Biological Resource Assessment of APNs 3204-006-055 and 105, Lancaster, California

September 2, 2021

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Abstract

Residential development has been proposed for APNs 3204-006-055 and 105. The approximately 5 acre (2 ha) study area was located south of Avenue K-8 and east of 60th Street West, T7N, R13W, the N1/2 of the SW1/4 of the NW1/4 of the SW1/4 of Section 26**,** S.B.B.M. A line transect survey was conducted on 11 August 2021 to inventory biological resources. The proposed project area was characteristic of a highly disturbed desert habitat. A total of 27 plant species and 15 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 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. Vegetation within the study area provides potential nesting sites for migratory birds. No nesting sites for Swainson's hawk (*Buteo swainsoni*) have been sighted within 5 miles of the project site. One Joshua tree (*Yucca brevifolia*), greater than 12 feet in height, was observed within the study site. 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 natural desert washes were observed within the study area. A manmade drainage is present within the study site.

Recommended Protection Measures:

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 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 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 APNs 3204-006-055 and 105, and 91 (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 5 acre (2 ha) study area was located south of Avenue K-8 and east of 60th Street West, T7N, R13W, the N1/2 of the SW1/4 of the NW1/4 of the SW1/4 of Section 26**,** S.B.B.M. (Figure 2). Disturbed desert habitat existed along the eastern boundary of the study site. Residential development existed adjacent to the northern and southern boundaries of the study area (Figure 3). The western boundary of the study area was formed by 60th Street West. Topography of the site was approximately 2, 210 to 2,420 feet (735-738 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 an east-west orientation. Consistent with survey protocol line transects were approximately 660 feet (201 m) long and spaced about 50 feet (15 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.

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

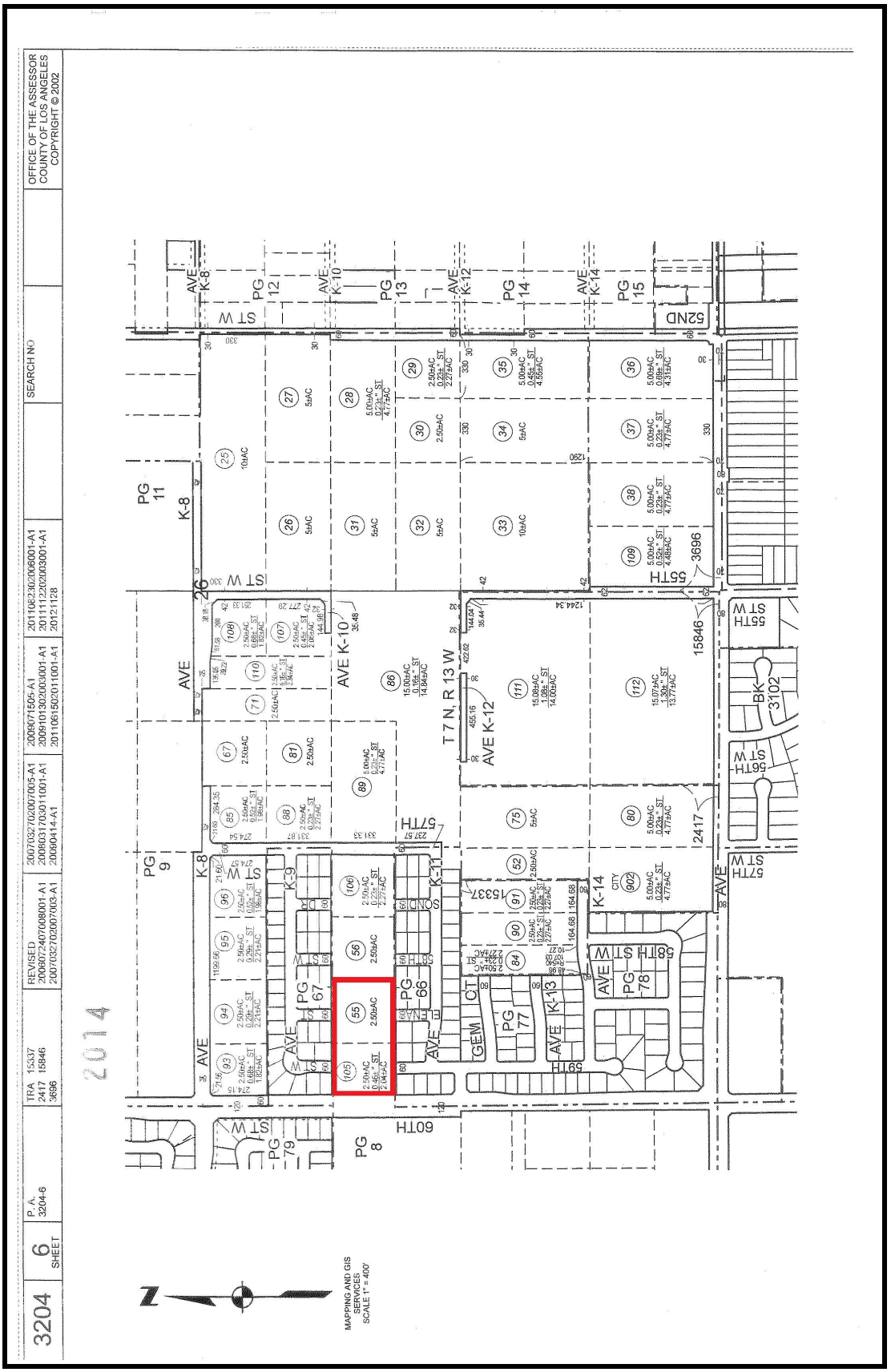

Figure 1. Location of proposed project site as depicted on APN map.

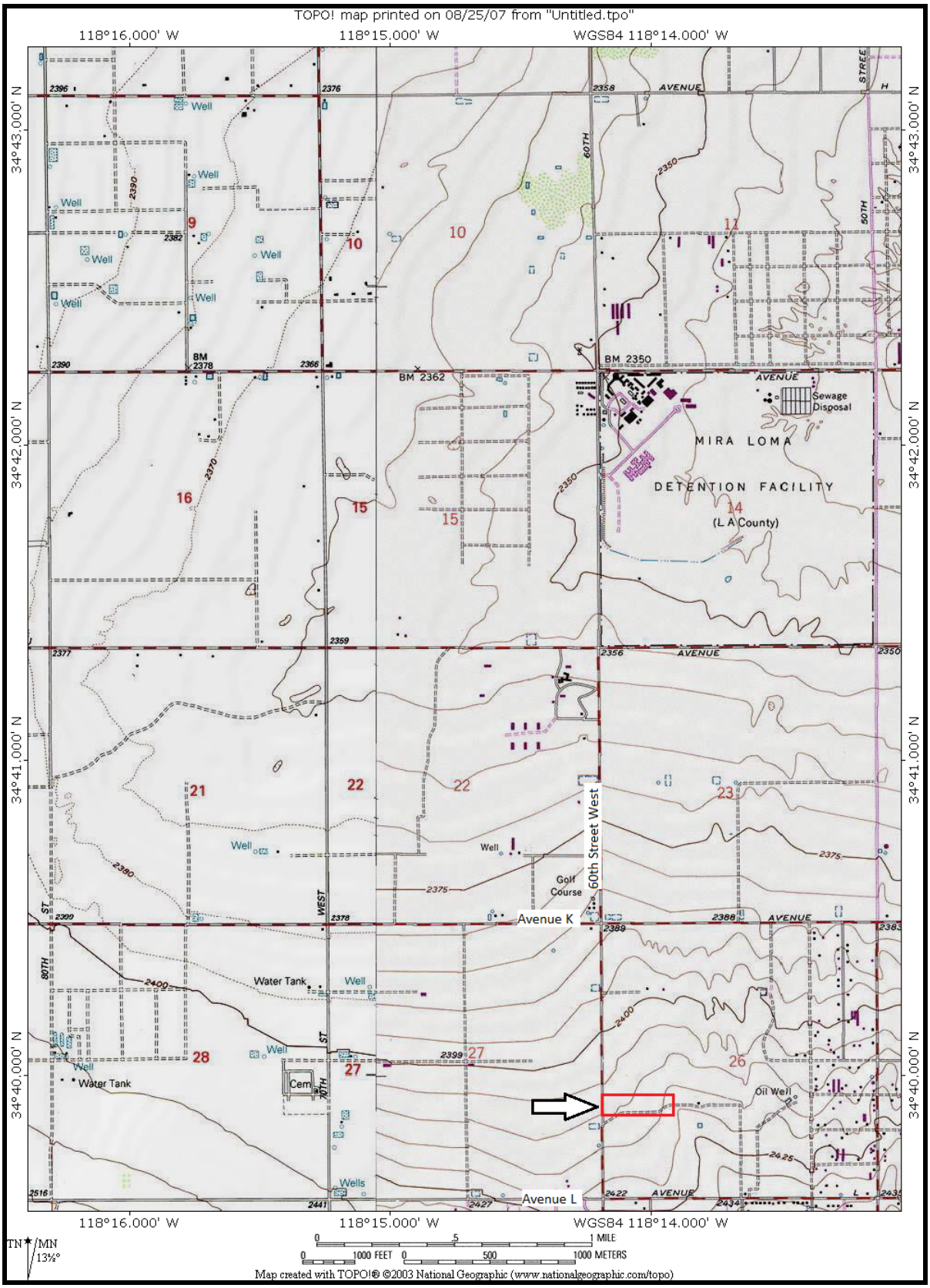

Figure 2. Approximate location of study area as depicted on excerpt from Lancaster West, 1974, and Del Sur, 1995, USGS Topographical Maps.

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

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). Historical aerial photographs and the USGS topographic maps of the study area and surrounding vicinity were reviewed. Review of documented sightings of sensitive plant and wildlife species was accomplished using the California Natural Diversity Database (CNDD) (Lancaster West 2020, Del Sur 2016) and eBird.org. Previous surveys in the area (Hagan 2013, 2014, 2016, 2018, 2019, 2020, 2021, Aspen Group 2015) were reviewed for historical sightings and background information. Photographs were taken of the study site (Figures 4, 5, and 6).

Results

A total of four line transects were walked on 11 August 2021. Weather conditions consisted of warm temperatures (estimated 85 degrees F), 85% cloud cover, and moderate wind. 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 maps. A drainage feature was observed within the study area. The drainage, oriented north-south, flows from the housing development adjacent to the southern boundary (Figure 6). An existing stormwater retention basin, oriented east-west, was situated within the southern boundary of the study area (Figure 6).

The proposed project area was characteristic of a highly disturbed desert habitat. A total of 27 plant species were observed during the line transect survey (Table 1). Rabbit brush (*Chrysothamnus nauseosis*), peachthorn (*Lycium cooperi*), mormon tea (*Ephedra nevadensis*), and four-winged saltbush (*Atriplex canescens*) were the common perennial shrub species throughout the study area. Invasive grass (*Bromus tectorum*) and mustard spp. were the dominant annual species throughout the study area. One Joshua tree (*Yucca brevifolia*), greater than 12 feet in height, was observed within the study site (Figure 5).

A total of 15 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 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, with a greater density observed along 60th Street West. Horse (*Equus* sp.) tracks were observed within the study area.

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, other than the single Joshua tree, 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).

Figure 4. Top photograph: View from center of west boundary looking east. Bottom photograph: View from center of east boundary looking west.

Figure 5. Close up photograph of the only Joshua tree on the study site.

Figure 6. Top photograph: Retention basin located along southern boundary of the study site. Bottom photograph: Manmade drainage from the housing area. View is looking from northwest portion of the study site looking south.

Table 1. List of plant species that were observed during the line transect survey of APNs 3204-006-055 and 105, Lancaster, California.

Common Name	Scientific Name
Joshua tree	*Yucca brevifolia*
Rabbit brush	*Chrysothamnus nauseosis*
Four-wing saltbush	*Atriplex canescens*
Peachthorn	*Lycium cooperi*
Mormon tea	*Ephedra nevadensis*
Fiddleneck	*Amsinckia tessellata*
Desert straw	*Stephanomeria pauciflora*
Turkey mullein	*Eremocarpus setigerus*
Buckwheat sp.	*Eriogonum* sp.
Autumn vinegar-weed	*Lessingia germanorum*
Vinegar weed	*Trichostema lanceolatum*
Rattlesnake weed	*Euphorbia albomarginata*
Russian thistle	*Salsola iberica*
Red stemmed filaree	*Erodium cicutarium*
Fiddleneck	*Amsinckia tessellata*
Annual burweed	*Franseria acanthicarpa*
Jimson weed	*Datura meteloides*
Sahara mustard	*Brassica tournefortii*
Tumble mustard	*Sisymbrium altisissiimum*
Cheatgrass	*Bromus tectorum*
Oats	*Avena sativa*
Manmade drainage species	
Salt cedar	*Tamarix aphylla*
Alkali bulrush	*Bolboschoenus maritimus*
Black-eyed susan	*Rudbeckia hirta*
Five-hook bassia	*Bassia hyssopifolia*
Chinese pusley	*Heliotropium curassavicum*
Bermuda grass	*Cynodon dactylon*

Table 2. List of wildlife species, or their sign, that were observed during the line transect survey of APNs 3204-006-055 and 105, Lancaster, California.

Common Name	Scientific Name
Rodents	Order: Rodentia
California ground squirrel	*Citellus beecheyi*
Desert cottontail	*Sylvilagus auduboni*
Coyote	*Canis latrans*
Horse	*Equus* sp.
Rock dove	*Columba livia*
Mourning dove	*Zenaida macroura*
Ring-neck dove	*Streptopelia capicola*
Common raven	*Corvus corax*
House finch	*Carpodacus mexicanus*
House sparrow	*Passer domesticus*
Harvester ants (2 spp.)	Order: Hymenoptera
European honey bee	Order: Hymenoptera
Cabbage white butterfly	*Pieris rapae*

Table 3. List of wildlife species that may occur within the study area, APNs 3204-006-055 and 105, Lancaster, California.

Common Name	Scientific Name
Deer mouse	*Peromyscus maniculatus*
Merriam kangaroo rat	*Dipodomys merriami*
Black-tailed jackrabbit	*Lepus californicus*
Domestic dog	*Canis familiaris*
California quail	*Callipepla californica*
Hummingbird sp.	Family: Trochilidae
Northern mockingbird	*Mimus polyglottos*
Cactus wren	*Campylorhynchus brunneicapillus*
Horned lark	*Eremophila alpestris*
European starling	*Sturnus vulgaris*
White crowned sparrow	*Zonotrichia leucophrys*
Side blotched lizard	*Uta stansburiana*
Western whiptail	*Cnemidophorus tigris*
Gopher snake	*Pituophis melanoleucus*
Painted lady	Order: Lepidoptera
Fly	Order: Diptera
Spider	Order: Araneida
Paper wasp	Family: Vespidae
Grasshopper	Order: Orthoptera
Dragonfly	Order: Odonata

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 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. Suitable habitat for desert tortoises was not present within or adjacent to the 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, or their sign were observed during the survey. California ground squirrel (*Citellus beecheyi*) burrows could become cover sites for burrowing owls within the study site.

Many species of birds and their active nests are protected under the Migratory Bird Treaty Act. Vegetation within the study area provides potential nesting sites for migratory birds. No Swainson's hawk have been observed nesting within 5 miles of the study site (eBird 2021). The study area is not considered suitable foraging habitat given the small patch size, adjacent urban uses, and high level of use by domestic pets. No protection measures are recommended for Swainson's hawk.

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). No protection measures are recommended for MGS.

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. This started a one year listing review. The 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 the single Joshua tree within the study site appeared to be in good condition and had well developed branching. If the Joshua tree can be avoided with a minimum buffer of 25 feet (9 m) then no consultation with the CDFW would be considered necessary.

No suitable habitat for alkali mariposa lily, 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. 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, Smith and Berg 1988, 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:

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 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 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.

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