

**Focused Survey for Desert Tortoise & Western Burrowing Owl,  
Habitat Assessment for Mohave Ground Squirrel,  
General Biological Resource Assessment, &  
Jurisdictional Delineation Report**

for the

Deep Creek Solar Farm Conditional Use Permit Application;  
County Assigned Project ID No. P201100391  
Assessor's Parcel No. 0433-014-54;

Located at 8102 Deep Creek Road  
Apple Valley, San Bernardino County, California

USGS – Apple Valley South Quadrangle, 7.5-Minute Series  
Section 30 of Township 4 North and Range 3 West

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## 1 EXECUTIVE SUMMARY

On behalf of Aikyum, Inc., Tom Dodson & Associates (TDA) conducted focused desert tortoise (*Gopherus agassizii*) [DT] and western burrowing owl (*Athene cunicularia*) [BUOW] surveys, a habitat assessment for Mohave ground squirrel (*Spermophilus mohavensis*) [MGS], a general biological resources assessment, and a jurisdictional delineation [JD] for the Deep Creek Solar Farm Conditional Use Permit Application. TDA conducted these surveys to determine if the proposed solar project will result in any adverse impacts to sensitive biological resources. The subject parcel is 40 acres in size and is generally located north of State Route (SR) 173, south of SR 18, and east of Interstate 15 and specifically located north of Deep Creek Road, south of Rock Springs Road, east of Hilton Road, and west of the active Mojave River channel. The project site is located in unincorporated San Bernardino County, south of the Town of Apple Valley.

The primary vegetation communities within the subject parcel can be characterized as Joshua tree woodland and dry desert wash. The sensitive species documented within a 3-mile radius of the subject property and all state and/or federally listed species documented U.S. Geological Survey – Apple Valley South, Apple Valley North, and Hesperia Quadrangles were considered in this analysis. Species considered include BUOW, DT, MGS, San Diego coast horned lizard, and Le Conte's thrasher. The subject parcel falls within the historic range of the MGS but is located outside, to the south, of the MGS Conservation Area set forth in the West Mojave Plan (U.S. Bureau of Land Management 2005). The nearest documented MGS was recorded in 1955 about 8 miles north-northeast of the subject property. The near vicinity has been surveyed to protocol level on several occasions yet there is no compelling evidence showing that MGS occur, or have occurred recently, in the vicinity of the subject parcel. The results of the focused surveys were that no DT or BUOW individuals were found and no evidence was observed that would indicate their recent or historic occurrence on site. TDA concludes that MGS, DT and BUOW are absent from the site and there is no risk of the project resulting in a “taking” of any of these species. Incidental take authority from the California Department of Fish and Game (CDFG) or the US Fish and Wildlife Service (USFWS) is not required.

Le Conte's thrashers and San Diego coast horned lizard have been detected by TDA biologists locally. Both species are typically found in desert scrub communities, often near washes. Neither species was observed during the survey, but they are expected to occur. Habitat on the subject property is suitable for foraging and nesting. A minimal loss of potential foraging and nesting habitat for these species may occur from the project. These impacts however, are not considered regionally or locally significant and therefore, no mitigation is proposed. According to protocol and standard practices, the results of this survey will remain valid for the period of one year, or until April 2013, after which time, if the site has not been disturbed in the interim, another survey may be required to determine the persisting absence of DT, BUOW and other sensitive flora and fauna on-site.

Approximately 7 acres of the westerly boundary of the 40-acre subject parcel occur within the Mojave River floodplain. The project does not proposed impacts to jurisdictional waters and will avoid any such impact. If the project changes in a manner that encroaches into the jurisdictional boundary of the Mojave River and impacts to the channel will result, then a Clean Water Act (CWA) Section 404 permit, CWA Section 401 Certification, and CDFG Code Section 1602 Streambed Alteration Agreement may be required for those impacts.

## 2 INTRODUCTION

On behalf of Aikyum, Inc. (proponent), Tom Dodson & Associates (TDA) conducted a number of biological resources evaluations for the Deep Creek Solar Farm Conditional Use Permit Application. The subject property, Assessor's Parcel No. (APN) 0433-014-54, can be found at 8102 Deep Creek Road, Apple Valley, San Bernardino County, California and is mapped within the U.S. Geological Survey (USGS) – Apple Valley South Quadrangle, 7.5 Minute Series (topographic) within Section 30 of Township 4 North and Range 3 West (Figures 1-3).

The biological resources evaluations conducted by TDA on the subject property included the following surveys:

1. focused surveys for desert tortoise (*Gopherus agassizii*) [DT ]and western burrowing owl (*Athene cunicularia*) [BUOW];
2. habitat assessment for Mohave ground squirrel (*Spermophilus mohavensis*) [MGS];
3. general biological resource assessment; and
4. jurisdictional delineation [JD]

TDA conducted these surveys to determine if the proposed solar project will result in any adverse impacts to sensitive biological resources. Results of TDA's focused DT and BUOW focused survey, MGS habitat assessment, general biological resource assessment, and JD are intended to provide sufficient baseline information to the County and if required, to federal and State regulatory agencies, including U.S. Fish and Wildlife Service (USFWS) and California Department of Fish and Game (CDFG), respectively, to determine if impacts will occur and to identify mitigation measures to offset those impacts.

## 3 PROJECT AND PROPERTY DESCRIPTION

The subject parcel is 40 acres in size and is generally located north of State Route (SR) 173, south of SR 18, and east of Interstate 15 and specifically located north of Deep Creek Road, south of Rock Springs Road, east of Hilton Road, and west of the active Mojave River channel. The project site is located in unincorporated San Bernardino County, south of the Town of Apple Valley. Given the location of the project in San Bernardino County, this report has been prepared according to County of San Bernardino's *Report Protocol for Biological Assessment Reports* (County of San Bernardino, 2006).

The subject parcel is centered at Lat/Long: N 34 23' 55", W 117 13' 59.454 and is 40 acres in size. The CUP application proposes to install a solar facility on the parcel (Figure 4). The elevation of the project area ranges from 2,915 to 2,910 feet about mean sea level (msl). The existing topography of this site slopes from the east towards the west, northwest at approximately 0.36%. The soils within the subject parcel consist of Cajon-Wasco cool complex, Bryman loamy fine sand, Lucerne sandy loam, Riverwash, Victorville sandy loam, and Villa loamy sand. These soil types consist of mixed alluvium with a high gravel component and are well drained.

The local climatic conditions in the project area are characterized by hot summers, mild winters, infrequent rainfall, and dry humidity. The average annual temperature is 62°F, ranging between 39-112°F. The rainy season begins in November and continues through March, with the quantity and frequency of rain varying from year to year. The average annual rainfall is

approximately 4.5 inches with a range of 1.1 to 11.2 inches. The rivers and streams in the high desert are dry most of the year and surface water is available only at springs and where localized geology causes upwelling or groundwater moving downstream in the Alluvial Aquifer. Surrounding land uses include: flood plain, open space, residential developments, agriculture and transportation.

The primary vegetation communities within the subject parcel can be characterized as Joshua tree woodland, and dry desert wash. The Joshua tree woodland community consists of low-growing perennial plants with a few taller shrubs, such as: burrobush (*Ambrosia dumosa*), creosote bush (*Larrea tridentata*), and buckwheat (*Eriogonum fasciculatum*). It is a mixed-woodland community occurring between areas of desert scrub and higher-elevation pinyon-juniper woodlands. Within the Joshua tree woodland, there are a number of plant and animal communities of limited distribution. The desert wash community on site is part of the Mojave River and is un-vegetated. There is some on-going disturbance in the project area. There are off-road-vehicle (ORV) use, dogs, and trash dumping. See site photos attached at the end of the document for a visual representation of the general biological resources on site.

## 4 FOCUSED STUDY / SPECIES OF CONCERN

A California Natural Diversity Data Base (CNDDDB) search was completed for the U.S. Geological Survey (USGS) – Apple Valley South, Apple Valley North, and Hesperia Quadrangles, 7.5 Minute Series (topographic maps). According to the CNDDDB, 18 sensitive species are documented within these three USGS quadrangles (Table 1). Table 1 includes the habitat requirements for each species and the potential for their occurrence on the site, based on required habitat elements and range relative to the current site conditions. The species of concern that have been documented within a 3-mile radius of the subject property were considered in this analysis, provided suitable habitat conditions exists on site for these species. Furthermore, all state and/or federally listed species that have been documented within the three USGS quadrangles were considered in this analysis regardless of their known distance from the property. Species considered include:

1. burrowing owl (recorded within 2 miles of the property);
2. Coast horned lizard; and (recorded within ¼ mile of the property)
3. Le Conte's thrasher (recorded within 1.5 miles of the property)
4. desert tortoise (recorded within 10 miles of the property);
5. Mohave ground squirrel; (recorded within 8.5 miles of the property)

Three additional special status species (sagebrush loeflingia, Mohave River vole, Victorville shoulderband) have been document in the local region. These species were dropped from further consideration however, because they do not occur within 10 miles of the subject parcel and because the site lacks suitable habitat for any of these species.

## 5 METHODOLOGY

The following list of study methods were used to obtain information on the biological resources potentially affected by implementation of this Project:

- Records Search & Literature Review
- General Biological Assessment

- MGS Habitat Assessment
- Focused DT and BUOW Survey
- Delineation of Jurisdictional Waters

Background information was gathered prior to visiting the subject parcel to obtain information on sensitive and listed plant and animal species' occurrences in the vicinity. The biological surveyor examined the California Native Plant Society's Electronic Inventory (CNPSEI), 2012 California Natural Diversity Data Base (CNDDDB), Federal register listings and protocols. In addition, standard field guides and texts on sensitive and non-sensitive biological resources were used in the identification of species and suitable habitats. These resources provided baseline data regarding species' occurrences within the vicinity of the subject parcel. Documents consulted regarding potential on-site biological conditions are listed in the references section at the end of this report.

The project site was surveyed by TDA biologist Shay Lawrey. Ms. Lawrey is an Ecologist and Regulatory Specialist. She received a B.A. in Environmental Studies from the University of California, Santa Cruz and M.S. in Biology from Occidental College. Ms. Lawrey specializes in endangered species surveys. Ms. Lawrey has over a decade of sensitive species experience within the Mojave River. Further, she has over a decade of experience conducting MGS habitat assessments and focused/protocol surveys for DT and BUOW throughout the desert ecotones of San Bernardino County.

## 5.1 General Biological Assessment

The initial reconnaissance-level survey was conducted on April 06, 2012 and included general coverage of the subject parcel, with special attention focused toward sensitive species or those habitats potentially supporting sensitive flora or fauna. Indicators for wildlife observations included scat, tracks, burrows, nest, calls, and individual animals. All plant and animal species identified during the survey were recorded in field notes and are listed in Appendices A and B, respectively.

## 5.2 MGS Habitat Assessment

The habitat assessment for MGS included a pedestrian field assessment, review of reported occurrences of the MGS in the region (CNDDDB 2012), and adherence to CDFG's criteria for assessing potential impacts to the MGS. The CNDB criteria questions are as follows:

1. Is the site within the range of the MGS?;
2. Is there native habitat with a relatively diverse shrub component?; and
3. Is the site surrounded by development and therefore isolated from potentially occupied habitat?

## 5.3 Focused Desert Tortoise (DT) and Burrowing Owl (BUOW) Surveys

Between April 7 and 9, 2012, Ms. Lawrey conducted 100% coverage focused DT and BUOW surveys. Ms. Lawrey followed the UFWs guidelines provided in the 2010 "Pre-project field survey protocol for potential desert tortoise habitats." The guidelines recommend that transects, spaced at 30-foot intervals, be surveyed throughout a given parcel and that zone of influence transects be surveyed in adjacent areas to assess the potential for tortoises to

immigrate onto a given site, particularly when no tortoise sign is found on-site. (*Please note, that zone of influence transects did not extend into fenced private property or into areas with structures or dogs or where no suitable habitat occurred*).

Ms. Lawrey also employed the “Burrowing Owl Survey Protocol and Mitigation Guidelines” prepared by the California Burrowing Owl Consortium on April 1993 and the October 17, 1995 California Department of Fish and Game staff report on Burrowing Owl Mitigation. If it is determined that burrowing owl habitat is observed, then a 100% coverage survey is conducted. The BUOW survey protocol calls for transects spaced at no more than 100-foot intervals. If signs of historical or recent burrowing owl activity is found on site, then a breeding season survey and census is required. Since DT surveys call for narrower transect intervals (30-foot) compared to those required in a BUOW survey (100-foot), the DT survey transects set for the subject parcel, were considered sufficient to cover the site for BUOW also.

The surveys were conducted on clear, calm weather days, during peak DT and BUOW activity between the morning hours of 5:30 a.m. and 9:30 a.m. and evening hours of 2:30 p.m. to 5:30 p.m. During the site visits, pedestrian surveys covered all open areas of the project site and zone of influence areas to account for adjacent burrows and foraging habitat. Pedestrian survey transects were spaced to allow 100 percent visual coverage of the ground surface. The bases of perennial shrubs were checked for burrows and signs. Natural and non-natural substrates were examined for potential burrow sites. All burrows encountered were examined for shape, scat, pellets, and tracks. Disturbance characteristics and all other animal sign encountered on the site are recorded in the results section.

Date time and weather conditions were logged. A hand-held, global positioning system (GPS) unit was used to survey straight transects and record Universal Transverse Mercator (UTM) coordinates (North American Datum - NAD 27), to identify project boundaries, and for other pertinent information. A digital camera was used to take representative photographs. 2012 Google Earth Pro was accessed to provide recent aerial photographs of the project site and surrounding area.

Please note, that the County of San Bernardino requires biological surveys to be performed by approved biologists. TDA is on the approved County of San Bernardino list of biologists. San Bernardino County (2006) also requires that any survey limitations be identified. As described above, zone of influence transects could not be surveyed to the areas occupied by existing housing. Surveys were conducted during the appropriate season to observe the target species, in good weather conditions, by a qualified biologist who followed all pertinent protocols. No limitations significantly affected the results and conclusions given herein.

#### **5.4 Jurisdictional Delineation**

On April 16, 2012 Ms. Lawrey surveyed the subject parcel to determine the presence/absence of potential special aquatic resources and their boundaries. Ms. Lawrey is a qualified regulatory specialist who has conducted scores of jurisdictional delineations, all of which were approved and subsequently permitted by the affected regulatory agency. Data related to The U.S Army Corps of Engineers (Corps)-defined waters of the U.S. (WoUS), including wetlands, were recorded on GPS tracks. Field notebooks, and wetland data sheets, were used where applicable. The evaluation process initially looked at vegetation, soils, and hydrology parameters (in that order) of potential wetland habitats within the study area using the

methodology for routine determinations set forth in the Corps Wetland Delineation Manual and the Arid West Regional Supplement (EL, 1987; Reed, 1988; Corps 2001a, 2001b, 2008). Drainage features were evaluated using the methodology set forth in the Corps and EPA Clean Water Act jurisdiction guidance documents following the U.S. Supreme Court's Decision in *Rapanos v. United States* and *Carabell v. United States* (Corps, 2007; Corps, 2007a; Corps, 2007c; Corps, 2008).

Suspected California Department of Fish and Game (CDFG) jurisdictional areas were field checked for the presence of definable streambeds (bed, bank, and channel) and any associated riparian habitat. Streambeds and suspected riparian habitats were evaluated using the California Fish and Game (CFG) Code (Section 1600 et seq.) and guidance described in *A Field Guide to Lake and Streambed Alteration Agreements Sections 1600-1607* (ESD-CDFG, 1994). If adjacent floodplain and/or terrace areas were vegetated with riparian vegetation, then these features were mapped on aerial maps and included as part of CDFG jurisdiction.

The delineation was conducted on foot and based on aerial maps, engineered plans, and GPS were used to assist in determining the limits of jurisdictional waters. Suspected jurisdictional areas were checked for the presence of definable channels and/or wetland vegetation, riparian habitat, soils, and hydrology. The lateral extent of a jurisdictional drainage can be measured in several ways depending on the particular situation. The outer edge of riparian vegetation is used as the line of demarcation between riparian and upland habitats and is therefore an identifiable boundary of the lateral extent of a jurisdictional drainage. On smaller streams or dry washes with little or no riparian habitat, the bank is used to mark the lateral extent of the jurisdictional drainage. Parameters noted were amount and type of vegetation (hydrophytic versus upland), soil moisture, and the presence of running or standing water.

## 6 RESULTS

### 6.1 General Biological Assessment

During the survey, the general weather conditions were clear and slightly breezy. Temperatures ranged between 48° and 69°F. Common wildlife observed during the survey include dog (*Canis lupis familiaris*), California jack-rabbit (*Lepus californicus*), pocket gopher (*Thomomys bottae*), California ground squirrel (*Spermophilus beechyi*), raven (*Corvus corax*), and mourning dove (*Zenaida macroura*).

The plant communities within the project area can be characterized as Joshua tree woodland and dry desert wash. Vegetation on the site is typical of many locations in the southwestern Mojave Desert, with elements of both desert and foothill vegetation. Perennial plants observed included Joshua tree and creosote bush (*Larrea tridentata*), allscale (*Atriplex polycarpa*), cheese bush (*Hymenoclea salsola*), linear-leaf goldenbush (*Ericameria linearifolia*), rubber rabbitbrush (*Chrysothamnus nauseosus*), California buckwheat (*Eriogonum fasciculatum*), and desert needlegrass (*Achnatherum speciosum*). Annual plants detectable at the time of surveys (early spring) included many native wildflower species, such as sticky nama (*Pholistoma membranaceum*), Mojave sun-cups (*Camissonia campestris*), little gold-poppy (*Eschscholzia minutiflora*), purple desert lupine (*Lupinus schockleyi*), Golden linanthus (*Linanthus aureus*), sand blossoms (*Linanthus parryae*), California coreopsis (*Coreopsis californica*), Pringle's woolly daisy (*Eriophyllum pringlei*), common tidy tips (*Layia platyglossa*), and desert dandelion

(*Malacothrix glabrata*), among others. Other annuals observed were exotic, such as split grass (*Schismus sp.*), shortpod mustard (*Hirschfeldia incana*), tumble mustard (*Sisymbrium altissimum*), sisymbrium (*S. orientale*), hare barley (*Hordeum murinum*), red brome (*Bromus madritensis ssp. rubens*), and cheat grass (*B. tectorum*), or native plants adapted to disturbance, such as red-stemmed filaree (*Erodium cicutarium*), Lemmon's lessingia (*Lessingia lemmonii*), and fiddleneck (*Amsinckia tessellata*).

Western fence lizard (*Sceloporus occidentalis*) and western whiptail (*Cnemidophorus tigris*), were the only reptiles observed. Other reptile species expected to occur include the San Diego homed lizard (*Phrynosoma coronatum blainvillei*), red racer (*Masticophis flagellum*), gopher snake (*Pituophis melanoleucus*), and various rattlesnake species (*Crotalus ssp.*).

Common, resident bird species observed that may nest on-site or in adjacent areas included California quail (*Callipepla californica*), California towhee (*Pipilo crissalis*), mourning dove (*Zenaida macroura*), wrentit (*Chamaea fasciata*), bushtit (*Psaltriparus minimus*), black-throated sparrow (*Amphispiza bilineata*), sage sparrow (*Amphispiza belli*) and black-chinned sparrow (*Spizella atrogularis*). Raptors included red-tailed hawk (*Buteo jamaicensis*). Species typically associated with urbanizing areas were common and included rock dove (*Columba livia*), common raven (*Corvus corax*), northern mockingbird (*Mimus polyglottos*), house finch (*Carpodacus mexicanus*), and house sparrow (*Passer domesticus*).

All detected mammals are common to the region. Small burrowing mammals included California ground squirrel (*Otospermophilus beecheyi*), Botta pocket gopher (*Thomomys bottae*), kangaroo rat (*Dipodomys sp.*), and several *Peromyscus* species. Medium-sized mammals included black-tailed jack rabbit (*Lepus californicus*) and Audubon cottontail (*Sylvilagus audubonii*). Coyote (*Canis latrans*) was the only predator detected.

## 6.2 MGS Habitat Assessment

Although a focused Mohave ground squirrel trapping survey was not performed, TDA assessed habitats and reviewed available information to provide a professional opinion as to the presence or absence of this species on the project site. Mohave ground squirrel is designated as a Threatened species by the California Fish and Game Commission. Several years ago, the USFWS declined to list the species as Endangered stating, in part, that it was already being protected by the CDFG. In recent years, the CDFG has considered three criteria in assessing potential impacts to the Mohave ground squirrel: (1) Is the site within the range of the species? (2) Is there native habitat with a relatively diverse shrub component? (3) Is the site surrounded by development and therefore isolated from potentially occupied habitat? The answers to the basic criteria are as follows:

1. The site is within the range of the MGS (Figure 4);
2. There is native habitat with a relatively diverse shrub component; and
3. The site is sparsely surrounded by development and infrastructure and is likely isolated from potentially occupied habitat

The subject parcel falls within the historic range of the MGS but is located outside, to the south, of the MGS Conservation Area set forth in the West Mojave Plan (U.S. Bureau of Land Management 2005). According to the CNDDB, MGS historically (prior to 1950) occurred in the project vicinity. However, the most recent record of MGS is from 2005, where one individual

was found just north of the California Aqueduct, west of the Interstate 15 (I-15) Freeway approximately 15 miles away from the subject property. The nearest documented MGS was recorded in 1955 about 8 miles north-northeast of the subject property. Fifteen protocol MGS trapping grids were sampled in the vicinity of the subject parcel between 1998 and 2007. MGS were not detected and were considered absent during those 15 trapping sessions (Leitner 2008). The near vicinity has been surveyed to protocol level on several occasions yet there is no compelling evidence showing that MGS occur, or have occurred recently, in the vicinity of the subject parcel. Further, during recent coordination (2010) between CDFG staff and Ms. Lawrey on an unrelated project located just upstream of this project, CDFG concurred that MGS have a low occurrence potential east of the I-15, within the Mojave River floodplain where the project is located. Based on this information, it is TDA's professional opinion that MGS do not occur in the vicinity of the project area.

### **6.3 Desert Tortoise**

The results of the focused surveys were that no DT individuals were found and no evidence was observed that would indicate their recent or historic occurrence on site. Based on the absence of desert tortoise sign on the subject property, in adjacent areas, and reported from the region, TDA concludes that the DT is absent from the subject parcel and adjacent survey areas. Please note, the USFWS will consider a protocol DT survey, which produces a negative result (species absent), valid for a period of one year only.

The Mojave River to the south, HWY 18 to the north, and active rail roads to the north and west are impenetrable and penetrable barriers, respectively, to any movement of desert tortoise from these directions, and surrounding development further isolates the subject parcel. There is very little likelihood of wild tortoises entering the site from adjacent areas, either to pass through the site or establish residency. Observable human disturbances included (in descending order of prevalence) dirt roads and trails, piles of discarded waste, domestic dog signs, and off-highway vehicle tracks.

The County (2006) requires that habitat categories designated by the U.S. Bureau of Land Management (1989) be identified in all desert tortoise technical reports. Although habitat categories apply only to public lands administered by the BLM, regulatory agencies typically determine habitat compensation ratios based on the nearest BLM habitat categories (Desert Tortoise Compensation Team 1991). With the adoption of the West Mojave Plan (U.S. Bureau of Land Management 2005), all lands that are outside Desert Wildlife Management Areas, including the subject parcel, are characterized as Category 3 Habitat, which is the lowest priority management area for viable populations of the desert tortoise.

The site is not found within desert tortoise critical habitat, which was designated in 1994 (U.S. Fish and Wildlife Service 1994a) nor is it within a Desert Wildlife Management Area as recommended in the Desert Tortoise (Mojave Population) Recovery Plan (U.S. Fish and Wildlife Service 1994b) and formally adopted in March 2006 as a result of the West Mojave Plan (U.S. Bureau of Land Management 2005). The nearest such areas are the Ord-Rodman Critical Habitat Unit and Desert Wildlife Management Area, and the Fremont-Kramer Desert Wildlife Management Area which are located approximately 18 to 20 miles north of the project area.

### **6.4 Burrowing Owl**

The results of the focused surveys were that no BUOW individuals were found and no evidence was observed that would indicate their recent or historic occurrence on site. Please note, that when a focused survey for BUOW (and most animals) is negative (species absent), the resource agencies typically accept the survey as valid for one year only.

As stated above, the focused surveys were structured, in part, to detect BUOW, which have been observed in the near vicinity of the project site (within 2 miles). No evidence of BUOW was found in the survey area. No burrows of appropriate size, aspect or shape were located and no BUOW pellets, feathers or white wash was found. No burrowing owl individuals were located. No suitable burrows for BUOW were present. Based on the survey results, BUOW are considered absent from the subject parcel.

## 6.5 Other Special-Status Species

The USFWS, CDFG, and California Native Plant Society maintain lists of animals and/or plants considered rare, threatened, or endangered, which are collectively referred to as "special-status species." No special status species were identified on-site during the current survey.

Joshua trees and cacti are protected under specific sections of the ordinances for the Cities of Hesperia, Apple Valley, and Adelanto and County of San Bernardino. A Protected Plant Plan is typically required by these municipalities before the project can be initiated.

Short-joint beavertail cactus is designated as a List IB species by the California Native Plant Society. Each of the bird species discussed below is considered a Bird of Conservation Concern by the USFWS and a Bird Species of Special Concern by the CDFG.

Short-joint beavertail cactus (*Opuntia basilaris* var. *brachyclada*) is known to occur in chaparral, Joshua tree woodland, Mojave Desert scrub, and pinyon-juniper woodland communities from 900-2,000 m elevation. This cactus has been reported from a variety of soils, from sandy to rocky, in open stream beds, alluvial fans, and on rocky slopes (CNDDDB 2012). Although habitat in the project area appears suitable, the common variety of beavertail cactus (*Opuntia basilaris* var. *basilaris*) occurs on site and the special-status variety is absent from the site and adjacent properties.

Loggerhead shrikes (*Lanius ludovicianus*) have been observed less than a mile away to the north and south of the project site in 2005 and 2007. Loggerhead shrikes nest in both residential landscaped trees, in shrubs, and in Joshua trees and Mohave yuccas. There are numerous Joshua trees on the site, and shrikes are likely to forage here and could nest on site or nearby. Le Conte's thrashers (*Toxostoma lecontei*) have been detected by TDA biologists locally. This species is typically found in desert scrub communities, often near washes. Habitat on the subject property is suitable for foraging and nesting. Vaux's swift (*Chaetura vauxi*) was detected in 1990, in the local vicinity (Tierra Madre Consultants 1990). This species is known as a migrant through the area, but it is not expected to breed in the locally. A northern harrier (*Circus cyaneus*) was detected by TDA in 2004 approximately 1.0 mile northeast of the project vicinity. There is no perching or roosting habitat on the site for the species.

## 6.6 Jurisdictional Waters

Approximately 7 acres of the westerly boundary of the 40-acre subject parcel occur within the Mojave River floodplain. The Mojave River is the largest drainage system in the Mojave Desert.

The river's source is in the San Bernardino Mountains, south of Hesperia. The West Fork of the Mojave flows into Silverwood Lake, formed by Cedar Springs Dam, which overflows in the Mojave River Forks Reserve area. Downstream, Deep Creek meets the West Fork, forming the Mojave River immediately upstream of the Mojave River Dam. Downstream of the dam, the Mojave River flows north and east, underground in most places, through Hesperia, Victorville, Barstow out to its terminal location at Soda Lake. Since the courts have determined that the Corps has regulatory jurisdiction over the Mojave River, it is considered a Water of the U.S. It is also a Water of the State that falls under the jurisdiction of the CDFG and Regional Water Quality Control Board (RWQCB). No evidence of other waters was found on site. A historical blue line stream appears on the USGS topographical map. No evidence of flow, bed bank or channel in the location of the historic blue line stream could be detected during the delineation.

## 7 REGULATORY FRAMEWORK

A portion of the subject parcel is located within the Mojave River floodplain which is characterized by active meander zones (within man-made levees) with quickly changing sedimentation and accretion patterns and a broad natural floodplain that frequently floods in the winter and spring. According to the site plan, no impacts to the Mojave River are proposed. Construction of the solar facility will not result in temporary or permanent alteration or fill of jurisdictional waters. If the project changes and impacts to this jurisdictional water will result, then permits from the regulatory agencies will be required. Impacts to jurisdictional waters usually require regulatory approvals from the one or more of the following regulatory agencies: Corps, RWQCB, and/or CDFG. Below is a discussion of each regulation and the corresponding agency or agencies with regulatory jurisdiction.

### 7.1 Clean Water Act (CWA)

The CWA is the principal federal law that governs pollution in the nation's lakes, rivers, and coastal waters. Originally enacted in 1972 as a series of amendments to the Federal Water Pollution Control Act of 1948, the Act was last amended in 1987. The overriding purpose of the CWA is to "restore and maintain the chemical, physical and biological integrity of the nation's waters." The statute employs a variety of regulatory and non-regulatory tools to eliminate the discharge of pollutants into the nation's waters and achieve water quality that is both "swimmable and fishable".

Under Section 404 of the CWA, the Corps has primary federal responsibility for administering regulations that concern the discharge of dredged or fill material into waters of the U.S. (including wetlands). Waters of the U.S. (WoUS) are defined as: "*All waters used in interstate or foreign commerce; all interstate waters including interstate wetlands; all other waters such as intrastate lakes, rivers, streams (including intermittent and ephemeral streams), mudflats, sand flats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes or natural ponds, where the use, degradation, or destruction of which could affect interstate commerce; impoundments of these waters; tributaries of these waters; or wetlands adjacent to these waters*" (Section 404 of the CWA; 33 CFR 328).

The limit of the Corps jurisdiction for non-tidal waters (including non-tidal perennial and intermittent watercourses and tributaries to such watercourses) in the absence of adjacent wetlands is defined by the ordinary high water mark. The ordinary high water mark (OHWM) is defined as: "*The line on the shore established by the fluctuations of water and indicated by*

*physical characteristics such as a clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas (Section 404 of the CWA; 33 CFR 328). Wetlands are defined as: Those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions” (Section 404 of the CWA; 33 CFR 328).*

## **7.2 Porter-Cologne Water Quality Control Act (Porter-Cologne)**

Porter-Cologne is the principal State law that governs water protection efforts in California. Porter-Cologne establishes the State Water Resources Control Board (SWRCB) and each of the nine RWQCBs as the principal state agencies for coordinating and controlling water quality in California. The RWQCB’s regulatory jurisdiction is pursuant to Section 401 of the Federal CWA. The RWQCB typically regulates discharges of dredged or fill material into WoUS, however, they also have regulatory authority over waste discharges into Waters of the State, which may be isolated, under Porter-Cologne. In the absence of a nexus with the Corps, the RWQCB requires the submittal of a Waste Discharge Requirement (WDR) application, which must include a copy of the project Storm Water Pollution Prevention Plan (SWPPP) and a copy of the project Water Quality Management Plan (WQMP), otherwise called a Standard Urban Stormwater Management Plan (SUSMP). The RWQCB’s role is to ensure that disturbances in the stream channel do not cause water quality degradation.

## **7.3 California Fish and Game Code (FGC)**

Sections 1600 to 1616 of the California FGC require any person, state, or local government agency or public utility to notify the CDFG before beginning any activity that will substantially modify a river, stream, or lake. If it is determined that the activity could substantially adversely impact an existing fish and wildlife resource, then a Lake or Streambed Alteration Agreement is required.

Like the Corps and RWQCB, the CDFG also regulates discharges of dredged or fill material. The regulatory jurisdiction of CDFG is much broader however, than Corps or RWQCB jurisdictions. CDFG regulates **all** activities that alter streams and lakes and their associated habitats. The CDFG, through provisions of the FGC Sections 1601-1603 is empowered to issue agreements for any alteration of a river, stream, or lake where fish or wildlife resources may be adversely affected. Streams (and rivers) are defined by the presence of a channel bed and banks and at least an intermittent flow of water. The CDFG typically extends the limits of their jurisdiction laterally beyond the channel banks for streams that support riparian vegetation. In these situations the outer edge of the riparian vegetation is generally used as the lateral extent of the stream and CDFG jurisdiction. CDFG regulates wetland areas only to the extent that those wetlands are a part of a river, stream, or lake as defined by CDFG.

## **7.4 California Endangered Species Act (CESA)**

The CDFG administers the California Endangered Species Act (CESA). The State of California considers an endangered species one whose prospects of survival and reproduction are in immediate jeopardy. A threatened species is one present in such small numbers throughout its range that it is likely to become an endangered species in the near future in the absence of special protection or management, and a rare species is one present in such small numbers throughout its range that it may become endangered if its present environment worsens. “Rare

species" classification applies to California native plants. The State definition of "take" is narrow and specifically refers to the direct loss of a State-listed species.

Provisions within the FGC protect all native birds of prey and their nests (FGC §3503.5), and all non-game birds (other than those not listed as Fully Protected) that occur naturally in the State (§3800). The handful of species, such as the California condor, that are designated by the State as "fully protected" received this rare designation through special legislation. There is no mechanism allowed for CDFG to issue take authorization for a fully protected species. Species of Special Concern is an informal designation used by CDFG for some declining wildlife species that are not proposed for listing as threatened or endangered, such as the burrowing owl. This designation does not provide legal protection, but signifies that these species are recognized as sensitive by CDFG.

## **7.5 Federal Endangered Species Act (ESA)**

Listed species are native species that have been afforded special legal protection because of concern for their continued existence. The USFWS enforces the provisions of the federal ESA. Section 9 of the ESA prohibits the "taking" of a listed species by anyone, including private individuals, and state and local agencies. The term "take" under federal law means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in such conduct. "Take" can include adverse modification of habitats used by a threatened or endangered species during any portion of its life history. Threatened and endangered species on the federal list (50 CFR Sections 17.11 and 17.12) are protected from indirect and/or direct or take. If "take" of a listed species is necessary to complete an otherwise lawful activity, this triggers the need for consultation under Section 7 or Section 10 of ESA. A Biological Opinion with incidental take provisions would be rendered. Pursuant to the requirements of the ESA, a federal agency reviewing a proposed project within its jurisdiction must determine whether any federally listed species may be present in the study area and whether the proposed project will have a potential impact upon such species.

Under the ESA habitat loss is considered to be an impact to the species. In addition, the agency is required to determine whether the project is likely to jeopardize the continued existence of any species that is proposed for listing under ESA or to result in the destruction or adverse modification of CH proposed to be designated for such species. Therefore, project-related impacts to these species, or their habitats, would be considered significant and require mitigation. The term "critical habitat" for a threatened or endangered species refers to the following: specific areas within the geographical range of the species at the time it is listed that contain suitable habitat for the species, which may require special management considerations or protection; and specific areas outside the geographical range of the species at the time it is listed that contain suitable habitat for the species and is determined to be essential for the conservation of the species. Under Section 7 of the ESA, all federal agencies (including USFWS) are required to ensure that any action they authorize, fund, or carry out will not likely jeopardize the continued existence of a listed species or adversely modify their CH.

## **7.6 Migratory Bird Treaty Act**

Migratory birds are protected under the federal Migratory Bird Treaty Act (MBTA) of 1918 (16 U.S.C 703-711). The MBTA provides protection for nesting birds that are both residents and migrants whether or not they are considered sensitive by resource agencies. The MBTA prohibits take of nearly all native birds. The MBTA makes it unlawful to take, possess, buy, sell,

purchase, or barter any migratory bird listed under 50 CFR 10, including feathers or other parts, nests, eggs, or products, except as allowed by implementing regulations (50 CFR 21). The direct injury or death of a migratory bird, due to construction activities or other construction-related disturbance that causes nest abandonment, nestling abandonment, or forced fledging would be considered take under federal law. The USFWS, in coordination with the CDFG administers the MBTA. CDFG's authoritative nexus to MBTA is provided in FGC Sections 3503.5 which protects all birds of prey and their nests and FGC Section 3800 which protects all non-game birds that occur naturally in the State.

## **8 CONCLUSIONS AND RECOMMENDATIONS**

The project does not proposed impacts to jurisdictional waters and will avoid any such impact based on the current site plan. If the project changes in a manner that encroaches into the jurisdictional boundary of the Mojave River and impacts will result, then a CWA Section 404 permit, CWA Section 401 Certification, and CDFG Code Section 1602 Streambed Alteration Agreement may be required for those impacts.

Based on information presented above in the results section, TDA concludes that MGS, DT and BUOW are absent from the site and there is no risk of the project resulting in a "taking" of any of these species. Incidental take authority from the CDFG or the USFWS is not required.

According to protocol and standard practices, the results of this survey will remain valid for the period of one year, or until April 2013, after which time, if the site has not been disturbed in the interim, another survey may be required to determine the persisting absence of DT, BUOW and other sensitive flora and fauna on-site. Regardless of survey results and conclusions given herein, DT, BUOW and MGS are protected by applicable State and/or federal laws, including but not exclusive to the California Endangered Species Act and Federal Endangered Species Act. As such, if a DT, BUOW or MGS are found on-site at the time of construction, all activities likely to affect the animal(s) should cease immediately and regulatory agencies should be contacted to determine appropriate management actions. Importantly, nothing given in this report, including recommended mitigation measures, is intended to authorize the incidental take of DT or MGS or any listed species during project construction. Such authorization must come from the appropriate regulatory agencies, including CDFG (i.e., authorization under section 2081 of the Fish and Game Code) and USFWS.

A minimal loss of potential foraging and nesting habitat for Loggerhead shrike, and Le Conte's thrasher may occur from the project. These impacts for these bird species however, are not considered regionally or locally significant and therefore, no mitigation is proposed. Based on the field surveys, TDA concludes that none of the following special-status species reported from the region will be adversely affected by the proposed project: short-joint beavertail cactus, Vaux's swift, Cooper's hawk, Sharp-shinned hawk and northern harrier. As such, no adverse impacts have been identified and no mitigation measures are recommended.

## **9 PROPOSED AVOIDANCE & MINIMIZATION MEASURES**

A biologist/monitor should be present at the site during initial land disturbance activities. Following the initial land disturbance activities, the biologist/monitor should remain on-call during the remaining aspects of construction. All personnel associated with the construction on

the site should attend a worker education class. This class should include general information regarding the MGS, DT, and BUOW; relevant Federal and State laws; and worker responsibilities when working in Mohave desert habitat.

### **9.1 Botanical Resources**

In the event that one of the sensitive plant species identified in the CNDDDB is positively identified on site during construction, the plant will be flagged and avoided until the CDFG is notified and takes their opportunity to salvage the plant. As required by the San Bernardino County plant protection ordinance and the CDFG, the project proponents should develop a cactus relocation plan to offset impacts to Joshua trees and other cactus species that may need to be removed as part of this project. This plan will identify the number and species of cactus to be protected in place or removed and relocated.

### **9.2 Mohave ground squirrel**

MGS are considered absent from this site and as such no specific avoidance or minimization measures are proposed for this species.

### **9.3 Desert Tortoise**

The DT occurs in several desert plant communities, including creosote scrub, saltbush scrub and Joshua tree woodland. This species is known to construct burrows with firm soil, usually (but not always) at the base of shrubs (e.g. creosote bush) or in the banks of washes. Although no DT were detected during surveys, habitat on site is marginally suitable for this species. Within 30 days of the start of any land disturbance activities, a qualified biologist should survey the site to determine if DT have moved onto the site. If a DT is encountered during construction, no person including the biologist will touch the animal. Instead, the biologist will observe the area to see if the DT has an established burrow or if it is just wandering through the site. If it is clearly just moving through the site, all construction activity near the tortoise will cease until it is safely out of the area. The biologist will contact the USFWS and CDFG to coordinate with them for further instruction. At that time it may be appropriate to erect exclusionary fencing to prevent the re-entry of the desert tortoise back into the site. If the biologist finds that the desert tortoise is residing in a burrow on site, then all construction must cease until the USFWS and CDFG have issued take authority to relocate the tortoise out of the area in the vicinity of the burrow. In this case, land disturbance activities shall not commence until the biologist has implemented the required measures according to the CDFG and USFWS to clear the site for construction. The biologist/monitor should remain on-call during construction activities. If a desert tortoise is encountered during construction following the initial phases of ground disturbance, construction activities shall be halted in the vicinity of the find and the biologist/monitor called to the site. The contractor shall implement the recommendations of the biologist/monitor.

### **9.4 Burrowing Owl**

The BUOW is a state Species of Special Concern. The BUOW is typically found in grassland, scrubland and desert habitats with numerous small mammal burrows (Coulombe 1971). Burrowing owls nest and roost in modified, expanded burrows originally created by fossorial

animals including ground squirrels, desert tortoise, and badgers. They are also known to make use of human-created structures such as cement culverts and pipes for burrows. Again, within 30 days of the start of any land disturbance activities, a qualified biologist should survey the site to determine if burrowing owls are present and nesting in the construction area. If BUOW are encountered and determined to not be nesting, land disturbance activities shall not commence until the biologist has implemented the required measures according to the CDFG to clear the site for construction. No disturbance to an active BUOW nest will be permitted and all work within a 500-foot buffer zone radius will cease until the hatchlings have fledged. If the nest is not occupied by eggs or chicks then CDFG may agree to a passive relocation plan. This type of relocation requires the construction of artificial burrows in the near vicinity and collapsing of the old burrows once the owls have clearly flushed out of the site. If burrowing owls are encountered during construction, construction activities shall be halted in the vicinity of the find and the biologist/monitor called to the site. The contractor shall implement the recommendations of the biologist/monitor.

## **9.5 Nesting Birds**

The State of California prohibits the “take” of active bird nests. To avoid an illegal take of active bird nests, any grubbing, brushing or tree removal should be conducted outside of the State identified nesting season (nesting season is February 15 through September 1). Alternatively, the site can be evaluated by a qualified biologist prior to initiation of ground disturbance to determine the presence or absence of nesting birds. Active bird nests **MUST** be avoided during the nesting season. If an active nest is located in the project construction area it will be flagged and a 300-foot buffer placed around it. No activity will occur within the 300 foot buffer until the young have fledged the nest.

## **9.6 Jurisdictional Waters**

All project activities should be limited to a well-defined and visually delineated area. Prior to grading and construction activities, the limits of disturbance will be clearly marked with flagging, stakes, or fencing. According to the site plan, no impacts to the Mojave River are proposed. If this circumstance changes and impacts to this jurisdictional water will result then permits from the regulatory agencies will be required.

## 10 CERTIFICATION

CERTIFICATION: *"I hereby certify that the statements furnished above and in the attached exhibits present the data and information required for this biological evaluation, and that the facts, statements, and information presented are true and correct to the best of my knowledge and belief. Fieldwork conducted for this assessment was performed by me or under my direct supervision. I certify that I have not signed a non-disclosure or consultant confidentiality agreement with the project applicant or applicant's representative and that I have no financial interest in the project."*



DATE: May 15, 2012

SIGNED: \_\_\_\_\_  
Report Author

1) Fieldwork Performed By:

2) Fieldwork Performed By:

Shay Lawrey  
Name

\_\_\_\_\_  
Name

Check here \_\_\_\_\_ if adding any additional names/signatures, below or on other side of page.

## 11 REFERENCES

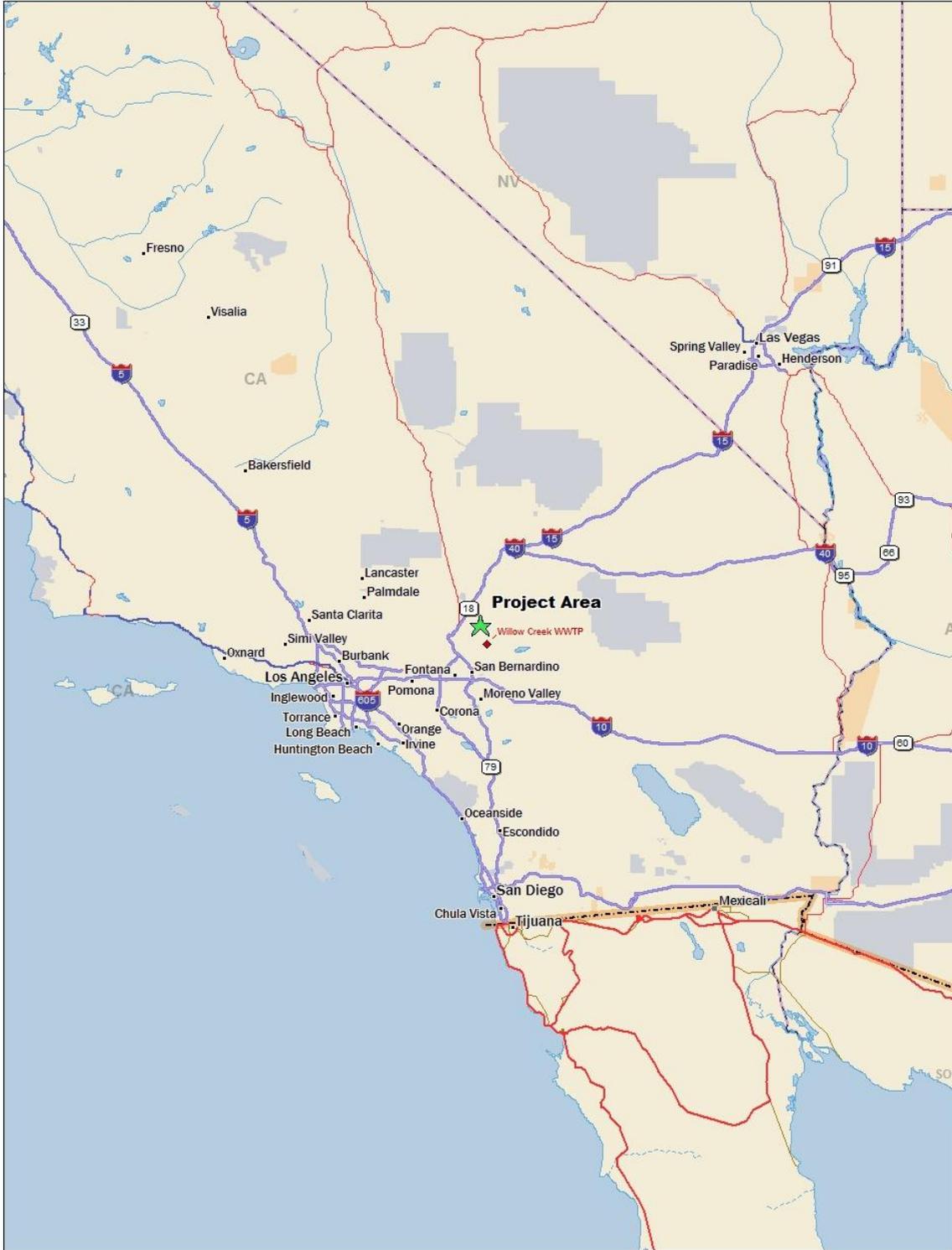
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**Figures 1-7**

Figure 1. Regional Location



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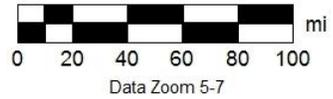




Figure 3. Aerial View of Project Site

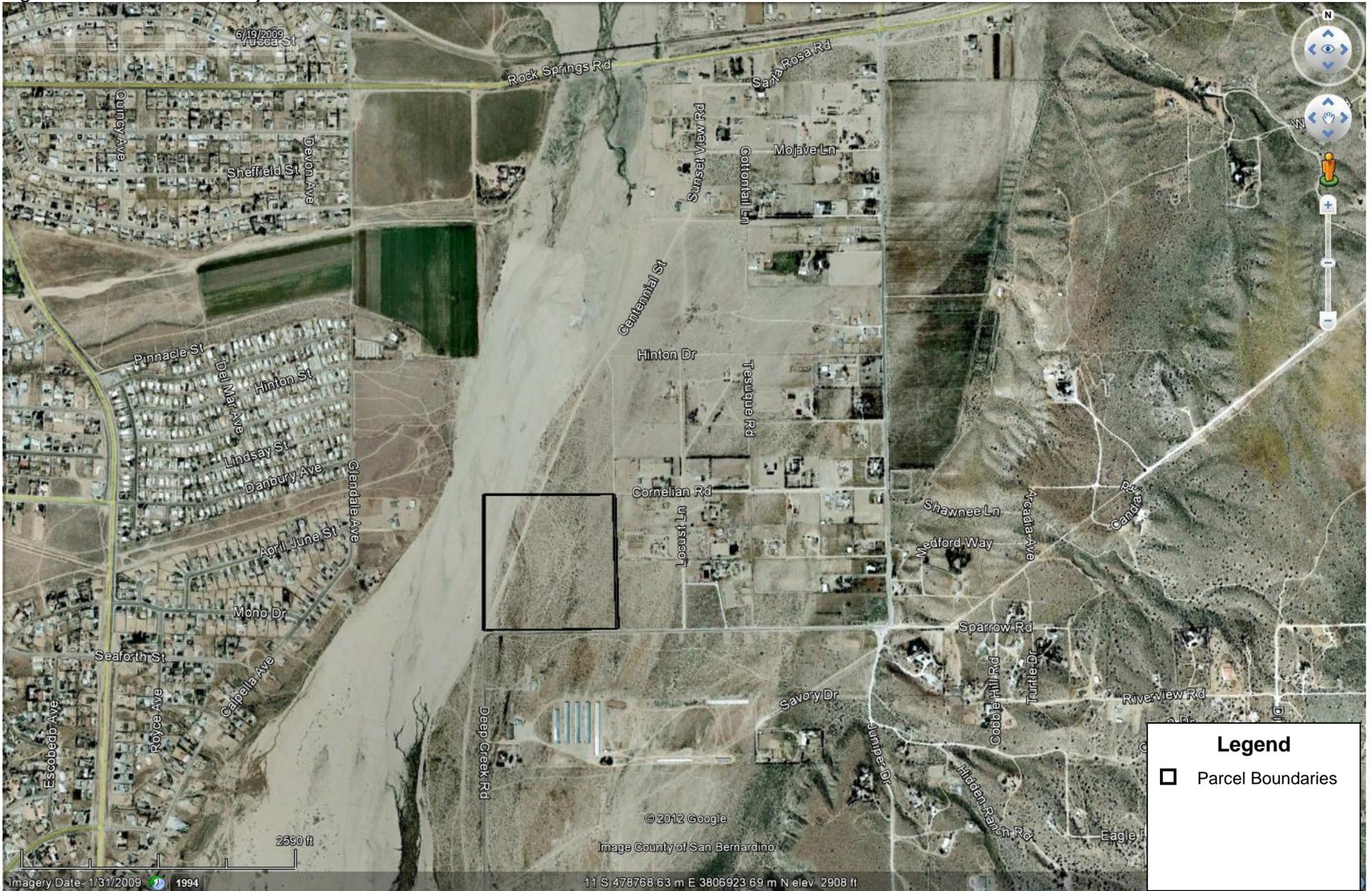
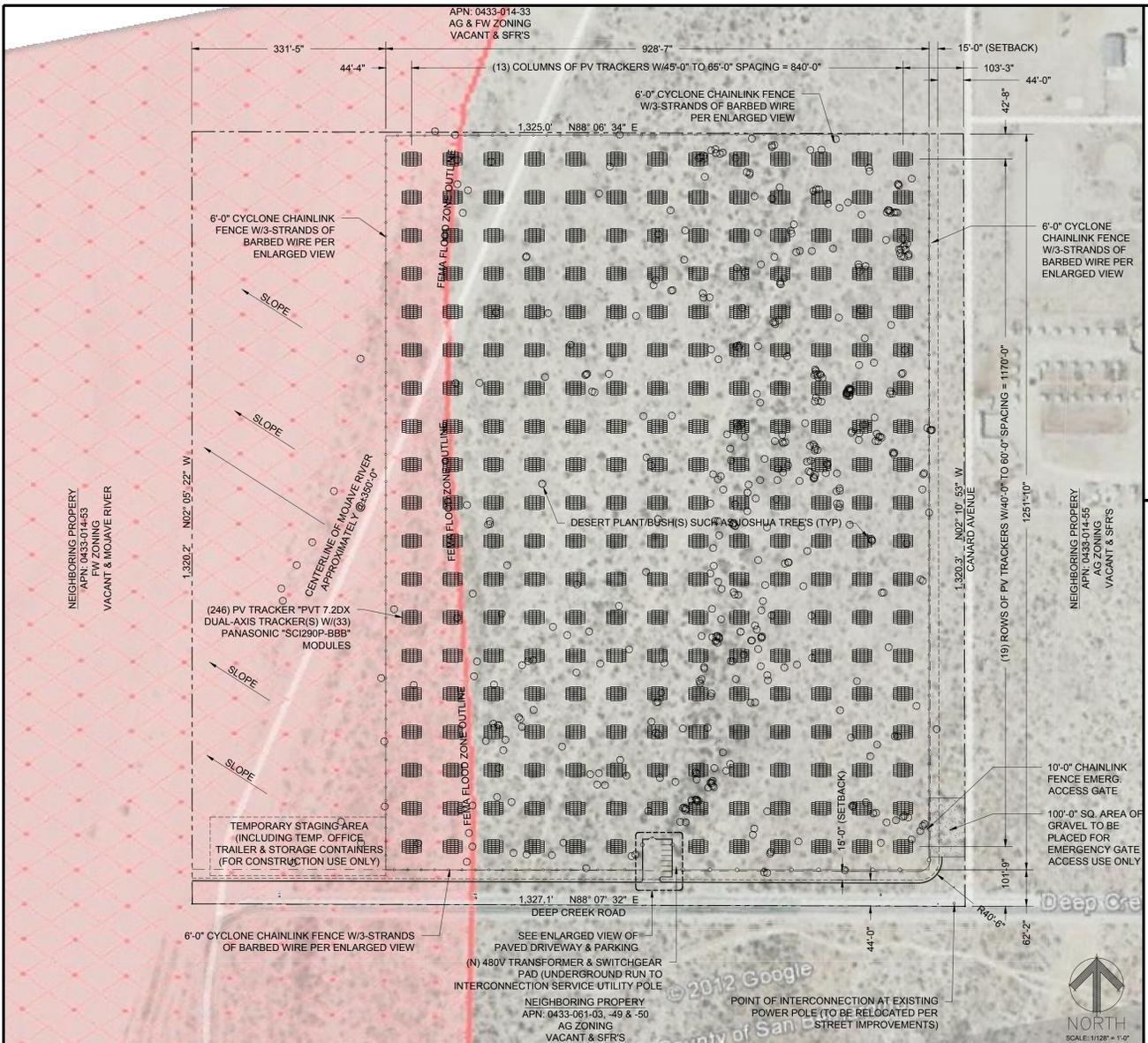
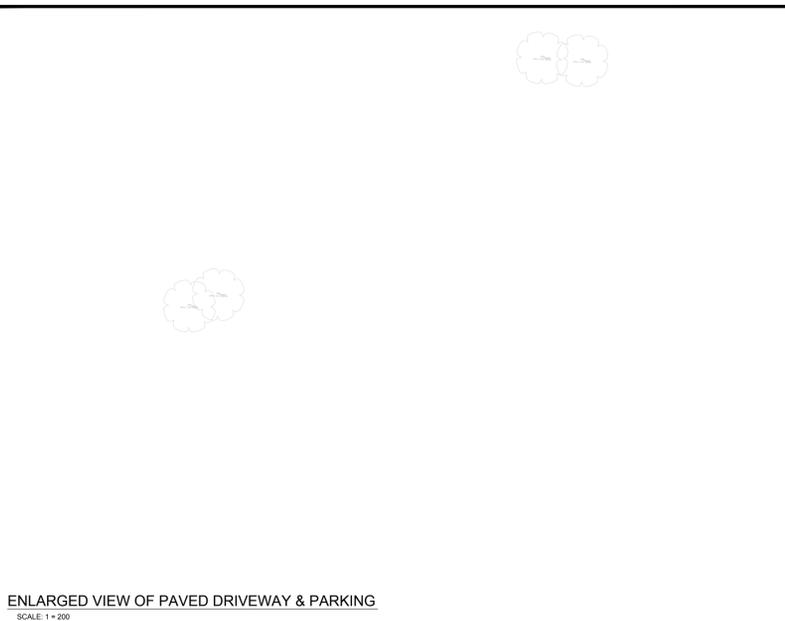


Figure 4. Project Layout Plan

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- NOTES:**
1. THERE ARE NO EXISTING RECORDED ROAD EASEMENTS, UTILITY OR DRAINAGE EASEMENTS ON THE PROPERTY ACCORDING TO THE LEGAL DESCRIPTION OF THE PROPERTY TITLE AND/OR PER THE ACCESSORS COPY OF THE PROPERTY.
  2. DEEP CREEK ROAD IS THE ONLY ACCESSIBLE ROAD TO THE PROPERTY THAT IS AN ASPHALT BASED PAVED ROAD, THERE ARE NO EXISTING CURBS, GUTTERS OR DRIVEWAY(S) AND SIDEWALKS TO THE EXISTING PROPERTY.
  3. THERE ARE NO EXISTING STRUCTURES ON THE PROPERTY, PROPERTY CONSISTS OF FLAT TERRAIN WITH MINIMUM NATIVE PLANTS (SUCH AS JOSHUA TREES)
  4. THERE ARE NO EXISTING STRUCTURES WITHIN 20'-0" OF THE PROPERTY LINES, NEAREST STRUCTURE IS MORE THAN OR GREATER THAN 100'-0" FROM PROPERTY LINE(S).
  5. PROJECT CONSISTS OF SOLAR MODULES MOUNTED ON PV TRACKER(S) BASES TO BE INSTALLED USING HELICAL ANCHORS THAT ARE APPROXIMATELY 6'-8" DEPTH & 2" IN DIAMETER.
  6. CHAINLINK FENCE TO BE INSTALLED AT PERIMETER OF SOLAR ARRAY AREA, CHAINLINK FENCE TO BE OF CYCLONE TYPE AND TO BE A MAXIMUM OF 8'-0" TALL WITH (3) STRANDS OF BARBED WIRE, NOT TO BE DIRECTED OUTWARD TOWARDS THE PROPERTY BOUNDARIES OR TO EXTEND BEYOND THE PROPERTY BOUNDARY.
  7. THERE ARE NO EXISTING UTILITIES AT THIS PROJECT SITE, WITH EXCEPTION TO SOUTHERN CALIFORNIA EDISON.
  8. THERE IS NO GRADING WITHIN THE SCOPE OF WORK TO BE PERFORMED ON THIS PROJECT SITE AND EXISTING DRAINAGE NOT TO BE EFFECTED BY THE INSTALLATION OF THE PROPOSED SOLAR SYSTEM.
  9. THERE IS NO (N) LANDSCAPING OR LIGHTING WITHIN THE SCOPE OF WORK, ANY JOSHUA TREE(S) REMOVED FROM THE DESIGNED SOLAR ARRAY AREA ARE TO BE REPLANTED ELSEWHERE ON THE PROPERTY.
  10. THERE WILL BE NO ADDITIONAL STRUCTURES WITHIN THE SCOPE OF WORK.
  11. THE SCOPE OF WORK INCLUDES AN ASPHALT BASED PAVED DRIVEWAY AND PARKING AREA, AND SHALL NOT EXCEED 12% GRADE (AS INDICATED ON PLANS) FOR ACCESSIBILITY TO THE SOLAR ARRAY, NO OTHER GRAVEL BASED DRIVEWAY OR PARKING IS WITHIN THE SCOPE OF WORK.
  12. THERE WILL BE AN ADDITIONAL POINT OF ACCESS TO THE SOLAR ARRAY WITH NO PARKING AREA PROVIDED ON THE CANARD AVENUE SIDE (AS INDICATED ON THE PLANS).



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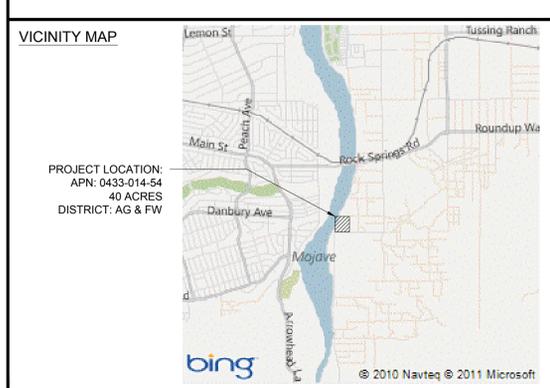
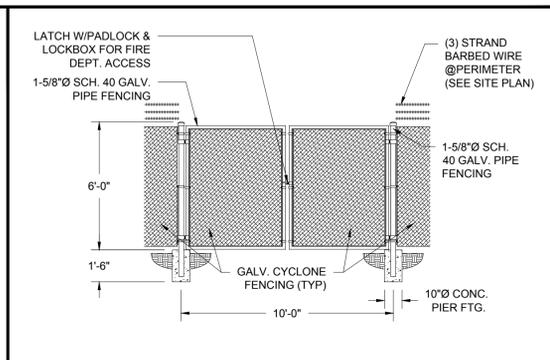
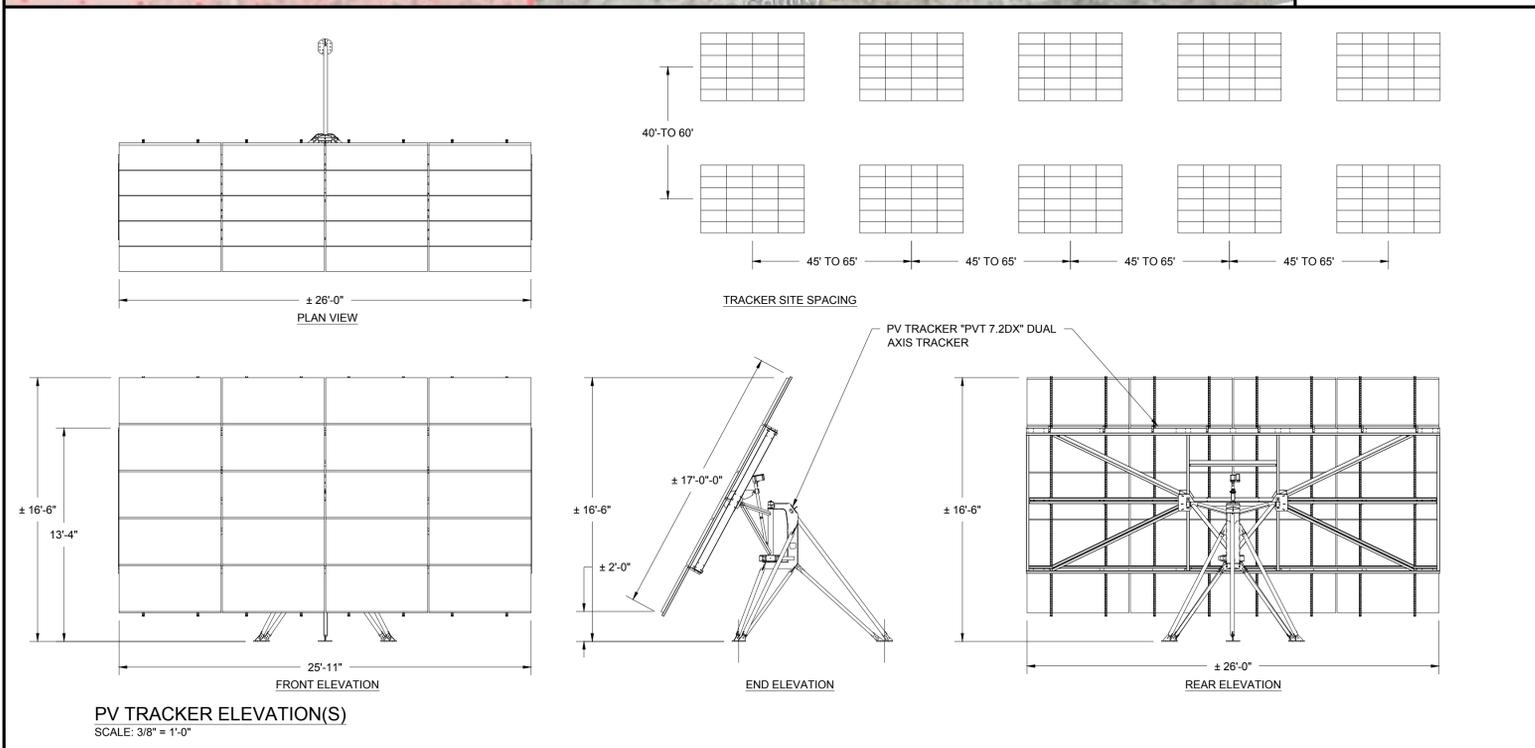
REV.	DESCRIPTION	DATE
1	CUP SUBMITTAL	10/26/11
2	CITY COMMENTS	01/20/12
3	CITY COMMENTS	03/01/12
4	INCREASED SYSTEM SIZE	05/16/12

**AIKYUM, INC.**  
34 Cassidy, Irvine  
California 92620  
Ph: 949-705-6797

Prepared by: **REP Energy, Inc.**  
40 Mark Drive San Rafael, California 94903  
Ph: 415-4724600  
Fx: 206-203-3116  
Lic. No. 932640

# DEEP CREEK SOLAR FARM

8102 DEEP CREEK ROAD  
APPLE VALLEY, CALIFORNIA 92308



ACCESSORS NO.: 0433-014-54  
 PROPERTY ADDRESS: 8102 DEEP CREEK ROAD, APPLE VALLEY, CA. 92308  
 PARCEL SIZE: 40 ACRES  
 LAND USE DISTRICT: AG & FW  
 LOT COVERAGE: SOLAR ARRAY TO CONSUME APPROXIMATELY 26.6 ACRES, 72% OF TOTAL LOT SIZE OF 40 ACRES  
 APPLICATION TYPE: CONDITIONAL USE PERMIT FOR PHOTOVOLTAIC SOLAR FARM  
 LEGAL DESCRIPTION: BEING A DIVISION OF THE SOUTHWEST 1/4 SECTION OF TOWNSHIP 4 NORTH, RANGE 3 WEST, SAN BERNARDINO MERIDIAN, IN THE COUNTY OF SAN BERNARDINO, STATE OF CALIFORNIA

PROPERTY OWNER: AIKYUM, INC.  
34 CASSIDY  
IRVINE, CALIFORNIA 92620  
PH: 949-705-6797

REPRESENTATIVE: HARINA KAPOOR  
34 CASSIDY  
IRVINE, CALIFORNIA 92620  
PH: 949-705-6797

CONTRACTOR: REP ENERGY, INC.  
REPRESENTATIVE: ROY PHILLIPS  
40 MARK ROAD  
SAN RAFAEL, CALIFORNIA 94903  
PH: 415-385-4800

DESIGNER: REP ENERGY, INC.  
REPRESENTATIVE: ERIC FORRESTALL  
40 MARK ROAD  
SAN RAFAEL, CALIFORNIA 94903  
PH: 415-497-9131

UTILITIES CO. SOUTHERN CALIFORNIA EDISON

SITE PLAN INFO.: PLAN PREPARATION DATE: (06.28.11)  
REVISION DATE: (10.26.11) REVISION DATE: (05.14.12)  
REVISION DATE: (01.27.12)  
REVISION DATE: (03.01.12)

DRAWN BY:	EF
APPROVED BY:	
DATE:	05/14/12
REP JOB NO.	
TITLE:	
DRAWING NO.	

CONDITIONAL USE PERMIT

Figure 5. Habitat Map and Jurisdictional Waters Boundary



Figure 6. Desert Tortoise and Burrowing Owl Survey Area

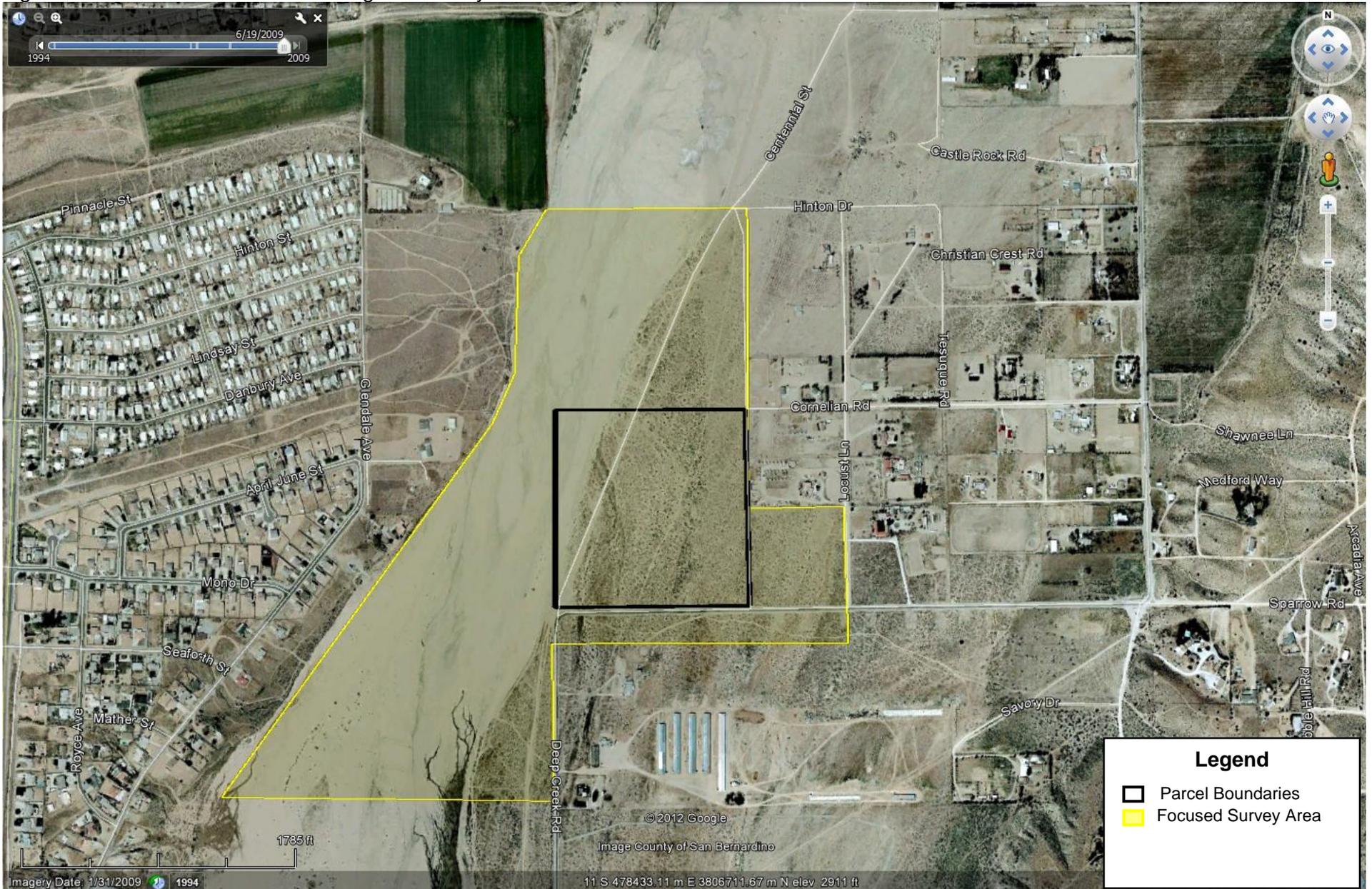
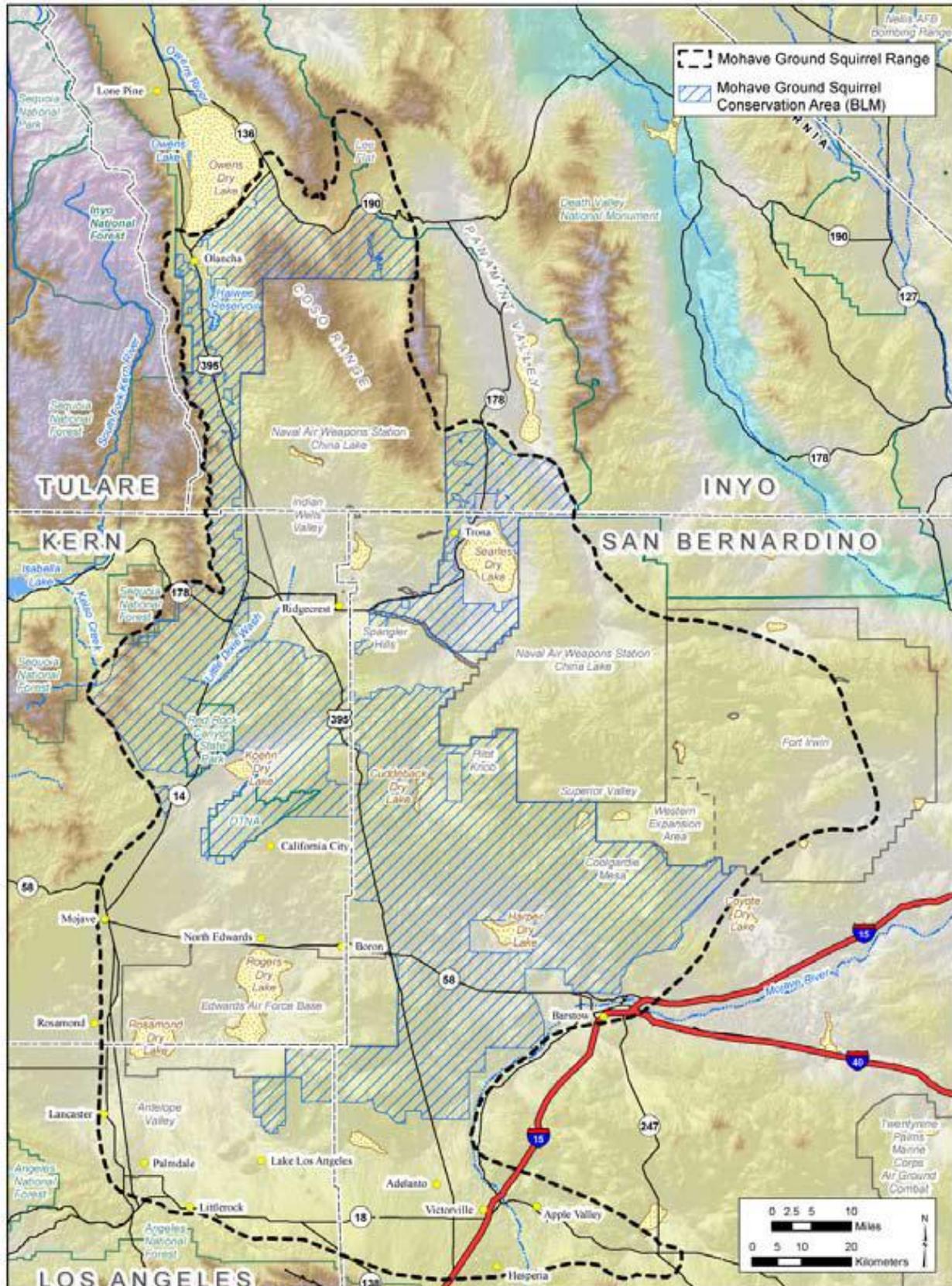


Figure 7. Historic Mohave Ground Squirrel Range



Source 2008 Leitner

**Table 1.**  
**CNDDDB Species Occurrence Potential**

**Table 1. CNDDDB Species Occurrence Potential**

<b>Scientific Name</b>	<b>Common Name</b>	<b>Status Federal / State</b>	<b>CDFG</b>	<b>Habitat</b>	<b>Occurrence Potential</b>
<i>Accipiter cooperii</i>	Cooper's hawk	None / None	SC	Woodland, chiefly of open, interrupted or marginal type. Nest sites mainly in riparian growths of deciduous trees, as in canyon bottoms on river flood-plains; also, live oaks.	No suitable habitat within vicinity of subject parcel. Occurrence potential w/in project area is very low.
<i>Asio otus</i>	long-eared owl	None / None	SC	Riparian bottomlands grown to tall willows & cottonwoods; also, belts of live oak paralleling stream courses. Require adjacent open land productive of mice and the presence of old nests of crows, hawks, or magpies for breeding.	No suitable habitat within vicinity of subject parcel. Occurrence potential w/in project area is very low.
<i>Athene cunicularia</i>	burrowing owl	None / None	SC	Open, dry annual or perennial grasslands, deserts & scrublands characterized by low-growing vegetation. Subterranean nester, dependent upon burrowing mammals, most notably, the California ground squirrel.	Documented within the vicinity of the project area. Suitable to marginally suitable habitat exists. Moderate potential of occurrence.
<i>Boechera dispar</i>	pinyon rock-cress	None/None		Joshua tree woodland, pinyon-juniper woodland, mojavean desert scrub. Granitic, gravelly slopes & mesas. Often under desert shrubs which support it as it grows. 1200-2400m.	Outside of species elevational range. Occurrence potential is very low.
<i>Camissonia boothii</i> ssp. <i>boothii</i>	Booth's evening-primrose	None / None		Joshua tree woodland, pinyon-juniper woodland. Elevational Range 900-2400 meters.	Species not found during survey.
<i>Canbya candida</i>	white pygmy-poppy	None / None		Joshua tree woodland, mojavean desert scrub in sandy places. 725-1250m.	Species not found during survey.
<i>Chaetodipus fallax</i> <i>pallidus</i>	pallid San Diego pocket mouse	None / None	SC	Desert border areas in eastern san Diego co. In desert wash, desert	Occurrence potential is moderate.

Biological Resources Report

Scientific Name	Common Name	Status Federal / State	CDFG	Habitat	Occurrence Potential
				scrub, desert succulent scrub, pinyon-juniper, etc. Sandy herbaceous areas, usually in association with rocks or coarse gravel.	
<i>Corynorhinus townsendii</i>	Townsend's big-eared bat	None / None	SC	Throughout California in a wide variety of habitats. Most common in mesic sites. Roosts in the open, hanging from walls & ceilings. Roosting sites limiting. Extremely sensitive to human disturbance.	Occurrence potential is low.
<i>Dendroica petechia brewsteri</i>	yellow warbler	None / None	SC	Riparian plant associations. Prefers willows, cottonwoods, aspens, sycamores, & alders for nesting & foraging. Also nests in montane shrubbery in open conifer forests.	No suitable habitat within vicinity of subject parcel. Occurrence potential w/in project area is very low.
<i>Falco mexicanus</i>	pararie falcon	None / None		Breeding sites located on cliffs. Forages far afield, even to marshlands and ocean shores.	Documented in the suitable habitat w/in Mojave River located near the upper and lower narrows. Occurrence potential w/in project area is moderate.
<i>Gopherus agassizii</i>	desert tortoise	Threatened / Threatened		Most common in desert scrub, desert wash, and Joshua tree habitats; occurs in almost every desert habitat. Require friable soil for burrow and nest construction. Creosote bush habitat with large annual wildflower blooms preferred.	Documented locally (w/in 10 miles) of the project area. Marginally suitable habitat exists. Low potential of occurrence.
<i>Helminthoglypta mohaveana</i>	Victorville shoulderband	None / None		Known only from along the Mojave river in san Bernardino county. Found among granite boulders and at the base of rocky cliffs.	No suitable habitat exists within the project area. Occurrence potential very low.
<i>Loeflingia squarrosa</i> var. <i>artemisiarum</i>	sagebrush loeflingia	None / None		Great basin scrub, Sonoran desert scrub, desert dunes. Sandy flats and dunes. Sandy areas around	species not found during survey.

Biological Resources Report

Scientific Name	Common Name	Status Federal / State	CDFG	Habitat	Occurrence Potential
				clay slicks w/sarcobatus, atriplex, tetradymia, etc. 700-1200m.	
<i>Opuntia basilaris</i> var. <i>brachyclada</i>	short-joint beavertail	None / None		Chaparral, Joshua tree woodland, mojavean desert scrub, pinyon-juniper woodland, riparian woodland. Sandy soil or coarse, granitic loam. 425-1800m.	Species not found during survey.
<i>Phrynosoma coronatum</i> ( <i>blainvillii</i> population)	coast (San Diego) horned lizard	None / None	SC	Inhabits coastal sage scrub and chaparral in arid and semi-arid climate conditions. Prefers friable, rocky, or shallow sandy soils.	Suitable habitat exists. Occurrence potential is high. Expected to occur.
<i>Toxostoma lecontei</i>	Le Conte's thrasher	None / None	SC	Desert resident; primarily of open desert wash, desert scrub, alkali desert scrub, and desert succulent scrub habitats. Commonly nests in a dense, spiny shrub or densely branched cactus in desert wash habitat, usually 2-8 feet above ground.	Suitable habitat exists. Occurrence potential is high. Expected to occur.
<i>Vireo vicinior</i>	gray vireo	None / None	SC	Dry chaparral; west of desert, in chamise-dominated habitat; mountains of Mojave desert, associated with juniper & artemisia. Forage, nest, and sing in areas formed by a continuous growth of twigs, 1-5 ft above ground.	No suitable habitat exists within the project area. Occurrence potential very low.
<i>Xerospermophilus mohavensis</i>	Mohave ground squirrel	None / Threatened	SC	Open desert scrub, alkali scrub & joshua tree woodland. Also feeds in annual grasslands. Restricted to mojave desert. Prefers sandy to gravelly soils, avoids rocky areas. Uses burrows at base of shrubs for cover. Nests are in burrows.	Parcel is within historic range of species and basic desert habitat is present. Species not documented in near vicinity of subject parcel. Occurrence potential w/in project area is very low.

**Coding and Terms**

E= Endangered    T= Threatened    SC= Species of Concern    N= None  
R= Rare C= Candidate    PE= Proposed Endangered    N / A = Not Applicable

Federal Species of Concern: "taxa for which the U.S. Fish and Wildlife Service has information that indicates proposing to list the taxa as endangered or threatened is possibly appropriate, but for which substantial data on the biological vulnerability and threats are not currently known or on file to support the immediate preparation of rules." (Arnold). All of these species have a limited range.

State Species of Special Concern: An administrative designation given to vertebrate species that appear to be vulnerable to extinction because of declining populations, limited acreages, and/or continuing threats. Raptor and owls are protected under section 3502.5 of the California Fish and Game code: "It is unlawful to take, possess or destroy any birds in the orders Falconiformes or Strigiformes or to take, possess or destroy the nest or eggs of any such bird."

**State Plant Rankings:**

S1 - less than 6 element occurrences, or less than 1,000 individuals, or less than 2,000 acres  
S2 - 6 to 20 element occurrences, or between 1,000 and 3,000 individuals, or between 2,000 and 10,000 acres  
S3 - 21 to 100 element occurrences, or between 3,000 and 10,000 individuals, or between 10,000 and 50,000 acres  
S4 - No Threat Rank  
S5 - No Threat Rank

.1 - very threatened                      SH - all sites in California are historical  
.2 - threatened  
.3 - no current threats known

**CNPS Plant Rankings:**

1A- presumed extinct in California  
1B - Rare, Threatened or Endangered in California and elsewhere  
2 - Rare, Threatened or Endangered in California but more common elsewhere  
3 - Plants for which more information is needed  
4 - Plants with a limited distribution

**Photos 1-5**



Photo 1. Standing on NE corner of subject parcel looking south toward Deep Creek Road.



Photo 2. Standing in the middle of the Northerly boundary of subject parcel looking east.



Photo 3. Standing in the middle of subject parcel looking northwest.



Photo 4. Standing at jurisdictional water boundary w/in subject parcel looking west.



Photo 5. Panned View of Photo 4 above.

**Appendices**

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**Appendix A. Plant Species Detected**

The following plant species were identified on-site or in adjacent areas (i.e., signified by "+") during the general biological inventory described in this report. Special-status plant species are signified by "(SC)" following the common names.

**CONIFERAE**

**Cupressaceae**

*Juniperus californica*

**GNETAE**

**Ephedraceae**

*Ephedra californica*

**ANGIOSPERMAE: DICOTYLEDONES**

**Apiaceae**

*Lomatium mohavense*

**Asteraceae**

*Ambrosia acanthicarpa*

*Artemisia tridentata*

*Atrichoseris platyphylla*

*Chrysothamnus nauseosus*

*Coreopsis californica*

*Ericameria cooperi* val. *cooperi*

*Ericameria linearifolia*

*Eriophyllum pringlei*

+*Gutierrezia sarothrae*

+*Hymenoclea salsola*

*Layia platyglossa*

*Lessingia lemmonii*

*Malacothrix glabrata*

*Senecio flaccidus* (*douglasii*)

*Stephanomeria exigua*

*Tetradymia stenolepis*

**Boraginaceae**

*Amsinckia tessellata*

*Cryptantha angustifolia*

*Cryptantha micrantha*

*Cryptantha pterocarya*

*Pectocarya linearis*

*Pectocarya penicillata*

*Pectocarya recurvata*

*Plagiobohrys arizonicus*

**Brassicaceae**

**CONE-BEARING PLANTS**

**Cypress family**

California juniper

**GNETAE**

**Joint-fir family**

Desert tea

**DICOT FLOWERING PLANTS**

**Carrot family**

Lomatium

**Sunflower family**

Annual bur-sage

Great Basin sagebrush

Gravel-ghost

Rubber rabbitbrush

California coreopsis

Cooper's goldenbush

Interior goldenbush

Pringle's woolly daisy

Matchweed

Cheesebush

Common tidy tips

Lemmon's lessingia

Desert dandelion

Groundsel

Milk aster

Mohave horsebrush

**Borage family**

Fiddleneck

Narrow-leaved forget-me-not

Forget-me-not

Wing-nut forget-me-not

Comb-bur

Slender combseed

Curved combseed

Arizona popcorn flower

**Mustard family**

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<i>*Brassica tournefortii</i>	Saharan mustard
<i>Guillenia lasiophylla (Helypodium lasiophyllum)</i>	California mustard
<i>*Hirschfeldia incana (Brassica geniculata)</i>	Short-pod mustard
<i>*Sisymbrium altissimum</i>	Tumble mustard
<i>*Sisymbrium irio</i>	London rocket
<i>*Sisymbrium orientale</i>	Sisymbrium
<b>Cactaceae</b>	<b>Cactus family</b>
<i>Opuntia basilaris</i>	Beavertail cactus
<i>Opuntia echinocarpa</i>	Silver cholla
<b>Chenopodiaceae</b>	<b>Goosefoot family</b>
<i>Grayia spinosa</i>	Spiny hop-sage
<i>*Salsola tragus</i>	Russian. thistle
<b>Fabaceae</b>	<b>Pea family</b>
<i>Lotus scoparius</i>	Deerweed
<i>Lupinus shockleyii</i>	Purple desert lupine
<b>Geraneaceae</b>	<b>Geranium family</b>
<i>*Erodium cicutarium</i>	Red-stemmed filaree
<b>Hydrophyllaceae</b>	<b>Water-leaf family</b>
<i>Phacelia crenulata</i>	Purple phacelia
<i>Pholistoma membranaceum</i>	Sticky nama
<b>Lamiaceae</b>	<b>Mint family</b>
<i>*Marrubium vulgare</i>	Horehound
<i>Salazaria mexicana</i>	Paper-bag bush
+ <i>Salvia carduacea</i>	Thistle sage
+ <i>Salvia columbariae</i>	Chia
<i>Salvia dorrii</i>	Blue sage
<b>Loasaceae</b>	<b>Stick-leaf family</b>
<i>Mentzelia albicaulis</i>	Little blazing star
<b>Nyctaginaceae</b>	<b>Four o'clock family</b>
<i>Mirabilis bigelovii</i>	Desert wishbone plant
<b>Onagraceae</b>	<b>Evening-primrose family</b>
<i>Camissonia campestris</i>	Mojave sun-cups
<b>Papaveraceae</b>	<b>Poppy family</b>
<i>Eschscholzia minutiflora</i>	Little gold-poppy
<b>Polemoniaceae</b>	<b>Phlox family</b>
<i>Eriogonum densifolium</i>	Woolly star

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*Linanthus aureus* Golden linanthus  
*Linanthus parryae* Sand blossoms

**Polygonaceae**

*Eriogonum dejlexum*  
*Eriogonum fasciculatum*  
*Eriogonum pusillum*

**Buckwheat family**

Desert skeleton weed  
California buckwheat  
Buckwheat

**Ranunculaceae**

*Delphinium parishii*

**Crowfoot larkspur**

Larkspur

**Salicaceae**

*Populus fremontii*

**Willow family**

Fremont's cottonwood

**Solanaceae**

*Lycium andersonii*  
*Lycium cooperi*

**Nightshade family**

Anderson's box-thorn  
Peach thorn

**Zygophyllaceae**

+*Larrea tridentata*

**Caltrop family**

Creosote bush

ANGIOSPERMAE: MONOCOTYLEDONES

MONOCOT FLOWERING PLANTS

**Amaryllidaceae**

+*Dichelostemma pulchellum*

**Amaryllis family**

Blue dicks

**Liliaceae**

*Yucca brevifolia*

**Lily family**

Joshua tree

**Poaceae**

*Achnatherum speciosum* (*Stipa speciosa*)  
+\**Bromus diandrus*  
\**Bromus madritensis* ssp. *rubens*  
\**Bromus tectorum*  
\**Hordeum murinum*  
*Poa secunda*  
\**Schismus* sp.

**Grass family**

Desert needlegrass  
Common ripgut-grass  
Red brome  
Cheat grass  
Hare barley  
Fowl bluegrass  
Split-grass

\* • indicates a non-native (introduced) species.

c.f. - compares favorably to a given species when the actual species is unknown.

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**Appendix B. Animal Species Detected**

The following animal species were detected on-site or in adjacent areas (i.e., signified by "+") during the general biological inventory described in this report.

**REPTILIA**

**Iguanidae**

*Sceloporus magister*  
*Uta stansburiana*

**Teiidae**

*Cnemidophorus tigris*

**AVES**

**Accipitridae**

*Buteo jamaicensis*

**Phasianidae**

*Callipepla cali/ornica*

**Columbidae**

*Zenaida macroura*

**Trochilidae**

*Calypte anna*

**Picidae**

+*Picoides scalaris*

**Tyrannidae**

*Myiarchus cinerascens*

**Corvidae**

*Corvus corax*

**Troglodytidae**

*Campylorhynchus brunneicapillus*

**Mimidae**

*Mimus polyglottos*  
*Pipilo crissalis*  
*Spizella passerina*  
*Amphispiza bilineata*  
*Amphispiza belli*

**Fringillidae**

**REPTILES**

**Iguanids**

Desert spiny lizard  
Side-blotched lizard

**Whiptails**

Western whiptail

**BIRDS**

**Hawks, eagles, harriers**

Red-tailed hawk

**Grouse and quail**

California quail

**Pigeons and doves**

Mourning dove

**Hummingbirds**

Anna's hummingbird

**Woodpeckers**

Ladder-backed woodpecker

**Tyrant flycatchers**

Ash-throated flycatcher

**Crows and jays**

Common raven

**Wrens**

Cactus wren

**Mockingbirds and thrashers**

Northern mockingbird  
California towhee  
Chipping sparrow  
Black-throated sparrow  
Sage sparrow .

**Finches**

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*Carpodacus mexicanus*

House finch

**Passeridae**

+*Passer domesticus*

**Weavers**

House sparrow

MAMMALIA

MAMMALS

**Leporidae**

*Lepus californicus*

*Sylvilagus audubonii*

**Hares and rabbits**

Black-tailed hare

Audubon cottontail

**Sciuridae**

*Otospermophilus beecheyi*

**Squirrels**

California ground squirrel

**Geomyidae**

+*Thomomys bottae*

**Pocket gophers**

Botta pocket gopher

**Heteromyidae**

*Dipodomys* sp.

**Pocket mice**

Kangaroo rat

**Cricetidae**

+*Neotoma lepida*

**Rats and mice**

Desert wood rat

**Canidae**

*Canis latrans*

**Foxes, wolves and coyotes**

Coyote

Nomenclature follows Stebbins, *A Field Guide to Western Reptiles and Amphibians* (2003), third edition; Sibley, National Audubon Society, the Sibley Guide to Birds (2000), first edition; and Ingles, *Mammals of the Pacific States* (1965), second edition.