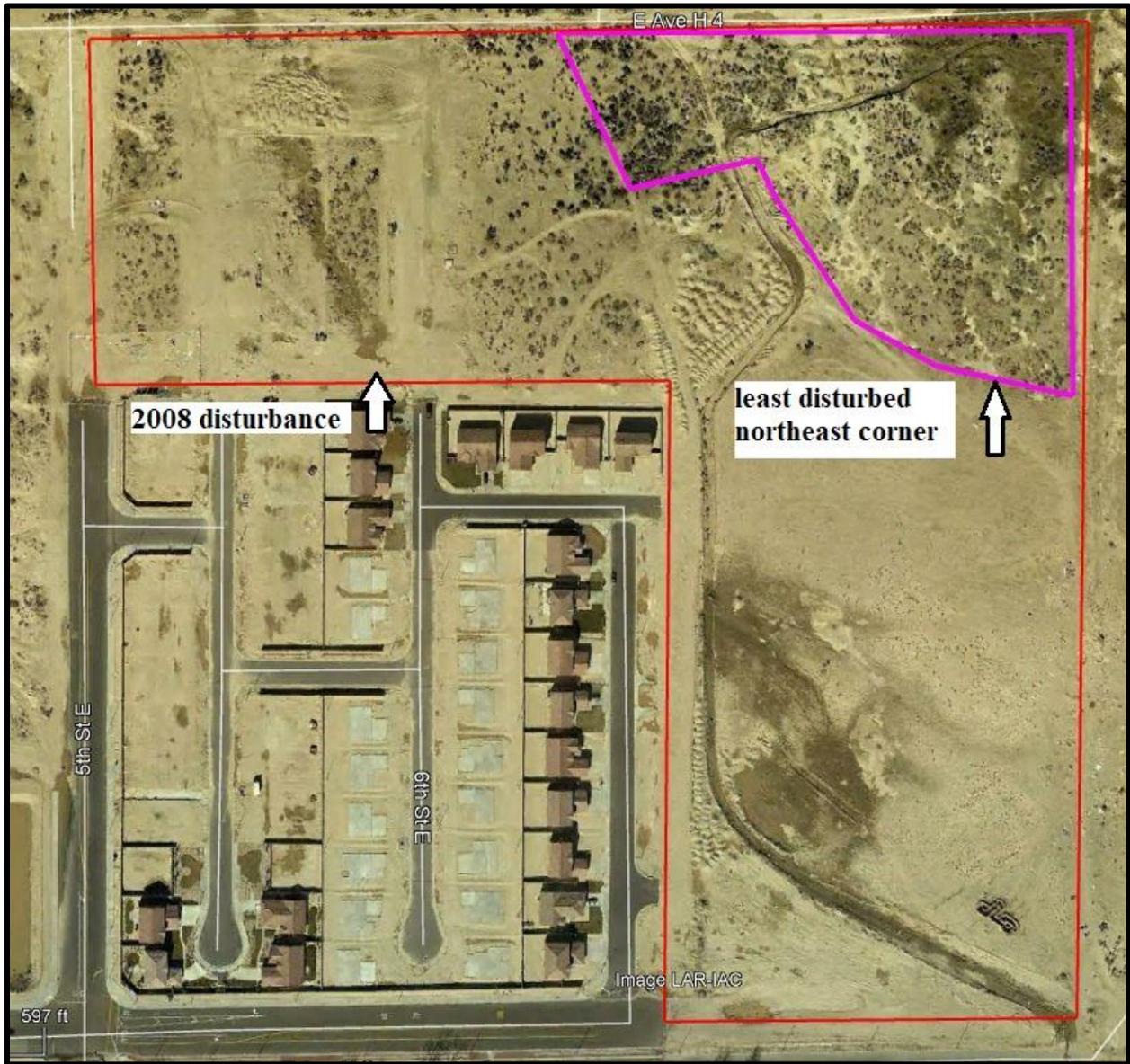


Figure 7. Aerial showing 2008 disturbance extent within the study site. Note the approximately 5 acre area in the northeast corner. Although currently disturbed by trash dumps, fire, and OHV the area has not been graded away.

No suitable habitat for Barstow woolly sunflower or desert cymopterus was observed within the study site. Based on the results of the field survey these species are not expected to occur within the study area and no protection measures are recommended for Barstow woolly sunflower or desert cymopterus. No other state or federally listed species are expected to occur within the proposed project area (California Department of Fish and Wildlife 2015, Smith and Berg 1988, U.S. Fish & Wildlife Service 2016).

Two manmade storm channels that drain stormwater from adjacent residential properties were observed within the study site. Ephemeral washes and clay pans were observed throughout the study site. This survey was not designed to delineate waters but to note their presence. Delineation would be accomplished in support of a Lake and Streambed Alteration (LSA) application. Many of the water features were impacted through previous grading, perennial pepperweed, OHVs, and trash dumps. One of the large trash dumps had been burned within a larger wash in the northeast corner of the study site.

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:**

An area that has any of the following characteristics which will be impacted by development: distinct bed, bank, channel, signs of scouring, evidence of water flow, may require a Streambed Alteration Agreement from the California Department of Fish and Wildlife (CDFW) prior to development activities. Discussions with CDFW should be accomplished to determine whether a LSA Agreement is required for the water features within the site. Mitigation for Joshua trees and alkali mariposa lily, if required, may be able to be combined with measures that may be required for water features in the area.

Consistent with the “Staff Report on Burrowing Owl Mitigation” a take avoidance (preconstruction) burrowing owl survey will be accomplished no less 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 nesting season for migratory birds. Nesting 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 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 (16 m) around active migratory bird species nests and a minimum of 500 feet (161 m) around raptor nests. The project biologist will determine if the buffer areas should be increased or decreased based on the nesting bird response to disturbances.

Consultation with CDFW for an Incidental Take Permit (Section 2081) is required for Joshua trees present within the study site. An application for an ITP should be completed along with a Joshua tree report following CDFW requirements.

**Significance:** Based on the condition of the habitat, and results of the survey, this project is not expected to result in a significant adverse impact to biological resources.

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