Biological Resource Assessment of
APN 3170-007-056
Lancaster, California

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Abstract

Development has been proposed for APN 3170-007-056, Lancaster, California. The approximately 28 acre (11 ha) study area was located south of Avenue K and east of 25th Street East, T7N, R11W, the E1/2 of the NW1/4 of the NE1/4 and the W1/2 of the W1/2 of the NE1/4 of the NE1/4 of Section 30, S.B.B.M. A line transect survey was conducted on 27 March 2023 to inventory biological resources. The proposed project area was characteristic of an old abandoned agricultural field. A total of 15 plant species and 14 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. The study site did not contain suitable habitat to support desert tortoises. The study site did not contain suitable habitat to support Mohave ground squirrels (*Xerospermophilus mohavensis*). No desert kit foxes (*Vulpes macrotis*) or their sign were observed within the study site. No burrowing owls (*Athene cunicularia*) were observed during the field survey. California ground squirrel burrows (*Citellus beecheyi*) were observed within the study site. California ground squirrel burrows can provide future cover sites for burrowing owls. The vegetation within the study area was not suitable habitat for nesting migratory birds. Swainson's hawk (*Buteo swainsoni*) and other raptors would not nest within the study area given the lack of nesting sites. The study site appears to have no forage value for Swainson's hawks. Vegetation within the study area does not provide potential nesting sites for migratory birds. No sensitive plants, specifically, Joshua tree (*Yucca brevifolia*), alkali mariposa lily (*Calochortus striatus*), desert cymopterus (*Cymopterus deserticola*), and Barstow woolly sunflower (*Eriophyllum mohanense*) were observed during the field survey. No sensitive plants are expected to occur within the study area due to the high level of impacts and the lack of suitable habitat. No other state or federally listed species are expected to occur within the proposed project area. No wetlands or ephemeral washes were observed within the study site.

Recommended Protection Measures:

Consistent with the "Staff Report on Burrowing Owl Mitigation" a take avoidance (pre-construction) survey should be accomplished within 14 days of ground disturbing activities (CDFG 2012). If burrowing owls or their sign are detected during the take avoidance (pre-construction) survey the Staff Report will be applied as appropriate.

Based on the condition of the habitat, surrounding land use, and lack of wildlife sign, no other protection measures are recommended.

Significance: This project would not result in a significant adverse impact to biological resources.

Development has been proposed for APN 3170-007-056 (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.

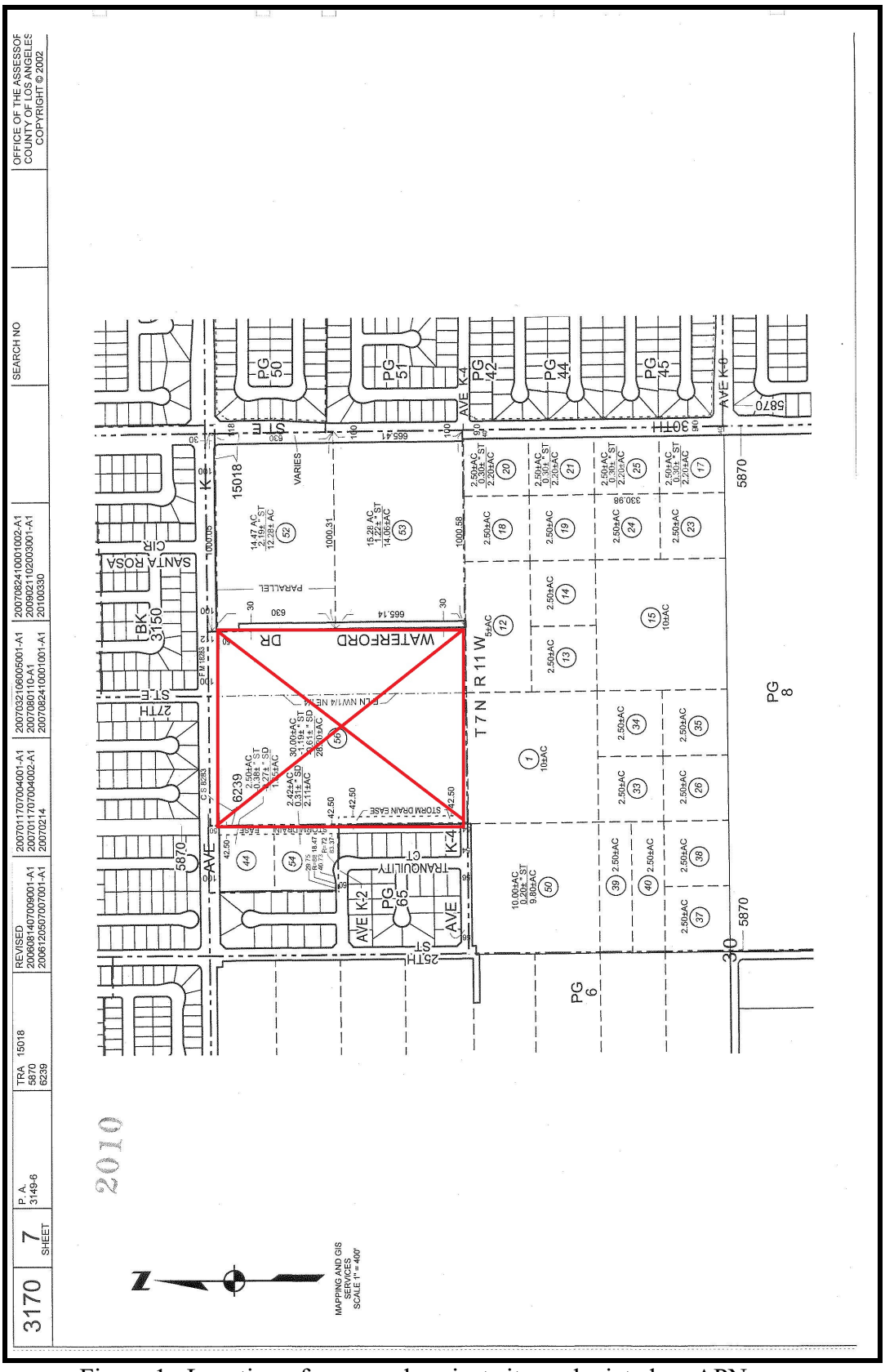


Figure 1. Location of proposed project site as depicted on APN map.

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*), burrowing owl (*Athene cunicularia*), Swainson's hawk (*Buteo swainsoni*), desert kit fox (*Vulpes macrotis*), desert cymopterus (*Cymopterus deserticola*), Barstow woolly sunflower (*Eriophyllum mohanense*), alkali mariposa lily (*Calochortus striatus*), and Joshua tree (*Yucca brevifolia*).

Study Area

The approximately 28 acre (11 ha) study area was located south of Avenue K and east of 25th Street East, T7N, R11W, the E1/2 of the NW1/4 of the NE1/4 and the W1/2 of the W1/2 of the NE1/4 of the NE1/4 of Section 30, S.B.B.M. (Figures 2 and 3). Avenue K formed the northern boundary of the study site. Single-family housing was present north of Avenue K. Avenue K-4 (dirt road) formed the southern boundary of the study site. An old agricultural field existed south and east of the study site. A block wall, single-family housing, chain link fencing and a plant nursery were present along the western boundary of the study site.

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 a north-south orientation within the study site. Line transects were approximately 1,320 feet (426 m) long and spaced approximately 100 feet (30 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 (MGS) to determine whether potential habitat was present for the species (CDFW 2019, Leitner and Leitner 2017).

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 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, California Natural Diversity Database (CNDDB 2020), eBird, previous reports (Yorke 2004, Hagan 2005a-b, 2020a-d, 2022a-b), and the USGS topographic map were reviewed. Photographs of the study site were taken (Figure 4).

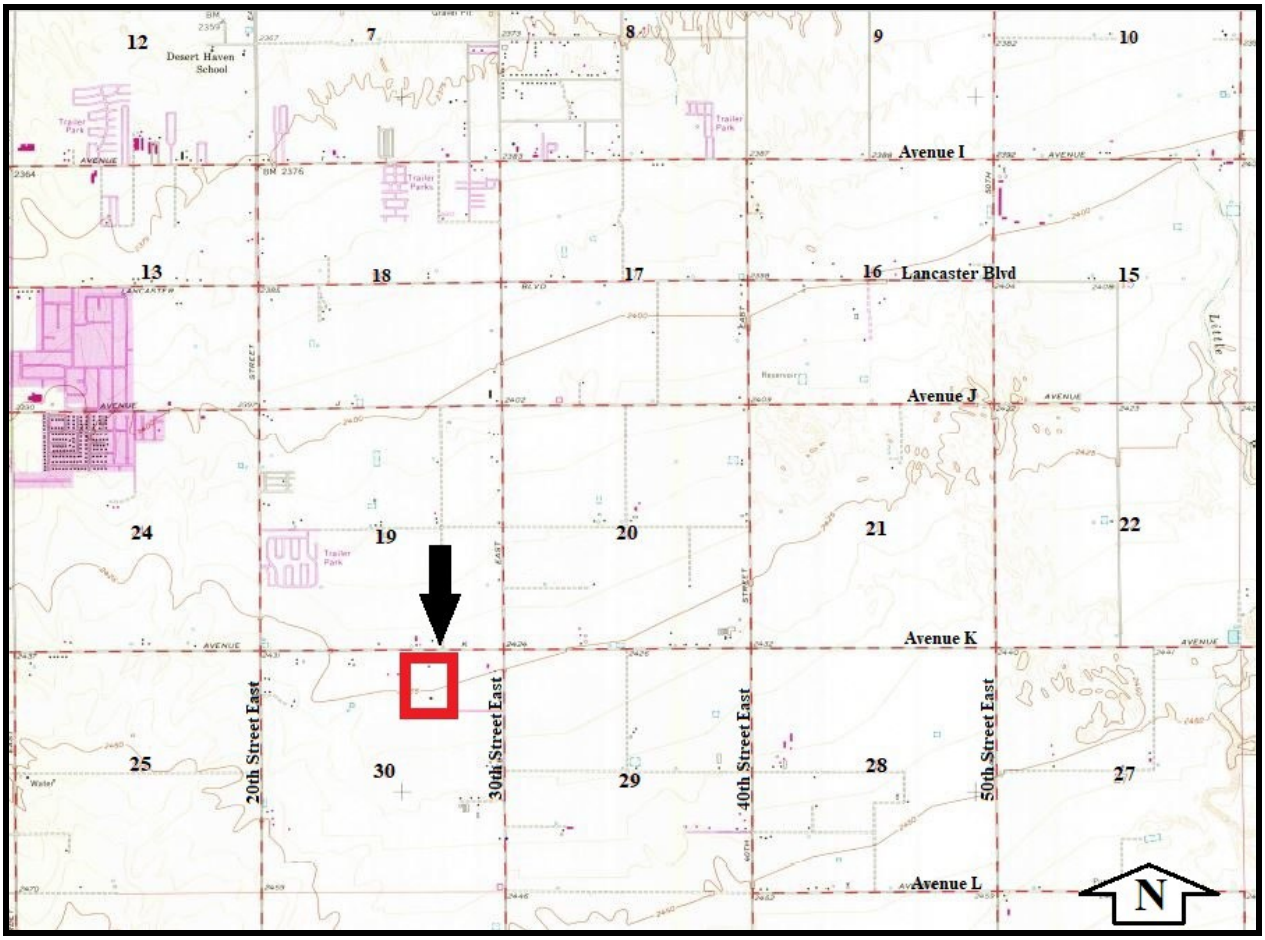


Figure 2. Approximate location of study area as depicted on U.S.G.S. Quadrangle, Lancaster East, Calif., 7.5', 1974.

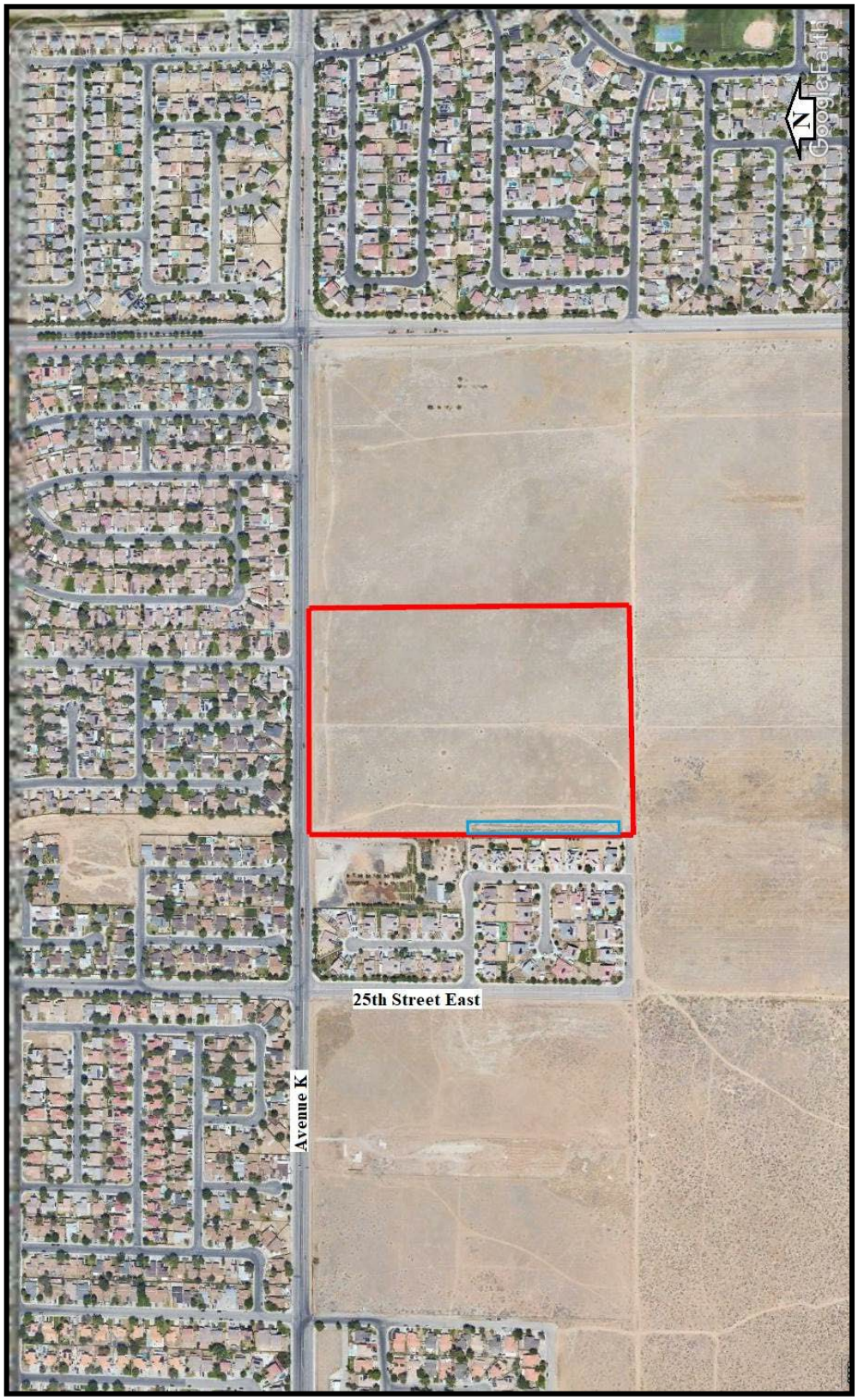


Figure 3. Approximate location of study area showing surrounding land use as depicted on excerpt from Google Earth Aerial Photography, May 2022. Blue rectangle delineates stormwater basin.





Figure 4. Representative photos of the study site. Top photo: Northwest corner of the site looking southeast. Bottom photo: Southeast corner of study site looking west-northwest.

Results

A total of 9 line transects were walked on 27 March 2023. Weather conditions consisted of warm temperatures (estimated 60 degrees F), 10% cloud cover, and moderate to high wind. Sandy loam surface soil texture was present throughout the study area. There were no blue line streams delineated within the study area on the USGS topographic map. There were no washes or streams observed on the aerial photography. No washes or streams were observed during the field survey. A stormwater basin and drainage ditch within a stormwater easement were present along the western boundary of the study site. Topography of the study site was approximately 2,425 feet (739 m) above sea level.

The proposed project area was characteristic of an old abandoned agricultural field. A total of 15 plant species were observed during the line transect survey (Table 1). Rabbit brush (*Chrysothamnus nauseosis*) was the dominant perennial shrub species. Red stemmed filaree (*Erodium cicutarium*) was the dominant plant species within the project site. No Joshua trees, alkali mariposa lilies, Barstow woolly sunflowers, desert cymopterus, or suitable habitat were observed within the study site.

A total of 14 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 burrowing owls or their sign were observed within the study site during the field survey. California ground squirrels (CGS) (*Citellus beecheyi*) and their burrows were observed within the study area. No bird nests were observed during the field survey. No Swainson's hawk nesting, roosting, or foraging habitat was present within the study site. No desert kit foxes, or their sign were observed during the field survey. MGS were not observed or audibly detected within the study site. No suitable MGS habitat was present within the study site.

Off highway vehicle tracks were observed within the study site. Small amounts of broken concrete were observed within the study site. A partially buried well was observed within the study site.

Discussion

It is likely that most annual species were visible during the time the field survey was performed. Much of the annual biomass represented within the project site consisted of weedy species (Table 1). Historical Google aerial photography indicates the study site has been an old abandoned agricultural field from 1994 to 2022 (last aerial date). Although not observed, several wildlife species would be expected to occur within the proposed project area (Table 3).

Human impacts are expected to increase as urban development continues to occur in the area. Habitat in the general area is already developed and what is left is severely degraded and fragmented. Burrowing animals within the proposed project area are not expected to survive construction activities. More mobile species, such as lagomorphs (rabbits and hares), and birds are expected to survive, but they will have less cover and foraging habitat available.

Table 1. List of plant species that were observed during the line transect survey of APN 3170-007-056, Lancaster, California.

Common Name	Scientific Name
Four-wing saltbush	*Atriplex canescens*
Rabbit brush	*Chrysothamnus nauseosis*
Goldfields	*Lasthenia californica*
Comb-bur	*Pectocarya recurvata*
Desert dandelion	*Malacothrix glabrata*
Fremont pincushion	*Chaenactis fremontii*
Fiddleneck	*Amsinckia tessellata*
Red stemmed filaree	*Erodium cicutarium*
Annual burweed	*Franseria acanthicarpa*
Russian thistle	*Salsola iberica*
Tansy mustard	*Descurainia sophia*
Tumble mustard	*Sisymbrium altisissiimum*
Schismus	*Schismus* sp.
Squirrel-tail grass	*Hordeum jubatum*
Cheatgrass	*Bromus tectorum*

Table 2. List of wildlife species, or their sign, that were observed during the line transect survey of APN 3170-007-056, Lancaster, California.

Common Name	Scientific Name
Rodents	Order: Rodentia
Desert cottontail (sign by basin only)	*Sylvilagus auduboni*
California ground squirrel	*Citellus beecheyi*
Domestic dog	*Canis familiaris*
Killdeer	*Charadrius vociferus*
Rock dove	*Columba livia*
Violet green swallow	*Tachycineta thalassina*
Common raven	*Corvus corax*
Say's phoebe	*Sayornis saya*
Horned lark	*Eremophila alpestris*
House finch	*Carpodacus mexicanus*
White crowned sparrow	*Zonotrichia leucophrys*
European honey bee	Order: Hymenoptera
Harvester ants	Order: Hymenoptera

Table 3. List of wildlife species that may occur within the study area, APN 3170-007-056 Lancaster, California.

Common Name	Scientific Name
Deer mouse	*Peromyscus maniculatus*
Domestic cat	*Felis catus*
Side blotched lizard	*Uta stansburiana*
Gopher snake	*Pituophis melanoleucus*
Mojave rattlesnake	*Crotalus scutulatus*
Mourning dove	*Zenaida macroura*
House sparrow	*Passer domesticus*
Dragonfly	Order: Odonata
Fly	Order: Diptera
Spider	Order: Araneida

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 site was not located in critical habitat designated for the Mojave population of the desert tortoise. No desert tortoise habitat is present within, adjacent, or near the project site. Based on field observations, desert tortoises are not present within the study area. No protection measures are recommended for desert tortoises.

The MGS is a state listed threatened species. The study area was located within the geographic range of MGS. MGS habitat is recognized to consist of a variety of desert scrub habitats, none of which occur any longer within, adjacent, or near the project site. A table listing MGS habitats and a discussion of required shrubs and annuals can be found in the publication titled "A Conservation Strategy for the Mohave Ground Squirrel" (CDFW 2019). No suitable habitat is present to support MGS within or adjacent to the study site. No protection measures are recommended for the MGS.

Desert kit foxes are a protected species by California Department of Fish and Wildlife (CDFW). No sign of desert kit fox activity was observed within the study site. Based on this field survey desert kit foxes are not resident within this study site. No protection measures are recommended for desert kit foxes.

Burrowing owls are considered a species of special concern by the CDFW. The CGS burrows within the study site could provide potential future cover sites for burrowing owls. No observations of burrowing owls have been documented within or near the study site since 2009 (CNDDB 2020, eBird 2023).

Many species of birds and their active nests are protected under the Migratory Bird Treaty Act. Vegetation within the study site does not provide suitable nesting habitat for migratory birds. Swainson's hawk is a state listed threatened species. Swainson's hawks have been observed nesting at 70th Street East and Avenue H-8 in 2021. Juvenile Swainson's hawks with adult Swainson's hawks were observed at 50th Street East and Avenue L in 2020. Both were in active agricultural fields (eBird 2023, CNDDB 2020). Swainson's hawk observations within Lancaster have been strongly correlated to active agricultural fields (eBird 2023, CNDDB 2020). No active agricultural fields were adjacent or near the study site. The study site did not appear to have potential foraging habitat for Swainson's hawks due to the limited prey base observed. No additional surveys for Swainson's hawk are recommended. No minimization measures for Swainson's hawk are recommended.

No suitable habitat for Joshua tree, alkali mariposa lily, Barstow woolly sunflower or desert cymopterus were 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. 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:

Consistent with the "Staff Report on Burrowing Owl Mitigation" a take avoidance (pre-construction) survey should be accomplished within 14 days of ground disturbing activities (CDFG 2012). If burrowing owls or their sign are detected during the take avoidance (pre-construction) survey the Staff Report will be applied as appropriate.

Based on the condition of the habitat, surrounding land use, and lack of wildlife sign, no other protection measures are recommended.

Significance: This project would not result in a significant adverse impact to biological resources.

Literature Cited

Adams, L.W. and L.E. Dove. 1989. Wildlife reserves and corridors in the urban environment. National Institute for Urban Wildlife, Columbia, MD. 91pp.

Arnett, R.H., Jr. and R.L. Jacques, Jr. 1981. Simon and Schuster's guide to insects. Simon and Schuster, Inc. New York. 511pp.

Borror, D.J. and R.E. White. 1970. A field guide to insects. Houghton Mifflin Company, Boston. 404pp.

Burt, W.H. and R.P Grossenheider. 1976. A field guide to the mammals. Houghton Mifflin Company, Boston. 289pp.

California Department of Fish and Game. 2012. Staff report on burrowing owl mitigation. Calif. Dept. of Fish and Wildlife, Wildlife Branch, Sacramento, CA. 36pp.

California Department of Fish and Wildlife. 2019. A conservation strategy for the mohave ground squirrel, *xerospermophilus mohavensis*. https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=171301&inline . 29pp.

California Department of Fish and Wildlife. 2020. State and federally listed endangered and threatened animals in california. Calif. Dept. of Fish and Wildlife California Natural Diversity Database, Sacramento, CA. 32pp.

California Department of Fish and Wildlife. 2021. State and federally listed endangered, threatened, and rare plants of california. Calif. Dept. of Fish and Wildlife California Natural Diversity Database, Sacramento, CA. 25pp.

California Natural Diversity Database (CNDDB). 2020. Lancaster east quadrangle. Calif. Dept. of Fish and Wildlife California Natural Diversity Database, Sacramento, CA. 33pp.

Cooperrider, A.L., Boyd, R.J. and H.R. Stuart, Eds. 1986. Inventory and monitoring of wildlife habitat. U.S. Dept. of Inter., Bur. Land Manage. Service Center, CO. 858pp.

Davis, D.E. 1990. Handbook of census methods for terrestrial vertebrates. CRC Press, Boca Raton, FL. 397pp.

eBird. 2023. eBird: An online database of bird distribution and abundance [web application]. eBird, Cornell Lab of Ornithology, Ithaca, New York. Available: http://www.ebird.org. (Accessed: 30 March 2023)
Gilbert, F.F. and D.G. Dodds. 1987. The philosophy and practice of wildlife management. Krieger Publishing Company, Malabar, FL. 279pp.
Gould, F.W. 1981. Grasses of southwestern united states. Univ. of Arizona Press, Tucson, AZ. 343pp.
Hagan, M. 2005a. Biological resource assessment of tentative tract number 62484, lancaster, california. Mark Hagan, 44715 17th Street East, Lancaster, CA. 9pp.
Hagan, M. 2005b. Biological resource assessment of tentative tract number 62485, lancaster, california. Mark Hagan, 44715 17th Street East, Lancaster, CA. 9pp.
Hagan, M. 2020a. Biological resource assessment of apns 3150-013-032, 039, lancaster, california. Mark Hagan, 44715 17th Street East, Lancaster, CA. 15pp.
Hagan, M. 2020b. Biological resource assessment of ttm 60367, lancaster, california. Mark Hagan, 44715 17th Street East, Lancaster, CA. 13pp.
Hagan, M. 2020c. Biological resource assessment of tentative tract number 62484, lancaster, california. Mark Hagan, 44715 17th Street East, Lancaster, CA. 15pp.
Hagan, M. 2020d. Biological resource assessment of tentative tract number 62485, lancaster, california. Mark Hagan, 44715 17th Street East, Lancaster, CA. 15pp.
Hagan, M. 2022a. Biological resource assessment of apn 3150-014-008, lancaster, california. Mark Hagan, 44715 17th Street East, Lancaster, CA. 12pp.
Hagan, M. 2022b. Biological resource assessment of apns 3150-029-025 and 026, lancaster, california. Mark Hagan, 44715 17th Street East, Lancaster, CA. 12pp.
Halfpenny, J. 1986. A field guide to mammal tracking in western america. Johnson Publishing Company, Boulder, CO. 161pp.
Jaeger, E.C. 1969. Desert wild flowers. Stanford Univ. Press, Stanford, CA. 322pp.
Knobel, E. 1980. Field guide to the grasses, sedges and rushes of the united states. Dover Publications Inc. New York, NY 83pp.
Leitner, B.M. and P. Leitner 2017. Diet of the mohave ground squirrel (xerospermophilus mohavensis) in relation to season and rainfall. Western North American Naturalist 77(1):1-13. Barbara M. Leitner, 2 Parkway Court, Orinda, CA 94563.
Lowery, J.C. 2006. The tracker's field guide. The Globe Pequot Press, Gilford, CT 408pp.
Murie, O.J. 1974. A field guide to animal tracks. Houghton Mifflin Company, Boston. 375pp.
Robbins, C.S., Bruun, B. and H.S. Zim. 1983. A field guide to identification: birds of north america. Golden Press, NY. 360pp.
Stark, M. 2000. A flower-watchers guide to wildflowers of the western mojave desert Published by Milt Stark. Lancaster, CA 160pp.
U.S. Fish & Wildlife Service. 2016. Listed species believed to or known to occur in California. 8pp. http://ecos.fws.gov/tess_public/reports/species-listed-by-state-report?state=CA&status=listed , accessed 1 March 2016.
U.S. Fish & Wildlife Service. 2010. Preparing for any action that may occur within the range of the Mojave desert tortoise (gopherus agassizii), 2010 field season. U.S. Fish & Wildl. Serv. 16pp.
Yorke, C. 2004. Biological resources report on apn 3170-007-007, 29 acres, avenue k and 27th street east, lancaster, california. Callyn Yorke, 15438 Ensenada Road, Green Valley, California 91390. 20pp.