Biological Resource Assessment of
APN 3203-018-114
Lancaster, California

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Abstract

Residential development has been proposed for APN 3203-018-114. The approximately 10 acre (4 ha) study area was located south of Avenue J-8 and west of 65th Street West, T7N, R13W, the E1/2 of the E1/2 of the NE1/4 of the SW1/4 of Section 22**,** S.B.B.M. A line transect survey was conducted on 11 September 2019 to inventory biological resources. The proposed project area was characteristic of a highly disturbed desert habitat. A total of twenty-six plant species and twenty-four 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 habitat within the study area did not appear suitable to support desert tortoises. No Mohave ground squirrels (*Xerospermophilus mohavensis*) were observed during the field survey. There was no suitable habitat for Mohave ground squirrels. No desert kit foxes (*Vulpes macrotis*) or their sign were observed during the field surveys. No burrowing owls (*Athene cunicularia*), their sign, or potential cover sites were observed during the field survey. Vegetation within the study area provides potential nesting sites for smaller migratory birds. Swainson's hawk (*Buteo swainsoni*) and other raptors may fly over and use the site for forage but would not be expected to nest within the study area due to a lack of suitable nesting habitat. No sensitive plants, specifically, Clokey's cryptantha (*Cryptantha clokeyi*), 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, desert washes, or other water features were observed within the study area.

Recommended Protection Measures:

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 small size of the study area, the adjacent land uses, high disturbance of the habitat, and continual human use; this project is not expected to result in a significant adverse impact to biological resources.

Development of a residential area has been proposed for APN 3203-018-114 (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.

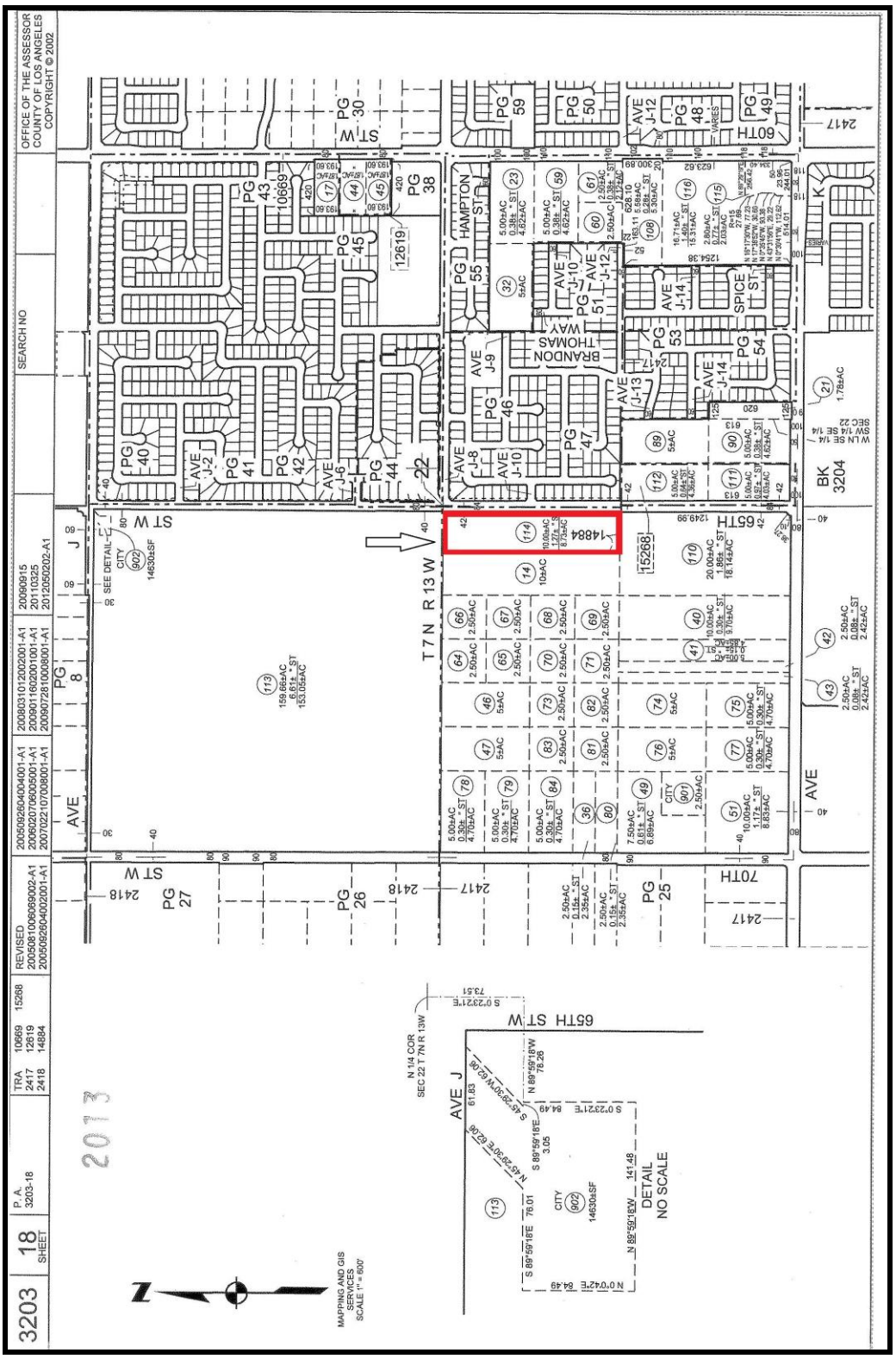

Figure 1. Location of proposed project site as depicted on APN map.

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*), Clokey's cryptantha (*Cryptantha clokeyi*), desert cymopterus (*Cymopterus deserticola*), Barstow woolly sunflower (*Eriophyllum mohanense*), and alkali mariposa lily (*Calochortus striatus*).

Study Area

The approximately 10 acre (4 ha) study area was located south of Avenue J-8 and west of 65th Street West, T7N, R13W, the E1/2 of the E1/2 of the NE1/4 of the SW1/4 of Section 22**,** S.B.B.M. (Figure 2). The eastern boundary of the study site was formed by 65th Street West. A residential development existed east of 65th Street West (Figure 3). Disturbed desert habitat exists adjacent to the north, west, and south boundaries. Topography of the site was approximately 2,370 feet (764.5 m) above sea level.

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. Consistent with survey protocol line transects were approximately 1,320 feet (426 m) long and spaced about 33 feet (10 m) apart (U.S. Fish & Wildlife Service 2010) except where density of vegetation inhibited passage. 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.

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, Gould 1981, Jaeger 1969, Knobel 1980, Robbins et al. 1983, Stark 2000). Other sources were also used to aid in plant identification (calflora.org 2018, calphotos.berkeley.edu 2018, D. Charlton, personal communication, 12 September 2019). 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). Historical aerial photographs and the USGS topographic maps of the study area and surrounding vicinity were reviewed. Review of

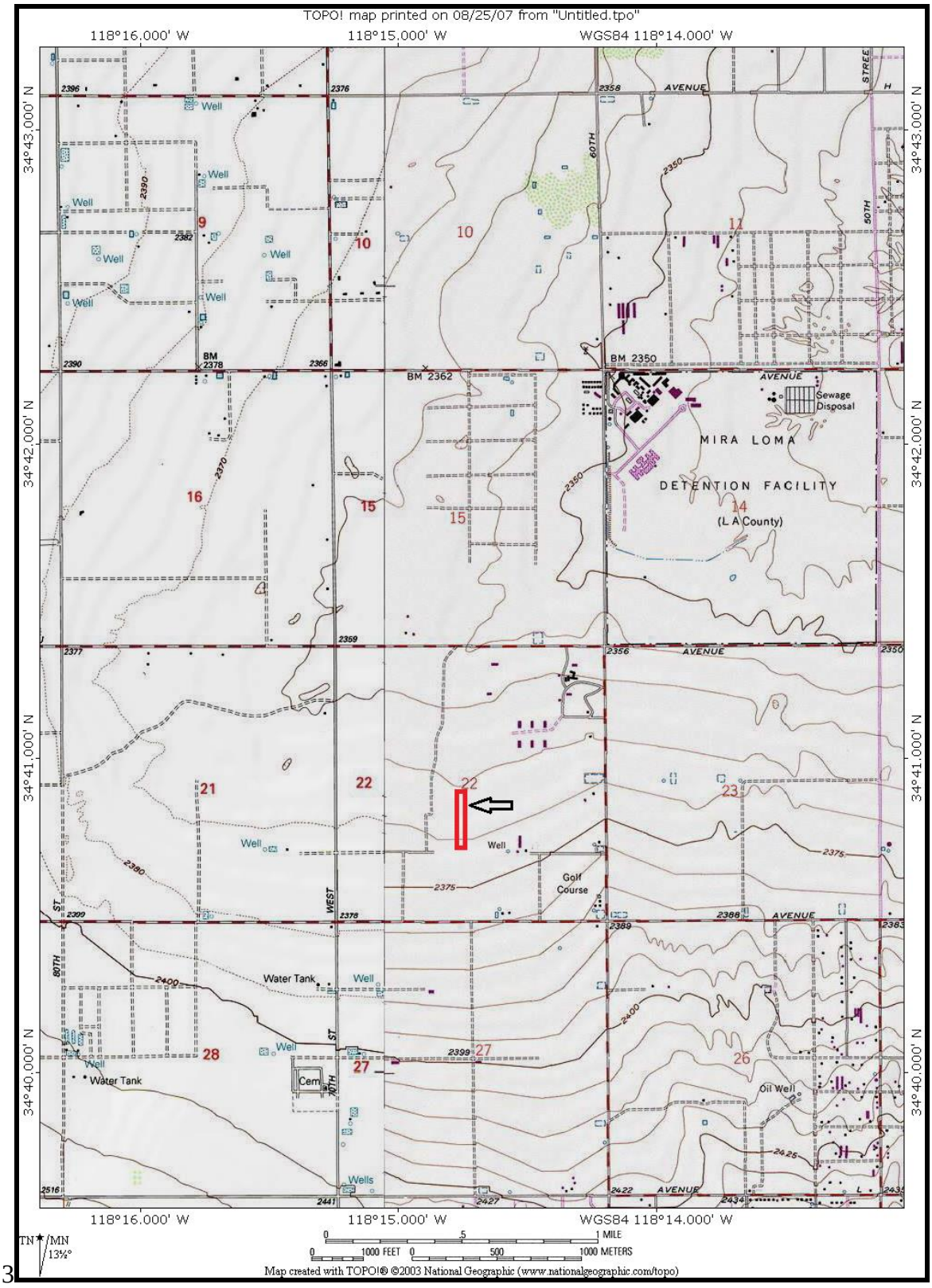

Figure 2. Approximate location of study area as depicted on excerpt from Lancaster West, 1974, and Del Sur, 1995, USGS Topographical Maps.

Figure 3. Approximate location of study area as depicted on excerpt from Google Earth Aerial Photography, dated July 2017, showing surrounding land use.

documented sightings of sensitive plant and wildlife species was accomplished using the California Natural Diversity Database (CNDD) (Lancaster West, 2016, Del Sur 2016) and eBird.org. Previous surveys in the area (Joseph & Associates 2007, Hagan 2013, 2014, 2016a, 2016b, 2017, 2018, Aspen Group 2015) were reviewed for historical sightings and background information. Photographs were taken of the study site (Figure 4).

Results

A total of eight line transects were walked on 11 September 2019. Weather conditions consisted of warm temperatures (estimated 75 to 85 degrees F), 0% cloud cover, and slight winds. A clay loam surface soil texture was characteristic within the study area. No blue line streams were noted within the study site on the USGS topographic maps. Two patches of dense sage, typical of a desert wash system were observed in the north and south portions of the study site. Review of historical aerial photographs appeared to indicate in 2003 the presence of a manmade channel which created water flow from the sports fields at Quartz Hill High School onto the project site. In the 2003 aerial photographs Great Basin sage (*Artemisia tridentata*) was present in the southern portion of the study site but at that time not in adjacent areas or in the northern portion of the study site. No wetlands or desert washes were observed within or adjacent to the study area.

The proposed project area was characteristic of a highly disturbed desert habitat. A total of twenty-six plant species were observed during the line transect survey (Table 1). Rabbit brush (*Chrysothamnus nauseosis*) and Great Basin sagebrush were the dominant perennial shrub species throughout the study area. Invasive grasses (*Bromus* spp., *Shismus* sp.) were the dominant annual species throughout the study area. No sensitive plant species or suitable habitat were observed within the study site. No sensitive plants were documented in the CNDD within or near the study site. Previous surveys from similar nearby sites did not detect any sensitive plant species on those study sites.

A total of twenty-four 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 during the field survey. No bird nests were observed within the study site. No sensitive bird species were observed during the field survey. No Mohave ground squirrels were detected visually or audibly during the field survey. No desert kit foxes or their sign were observed during the field survey.

Scattered litter was present throughout the study area. Piles of soil were observed within the study site. Yard waste and broken concrete were observed within the study site. Dump sites were present within and around the study site. Landscape rock and a cement pile were observed within the study site. Old barb wire and mattress springs were observed within the study site. Based on field observations and historical aerial photography it appeared most of the study site had been previously graded. Approximately one third of the study site was burned in the recent past. Off-highway vehicle (OHV) tracks were observed within the study site. An OHV trail, oriented east-west, was observed within the study site. Old tires were present within the study site. Dirt roads and trails intersect the study site. A dirt road, oriented north south, was present within the eastern boundary of the study site. Human foot prints were observed within the study site.

Figure 4. Representative view of Great Basin sage area in south portion of site (top), rabbit brush/burn area in center of site (bottom).

Table 1. List of plant species that were observed during the line transect survey of APN 3203-018-114, Lancaster, California.

Common Name	Scientific Name
Great basin sagebrush	*Artemisia tridentata*
Rabbit brush	*Chrysothamnus nauseosis*
Four-wing saltbush	*Atriplex canescens*
Shadscale	*Atriplex confertifolia*
Nevada saltbush	*Atriplex torreyi*
Fiddleneck	*Amsinckia tessellata*
Angle-stem buckwheat	*Eriogonum angulosum*
Spotted buckwheat	*Eriogonum maculatum*
Desert straw	*Stephanomeria pauciflora*
Turkey mullein	*Eremocarpus setigerus*
Jimson weed	*Datura meteloides*
Horehound	*Marrubium vulgare*
Vinegar weed	*Trichostema lanceolatum*
Pineapple weed	*Matricaria discoidea*
Black-eyed susan	*Rudbeckia hirta*
Red stemmed filaree	*Erodium cicutarium*
Narrow-leaved milkweed	*Asclepias fascicularis*
Russian knapweed	*Rhaponticum repens*
Annual burweed	*Franseria acanthicarpa*
Tumble mustard	*Sisymbrium altisissiimum*
Russian thistle	*Salsola iberica*
Rattlesnake weed	*Euphorbia albomarginata*
Cheatgrass	*Bromus tectorum*
Red brome	*Bromus rubens*
Foxtail barley	*Hordeum leporinum*
Schismus	*Schismus* sp.

Table 2. List of wildlife species, or their sign, that were observed during the line transect survey of APN 3203-018-114, Lancaster, California.

Common Name	Scientific Name
Rodents	Order: Rodentia
Kangaroo rat	*Dipodomys* sp.
Black-tailed jackrabbit	*Lepus californicus*
Desert cottontail	*Sylvilagus auduboni*
Coyote	*Canis latrans*
Sheep	*Ovis* sp.
Domestic dog	*Canis familiaris*
California quail	*Callipepla californica*
Mourning dove	*Zenaida macroura*
Common raven	*Corvus corax*
Northern mockingbird	*Mimus polyglottos*
Horned lark	*Eremophila alpestris*
House finch	*Carpodacus mexicanus*
Side blotched lizard	*Uta stansburiana*
Harvester ants	Order: Hymenoptera
Bee, small	Order: Hymenoptera
European honey bee	Order: Hymenoptera
Wasp, orange abdomen	Order: Hymenoptera
Grasshopper	Order: Orthoptera
Spider	Order: Araneida
Western pygmy-blue	*Brephidium exile*
Cabbage white butterfly	*Pieris rapae*
Dragonfly	Order: Odonata
Paper wasp	Family: Vespidae

Discussion

It is likely that some annual species were not visible during the time the field survey was performed. Based on the habitat and level of disturbance, no sensitive plants species are expected to exist on the study site. 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 will continue to become 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), 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 a state and federal listed 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. Suitable habitat for desert tortoises was not present within or adjacent to this study area. Desert tortoises are not expected to inhabit the study area. 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, their sign, or potential cover sites were observed during the survey. Based on the habitat, lack of cover sites, and information from the CNDD burrowing owls are not expected to be present within or immediately adjacent to the study site. No protection measures are recommended for burrowing owls.

Many species of birds and their active nests are protected under the Migratory Bird Treaty Act. The Great Basin sage areas provide potential nesting sites for smaller migratory birds. Swainson's hawk and other raptors may fly over and use the site for forage but would not be expected to nest within the study area due to a lack of suitable nesting habitat.

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. No protection measures are recommended for MGS.

Based on the level of disturbance, soil type, and general habitat characteristics, sensitive plant species are not expected to occur on site. No further surveys are recommended for sensitive plant species. No other state or federally listed threatened or endangered species are expected to occur within the proposed project area (California Department of Fish and Game 2002, Smith and Berg 1988, U.S. Fish & Wildlife Service 2016).

The Great Basin sage present within the study site would normally be associated with a desert wash system. Based on historical aerial photography from 2002 to present no Great Basin sage habitat is present around the study site that would suggest this is part of a wash system.

Table 3. List of wildlife species that may occur within the study area, APN 3203-018-114, Lancaster, California.

Common Name	Scientific Name
Deer mouse	*Peromyscus maniculatus*
Merriam kangaroo rat	*Dipodomys merriami*
Rock dove	*Columba livia*
Hummingbird sp.	Family: Trochilidae
European starling	*Sturnus vulgaris*
House sparrow	*Passer domesticus*
White crowned sparrow	*Zonotrichia leucophrys*
Western whiptail	*Cnemidophorus tigris*
Gopher snake	*Pituophis melanoleucus*
Painted lady	Order: Lepidoptera
Fly	Order: Diptera

No wash signature through the study area was observable on the aerial photography. No channelization, no debris flow, and no clay pans were observed on the ground. A manmade ditch was present along the eastern boundary but no evidence of water flow into the channel was observed. In 2003 only the southern patch of Great Basin sage was present. An additional Great Basin sage patch developed in the northern portion of the study site in subsequent years. It does appear based on the photography that this study area is just outside the historical Amargosa Creek footprint. The clay content in the soils retain enough moisture after rainfall events to allow the Great Basin sage to persist and even expand. A large manmade channel exists immediately southeast of the study site. No streams, ephemeral washes, clay pans, or other water features were observable within the study site. No protection measures for streambeds are recommended.

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:

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 small size of the study area, the adjacent land uses, high disturbance of the habitat, and continual human use; this project is not expected to 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.

Aspen Environmental Group. 2015. "Biological resources technical report, del sur solar project, lancaster, california." City of Lancaster Planning Department, 44933 North Fern Avenue, Lancaster, California. 83pp.

Blatt, Jeffrey 2019. Yosemite butterflies (1.0.16) [mobile application software]. Developer: butterflies@coyotetracks.com., https://play.google.com/store/apps/details?id=com.coyotetracks.yosemitebutterflies&hl=en_US

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.
Calflora: Information on California plants for education, research and conservation. [web application]. 2014. Berkeley, California: The Calflora Database [a non-profit organization]. Available: http://www.calflora.org/ (Accessed: September 12, 2019).
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. 2017. State & federally listed endangered & threatened animals in california. Calif. Dept. of Fish and Wildlife California Natural Diversity Database, Sacramento, CA. 14pp.
California Department of Fish and Wildlife. 2018. State and federally listed endangered, threatened, and rare plants of california. Calif. Dept. of Fish and Wildlife California Natural Diversity Database, Sacramento, CA. 8pp.
California Natural Diversity Database (CNDDB). 2016. Del sur quadrangle. Calif. Dept. of Fish and Wildlife California Natural Diversity Database, Sacramento, CA. 33pp.
California Natural Diversity Database (CNDDB). 2016. Lancaster west quadrangle. Calif. Dept. of Fish and Wildlife California Natural Diversity Database, Sacramento, CA. 32pp.
CalPhotos: A database of photos of plants, animals, habitats and other natural history subjects [web application]. BSCIT, University of California, Berkeley. Available: http://calphotos.berkeley.edu/. (Accessed: September 12, 2019).
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.avis, D.E. 1990. Handbook of census methods for terrestrial vertebrates. CRC Press, Boca Raton, FL. 397pp.
eBird. 2019. eBird: An online database of bird distribution and abundance [web application]. eBird, Ithaca, New York. Available: http://www.ebird.org. (Accessed: September 13, 2019]).
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.
Halfpenny, J. 1986. A field guide to mammal tracking in western america. Johnson Publishing Company, Boulder, CO. 161pp.
Hagan, Mark. 2013. "Biological resource assessment of apn 3203-018-114, lancaster, california." Mark Hagan, 44715 17th Street East, Lancaster, California. 13pp.
Hagan, Mark. 2014. "Biological resource assessment of avanti Project, lancaster, california." Mark Hagan, 44715 17th Street East, Lancaster, California. 14pp.
Hagan, Mark. 2016a. "Biological resource assessment of apns 3204-001-184 and 195, lancaster, california." Mark Hagan, 44715 17th Street East, Lancaster, California. 14pp.
Hagan, Mark. 2016b. "Biological resource assessment of apns 3265-006-001, 002, and apns 3265-007-001, 003, 007, lancaster, california." Mark Hagan, 44715 17th Street East, Lancaster, California. 16pp.

Hagan, Mark. 2017. “Biological resource assessment of apns 3203-033-02, 21, and 22, lancaster, california.” Mark Hagan, 44715 17th Street East, Lancaster, California. 15pp.
Hagan, Mark. 2018. “Biological resource assessment of ttm 81337, lancaster, california.” Mark Hagan, 44715 17th Street East, Lancaster, California. 18pp.
Jaeger, E.C. 1969. Desert wild flowers. Stanford Univ. Press, Stanford, CA. 322pp.
Joseph, Christopher A., and Associates. 2007. “Biological site assessment, the commons at quartz hill.” Christopher A. Joseph & Associates, 11849 West Olympic Boulevard, Suite 101 Los Angeles, California. 70pp.
Knobel, E. 1980. Field guide to the grasses, sedges and rushes of the united states. Dover Publications Inc. New York, NY 83pp.
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.
Smith, J.P., Jr. and K. Berg, Eds. 1988. Inventory of rare and endangered plants vascular plants of california. Calif. Native Plant Society, Special Publication No. 1. Fourth Edition, Sacramento, CA. 168pp.
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. 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., 18pp.
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 22 April 2018.