
Appendix D-10

Burrowing Owl Survey Report



Environmental
Intelligence, LLC

BURROWING OWL SURVEY REPORT

GALE TO PISGAH PROJECT

SAN BERNARDINO COUNTY, CALIFORNIA

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August 1, 2017

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EXECUTIVE SUMMARY

Environmental Intelligence, LLC (EI) was retained by Southern California Edison (SCE) to conduct a habitat and resource assessment and focused surveys for western burrowing owl (*Athene cunicularia hypugea*) in support of the proposed Gale to Pisgah Project (Proposed Project) located in San Bernardino County, California. The survey was conducted in accordance with the California Burrowing Owl Consortium's *Burrowing Owl Survey Protocol and Mitigation Guidelines* (CBOC 1993), and the CDFW's updated *Staff Report on Burrowing Owl Mitigation* breeding season survey guidelines (CDFG 2012).

The Proposed Project is located in San Bernardino County, California, extending east-southeast from Gale Substation (approximately 1 mile ESE of Daggett and 9 miles ESE of Barstow) for approximately 29 miles to Pisgah Substation (Exhibit 1). The Proposed Project alignment passes through the following United States Geological Survey (USGS) 7.5-minute quadrangles: Minneola, Newberry Springs, Troy Lake, and Hector. Land surrounding the Proposed Project includes agricultural areas, off-highway vehicle recreation areas, and undisturbed desert scrub habitats. The Proposed Project alignment crosses lands owned by BLM and private landowners (Exhibit 1).

Burrowing owl surveys were conducted at the Proposed Project alignment and associated work areas (~919 acres) during peak burrowing owl breeding season (18 May to 21 July). Burrows sufficiently sized to support burrowing owls are present in the Project vicinity. No burrowing owls were observed during the 2017 survey season.

1.0 INTRODUCTION

Environmental Intelligence, LLC (EI) was retained by Southern California Edison (SCE) to conduct a Western Burrowing Owl (*Athene cunicularia hypugea*) Habitat Assessment and Focused Surveys in support of the proposed Gale to Pisgah Project (Proposed Project), located in San Bernardino County, California. All surveys, results, and conclusions herein were conducted based upon the most recent California Department of Fish and Wildlife (CDFW; formerly California Department of Fish and Game [CDFG]) *Staff Report on Burrowing Owl Mitigation* (2012) and The California Burrowing Owl Consortium's (CBOC 1993) *Burrowing Owl Survey Protocol and Mitigation Guidelines*.

The Proposed Project would involve installation of telecommunication all-dielectric self-supporting (ADSS) cable line from Gale Substation to Pisgah Substation along an existing SCE distribution line right-of-way. The purpose of these burrowing owl focused surveys is to support project planning and potential project licensing requirements. This report presents the findings of focused surveys for burrowing owls in suitable habitat within the Proposed Project area.

1.1 Project Location and Description

The Proposed Project is located in San Bernardino County, California, extending east-southeast from Gale Substation (approximately 1 mile ESE of Daggett and 9 miles ESE of Barstow) for approximately 29 miles to Pisgah Substation (Exhibit 1). The Proposed Project alignment passes through the following United States Geological Survey (USGS) 7.5-minute quadrangles: Minneola, Newberry Springs, Troy Lake, and Hector. Land surrounding the Proposed Project includes agricultural areas, off-highway vehicle recreation areas, and undisturbed desert scrub habitats.

The Proposed Project would involve installation of telecommunication all-dielectric self-supporting (ADSS) cable line from Gale Substation to Pisgah Substation along an existing SCE distribution line right-of-way. The Gale to Pisgah fiber optic interconnection will support the SCE communication system for the addition of renewable energy generation. This communication system is part of the larger SCE system that provides safe and reliable electrical service consistent with the North American Electric Reliability Corporation, Federal Energy Regulatory Commission, the California Independent System Operators, and SCE's planning design guidelines and criteria. The ADSS is necessary to ensure adequate communication facilities are in place for the Calcite Substation Project, Eldorado-Lugo-Mojave Project, and Lugo-Victorville 500kV Transmission Line Special Protection Scheme (SPS, also referred to herein as Remedial Action Scheme or "RAS") Project.

Overhead ADSS stringing includes all activities associated with the installation of cables onto cross arms on existing wood pole structures. This activity includes the installation of vibration dampeners and suspension and dead-end hardware assemblies. If the existing pole does not meet wind load or ground clearance requirements with the addition of the fiber cable, distribution line poles will be modified or interset poles will be installed.

Existing access roads will be used to the extent feasible for construction of the Proposed Project; where needed, these roads will be improved within the existing road prism. Existing access roads will be maintained to allow the use of construction equipment. Some road modifications to existing access roads may be required to allow safe use of heavy equipment. At the conclusion of Project construction, all roads utilized for construction purposes will be left in a condition similar to the condition that existed prior to the start of construction. Loose rock and slide material will be



removed, if possible, from existing roads and used to construct road dikes, fill washouts, or flatten fill slopes. All washouts, ruts, and irregularities within the construction area will be filled or removed.

The Proposed Project Survey Area includes 488 existing distribution pole sites, two material laydown yards, and two existing substations (Exhibit 2).

1.2 Purpose and Need

The Proposed Project is located within the range of western burrowing owls, and they are known to occur (i.e. breed, winter, forage, migrate) within the Project survey area (BRC 2016b; CNDDDB 2017). Approximately 919 acres of suitable burrowing owl habitat were surveyed for the Project alignment, construction areas, and their associated buffers. As such, the objectives of this study are to identify burrowing owls and their sign to help evaluate potential impacts to burrowing owls, assist in Project planning to minimize impacts to burrowing owl, and to recommend further studies or potential mitigation measures.

1.3 Western Burrowing Owl Background

The western burrowing owl is found throughout western North America, west of the Mississippi River, and south into Mexico. The species prefers flat or gently sloping grasslands with sparse shrub coverage. Burrowing owls are active both day and night, and may be seen perching conspicuously on fence posts or standing at the entrance of their burrows. In California, preferred habitat is generally open, treeless areas within grassland, steppe, and desert biomes; they are closely associated with California ground squirrels (*Spermophilus beecheyi*) and will renovate and maintain abandoned squirrel burrows (Poulin *et al.* 2011). In addition, burrowing owls may occur in some agricultural areas, ruderal grassy fields, vacant lots and pastures if the vegetation structure is suitable and there are useable burrows and foraging habitat in proximity.

In California, California ground squirrel and round-tailed ground squirrel (*Citellus tereticaudus*) burrows are frequently used by burrowing owls, but they may also use inactive dens or holes dug by other fossorial species, including American badger (*Taxidea taxus*), desert kit fox (*Vulpes macrotis*), desert tortoise (*Gopherus agassizii*) and coyote (*Canis latrans*). The entrance of the burrow is often adorned with animal dung, feathers, debris, and other small objects (CDFG 2012). They exhibit high nest fidelity and will return to the same burrow for multiple years. Natural rock cavities, debris piles, culverts, and pipes also are used for nesting and roosting. Burrowing owls may use “satellite” or non-nesting burrows, presumably to reduce risk of predation and possibly to avoid nest parasites (Dechant *et al.* 1999). Essential habitat for the burrowing owl in California must include suitable year-round habitat, primarily for breeding, foraging, wintering and dispersal habitat consisting of short or sparse vegetation (at least at some time of year), presence of burrows, burrow surrogates or presence of fossorial mammal dens, well-drained soils, and abundant and available prey within close proximity to the burrow (CDFW 2012).

The western burrowing owl is a CDFW Species of Special Concern, US Fish and Wildlife Service Bird of Conservation Concern, Bureau of Land Management Sensitive species, and protected by the Migratory Bird Treaty Act. In desert scrub habitat found within San Bernardino County, they are usually associated with California ground squirrel, fox, and coyote burrows found near washes with abundant small mammal activity.

The site contains suitable burrowing owl habitat with a few suitable ground squirrel and kit fox burrows along the Proposed Project area. The site exhibits varying levels of suitability, ranging



from moderate sparse bush seepweed scrub with mounded or bermed micro-topography for nesting, to dense herbaceous cover and open sage scrub vegetation for occasional foraging. Suitable habitat remained relatively consistent throughout the surveys (May through July), as the majority of the vegetation consisted of perennial species with little seasonal variability.

Because the burrowing owl requires specific soil and micro-habitat conditions, it occurs in few locations within a broad habitat category, requires a relatively large home range to support its life history requirements, occurs in relatively low numbers, and is semi-colonial, the burrowing owl will require site-specific considerations and management conditions.

2.0 REGULATORY FRAMEWORK

The Gale to Pisgah Project will comply with applicable federal, state, and local laws, ordinances, regulations, and standards (LORS) throughout project construction. Potentially applicable LORS regarding burrowing owl are discussed in the following text.

2.1 Federal

2.1.1 MIGRATORY BIRD TREATY ACT

The protection of birds (including the burrowing owl) is regulated by the Migratory Bird Treaty Act (MBTA). Any activity, intentional or unintentional, resulting in take of migratory birds, including eagles, is prohibited unless otherwise permitted by the USFWS (50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)). The Carlsbad Fish and Wildlife Office oversees actions relative to migratory birds and eagles in the Project vicinity.

The MBTA makes it illegal for anyone to take, possess, import, export, transport, sell, purchase, barter, or offer for sale, purchase, or barter, any migratory bird, or the parts, nests, or eggs of such a bird except under the terms of a valid permit issued pursuant to Federal regulations. The migratory bird species protected by the MBTA are listed in 50 CFR 10.13.

2.1.2 FISH AND WILDLIFE CONSERVATION ACT: BIRDS OF CONSERVATION CONCERN

The 1988 amendment to the Fish and Wildlife Conservation Act mandates the U.S. Fish and Wildlife Service (USFWS) to “identify species, subspecies, and populations of all migratory nongame birds that, without additional conservation actions, are likely to become candidates for listing under the Endangered Species Act (ESA) of 1973.” For avian species, the list of Birds of Conservation Concern (BCC; USFWS 2008) is the most recent effort to carry out this mandate. There are no legal requirements protecting species included on the list of BCC including burrowing owl. This list is meant to study and identify species that are potential candidates to be included under the federal ESA and guide other analyses (e.g., California Environmental Quality Act, See Section 2.2.2) pertaining to the species.

2.2 State

2.2.1 CALIFORNIA ENDANGERED SPECIES ACT

The California Endangered Species Act (CESA) states that all native species of fishes, amphibians, reptiles, birds, mammals, invertebrates, and plants, and their habitats, threatened with extinction and those experiencing a significant decline which, if not halted, would lead to a threatened or endangered designation, will be protected or preserved. This state law prohibits the “take” (defined as to hunt, pursue, catch, capture, or kill) of state-listed species except as otherwise provided in state law. CESA, administered by the CDFW, is similar to the federal ESA, although unlike the federal law, CESA applies incidental take prohibitions to species currently petitioned for state-



listing status (i.e., candidate species). State lead agencies are required to consult with the CDFW to ensure that their authorized actions are not likely to jeopardize the continued existence of any state-listed species or result in the degradation of occupied habitat. Under Section 2081, CDFW authorizes “take” of state-listed endangered, threatened, or candidate species through incidental take permits or memoranda of understanding. These acts, which are otherwise prohibited, may be authorized through permits or memoranda of understanding if (1) the take is incidental to otherwise lawful activities, (2) impacts of the take are minimized and fully mitigated, (3) the permit is consistent with regulations adopted in accordance with any recovery plan for the species in question, and (4) the applicant ensures suitable funding to implement the measures required by the CDFW. Should a species be both federally and State-listed, and if the federal ESA authorization fulfills CESA requirements, CDFW may streamline the CESA permitting process by adopting a Consistency Determination (Section 2081.1), that concurs with the federal authorization. The CDFW Inland Deserts Region oversees actions relative to CESA in the project vicinity.

2.2.2 CALIFORNIA ENVIRONMENTAL QUALITY ACT

The California Environmental Quality Act (CEQA) applies to "projects" proposed to be undertaken or requiring approval by state and/or local governmental agencies. “Projects” are activities that have the potential to have a physical impact on the environment. The purpose of CEQA is to: (1) disclose to the public the significant environmental effects of a proposed discretionary project, through the preparation of an Initial Study (IS), Negative Declaration (ND), or Environmental Impact Report (EIR); (2) prevent or minimize damage to the environment through development of project alternatives, mitigation measures, and mitigation monitoring; (3) disclose to the public the agency decision-making process utilized to approve discretionary projects through findings and statements of overriding consideration; (4) enhance public participation in the environmental review process through scoping meetings, public notice, public review, hearings, and the judicial process; and (5) improve interagency coordination through early consultations, scoping meetings, notices of preparation, and State Clearinghouse review.

2.2.3 FISH AND GAME CODE AND TITLE 14 LAWS AND REGULATIONS

Fish and Game Code (FGC) Section 3503 states that it is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird, except as otherwise provided by the Code or any associated regulation. Section 3503.5 makes it unlawful to take, possess, or destroy birds of prey. It also prohibits the take, possession, or destruction of nests or eggs of any bird of prey.

Title 14, California Code of Regulations (CCR) lists plant and animal species designated as threatened and endangered in California. California Species of Special Concern (SSC) is a category applied by CDFW to those species that are indicators of regional habitat changes or are considered potential future protected species. SSCs, including burrowing owl, do not have any special legal status, but are intended by CDFW for use as a management tool to take these species into special consideration when decisions are made concerning the future of any land parcel.

3.0 EXISTING CONDITIONS

3.1 Topography

The Gale to Pisgah Proposed Project lies within the western portion of the Mojave Desert geomorphic province, which is bound by the Garlock Fault to the north and the San Andreas Fault to the south. The Mojave Desert contains many isolated mountain ranges that are separated by large expanses of desert plains and playas. The Project area runs parallel to the Needles Freeway (I 40), and is located east of the City of Barstow, west of the Pisgah crater, at the south end of



Mojave Valley, and directly north of the Newbury Mountains. The Proposed Project alignment crosses lands owned by BLM and private landowners (Exhibit 1).

The topography along the Proposed Project is undulating, and relatively flat. Elevation ranges from approximately 1,780 feet in the center of the Proposed Project to 2,060 feet on the west end, and 2,080 feet in the east end.

3.2 Vegetation Communities / Land Cover Types

Eleven vegetation communities/land cover types, including three sensitive vegetation communities, one sensitive land cover type, and seven non-sensitive vegetation communities/land cover types were previously documented and mapped during habitat assessment studies (BRC 2016a). Descriptions of the communities can be found in the Manual of California Vegetation, 2nd Edition (Sawyer et al. 2009).

A summary of vegetation and land cover found within the Project area is provided in Table 2.

TABLE 1: VEGETATION COMMUNITY / LAND COVER TYPE AND RARITY

Vegetation Communities/Land Cover Type and Rarity ¹
<i>Atriplex polycarpa</i> (Allscale scrub) Shrubland Alliance – Desert Saltbush Scrub (36.340.00) G2 S2
<i>Prosopis glandulosa</i> (Mesquite thicket) Woodland Alliance (61.512.00) G5 S3
<i>Suaeda moquinii</i> (Bush seepweed scrub) Shrubland Alliance (36.200.00) G5 S3
Non-sensitive Vegetation Communities
<i>Atriplex canescens</i> (Fourwing saltbush scrub) Shrubland Alliance (36.310.00) G5 S4
<i>Atriplex confertifolia</i> (Shadscale scrub) Shrubland Alliance (36.320.00) G5 S4
<i>Larrea tridentata</i> (Creosote bush scrub) Shrubland Alliance (33.010.00) G5 S5
<i>Larrea tridentata-Ambrosia dumosa</i> (Creosote bush-white bursage scrub) Shrubland Alliance (33.140.00) G5 S5
<i>Tamarix</i> ssp. (Tamarisk thicket) Shrubland Semi-Natural Alliance (63.810.00)
Land Cover Types
Agriculture
Alkali Playa Community G4 S3
Developed

¹Rarity and Global/State Ranks: One purpose of the vegetation classification is to assist in determining the level of rarity and imperilment of vegetation types. Ranking of alliances according to their degree of imperilment (as measured by rarity, trends, and threats) follows NatureServe’s Heritage Methodology, in which all alliances are listed with a G (global) and S (state) rank. Alliances with State ranks of S1-S3 are considered to be highly imperiled.

Agriculture

Agricultural lands are used primarily for production of food and fiber. Such areas include croplands, pastures, orchards, groves, vineyards, nurseries, ornamental horticultural areas, confined feeding operations, and other agricultural land.

Alkali Playa Community

Alkali playa is a rare community of habitats that are intermittently flooded or saturated. Examples include dry lake beds and margins, hummocks, lagoon bars, old lake beds perched above current drainages, and seeps (Holland 1986).



Developed

Developed lands include urban or built-up areas with much of the land covered by structures. Such areas include cities, transportation, power and communications facilities, mills, shopping centers, and other buildings that may, in some cases, be separate from urban areas. Urban or built-up land may contain a wide variety of native and non-native, ruderal and ornamental plant species.

4.0 METHODS

4.1 Database Search and Literature Review

Prior to the initiation of field work, a review of pertinent literature was performed to verify known and reported burrowing owl use within 3 miles of the Proposed Project vicinity. Sources reviewed included the following:

- Special-status species lists from CDFW and USFWS;
- Database searches of the:
 - California Natural Diversity Database RareFind application (CDFW 2017)
 - USFWS Species Occurrence Data (USFWS 2017)
- The following biological reports were also reviewed:
 - BRC-Equals 3, Inc. 2016 *Habitat Assessment: Calcite Substation Project* (BRC 2016a)
 - BRC-Equals 3, Inc. 2016 *Burrowing Owl Focused Study: Calcite Substation Project* (BRC 2016b).

4.2 Burrowing Owl Habitat Assessment

EI's 2017 survey methodology followed the California Burrowing Owl Consortium's *Burrowing Owl Survey Protocol and Mitigation Guidelines* (CBOC 1993), and the CDFW's updated *Staff Report on Burrowing Owl Mitigation* breeding season survey guidelines (CDFG 2012).

The survey was conducted in two phases: a habitat assessment and focused surveys. The habitat assessment was conducted by qualified biologists Ron Clark, Kevin Thomas, Nicole Neshibal, Ben Madden, and Douglas Gordon-Blackwood. The Survey Area consisted of a 100-foot buffer around the Project alignment and included all proposed substations, disturbance areas, and tie-in locations along the existing SCE transmission line.

The habitat assessment involved identifying vegetation and habitat types that can support burrowing owls in the Proposed Project area and within 100-feet around the Project boundary to determine areas of suitable habitat. Habitats favored by burrowing owls consist of short vegetation, open areas, and burrows (>11 cm in diameter and >150 cm in depth) in sandy soils, and they avoid tall, dense vegetation (Zarn 1974, Rosenberg *et al.* 1998). Burrowing owl habitat was assessed based on three suitability categories (high, medium, and low) to determine areas for focused surveys:

- High – Highly suitable habitat includes the presence or sign (molted feathers, cast pellets, prey remains, eggshell fragments, or excrement) of burrowing owls at the entrance of natural or artificial burrows.
- Medium – Moderately suitable habitat consists of short, sparse vegetation with few shrubs, level to gentle topography, level to gentle topography, well-drained soils, fossorial burrows



(>11 cm diameter and > 150 cm in depth), and an abundant prey base within close proximity to the burrow.

- Low – Marginally suitable habitat consists of burrows suitable for burrowing owl use, but it lacks vegetation, topographic features, or a prey base found in moderately suitable habitat.

4.3 Burrowing Owl Focused Surveys

The timing and number of visits for focused surveys were based on the recommendations in the *Staff Report on Burrowing Owl Mitigation* (CDFW 2012). The Staff Report recommends conducting at least one habitat assessment and 4 focused surveys. Timing of the focused surveys should occur with at least one site visit between February 15 and April 15, two surveys between April 15 and June 15, and one survey between June 15 and July 15. All focused surveys should also be separated by at least 2 weeks. Daily timing of the surveys took place between morning civil twilight and 10:00 am, and was extended during suitable weather conditions. Surveys were conducted during weather that was conducive to observing owls outside their burrows and detecting burrowing owl sign. Surveys were not conducted during rain, high winds (> 20 mph), or dense fog. Temperatures for the duration of the surveys ranged from 53 – 100°F, and none of the surveys were conducted within five days of measurable precipitation.

The first focused survey was conducted concurrently with a focused desert tortoise survey and documented all potential burrow and refuge sites. Linear transects were walked approximately 10-meters (30 feet) apart to provide 100 percent coverage of suitable habitat on the site. Potential burrows and refuge sites were inspected for burrowing owl use and indicative sign (i.e. pellets, scat, feathers and bone fragments). Potentially suitable burrow locations and refuge sites were recorded with handheld GPS units. Additionally any indicative sign would be photographed and removed to ascertain presence during subsequent surveys.

The Survey Area was walked in its entirety and areas of suitable habitat were identified and systematically searched for potentially suitable burrows for burrowing owl. Focused attention, including the use of denser transect lines, were given to areas with higher potential for burrowing owl occurrence (i.e., dense ground squirrel burrows, sparse vegetation, culverts, etc.).

TABLE 2: SURVEY DATES, TIMES AND WEATHER CONDITIONS

Date	Time	Biologist(s)*	Weather Conditions	Survey
April 25, 2017	07:00-17:00	RC, BM, KT, NN	65-77°F, clear, light wind	Habitat Assessment
April 26, 2017	07:00-17:00	RC, BM, KT, NN	70-85°F, clear, light wind	Habitat Assessment
April 27, 2017	07:00-17:00	RC, BM, KT, NN	70-84°F, partly cloudy, light wind	Habitat Assessment
April 28, 2017	07:00-17:00	DGB, BM, KT, NN	68-77°F, partly cloudy, light wind	Habitat Assessment
May 18, 2017	0530-1000	MD, MZ, RH, RS, TH, TT	53-78°F, partly cloudy, light wind	Focused Survey #1
May 19, 2017	0530-1000	MD, MZ, RH, RS, TH, TT	51-80°F, partly cloudy, light wind	Focused Survey #1
May 22, 2017	0530-1000	MD, MZ, RH, RS, TH, TT	70-97°F, partly cloudy, light wind	Focused Survey #1
May 23, 2017	0530-1000	MD, MZ, RH, RS, TH, TT	73-98°F, partly cloudy, light wind	Focused Survey #1

May 24, 2017	0530-1000	MD, MZ, RH, RS, TH, TT	73-98°F, partly cloudy, light wind	Focused Survey #1
June 5, 2017	0530-1000	SD, BM	73-100°F, partly cloudy, light wind	Focused Survey #2
June 6, 2017	0530-1000	SD, BM	71-99°F, partly cloudy, light wind	Focused Survey #2
June 7, 2017	0530-1000	SD, BM	71-99°F, partly cloudy, light wind	Focused Survey #2
June 26, 2017	0530-1000	MD, RM	75-92°F, clear, light wind	Focused Survey #3
June 27, 2017	0530-1000	MD, RM	79-96°F, clear, moderate wind	Focused Survey #3
July 20, 2017	0530-1000	MD, RM	83-98°F, clear skies, moderate wind	Focused Survey #4
July 20, 2017	0530-1000	MD, RM	83-98°F, clear skies, moderate wind	Focused Survey #4

* MD – Minh Dao, MZ – Mike Zerwekh, RH – Ryan Hilgris, RM – Rachel MacNutt, RS – Randy Sisk, SD – Scott Duff, DGB – Doug Gordon Blackwood, NN – Nicole Neshibal, BM - Ben Madden, TH – Terry Hurt, and TT – Tracy Treybig

5.0 RESULTS

5.1 Database Search and Literature Review

BRC-Equals3 conducted a burrowing owl habitat assessment for the Proposed Project in 2016 and determined medium quality habitat for burrowing owls was present throughout the Project vicinity (BRC 2016b). The 2016 BRC habitat assessment identified four potential burrows along the alignment, but no live owls were observed during the survey. Historical records indicate three burrowing owl sightings within 3-miles of the Project location (CNDDDB 2017) (Exhibit 3: *Literature Review*).

5.2 Habitat Assessment

Topography, soils, vegetation communities, land cover types, burrows, and prey density were evaluated during EI's habitat assessment surveys. Since the Project site primarily consists of undisturbed creosote bush and *Atriplex* shrubland on relatively flat, open ground, and contains suitable ground squirrel burrows and desert kit fox dens distributed throughout, it is classified as medium-quality habitat. Areas with low quality habitat included rock outcroppings, steep slopes, and dry lake beds.

5.3 Focused Surveys

No burrowing owls or indicative sign were observed during focused surveys. Four (4) burrows suitable for burrowing owl were identified during survey efforts (Exhibit 4). Two of these burrows were determined to be active kit fox burrows during the course of the surveys.

Eight vertebrate species were either directly observed or detected through the presence of sign during surveys. These included 3 species of reptiles, 4 birds, and 1 mammal. Burrowing owl prey species detected included great basin whiptail (*Aspidoscelis tigris tigris*), western side-blotched lizard (*Uta stansburiana elegans*), and western zebra-tailed lizard (*Callisaurus draconoides rhodostictus*). The full list of vertebrate species observed during surveys is included in Appendix C.

6.0 DISCUSSION

The proposed Gale to Pisgah Project is located on land containing medium quality burrowing owl habitat. Review of species databases concluded burrowing owls have the potential to occur within the Project and vicinity; however, no burrowing owls or burrowing owl burrows with diagnostic sign were observed during the CDFW-protocol habitat assessment and focused surveys conducted in spring and summer 2017. Based on the results of this report, the Project is unlikely to have a substantial adverse effect on the burrowing owl, either directly or through habitat modification.

ENVIRONMENTAL INTELLIGENCE



Travis Kegel – Project Manager

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APPENDIX A:
EXHIBITS



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Environmental Intelligence. Date: 7/20/2017. GIS: Data Maps V07/PBOOW_ReportEch_0301_Literature view_CNDDB_E01_20170220.mxd



 Survey Area

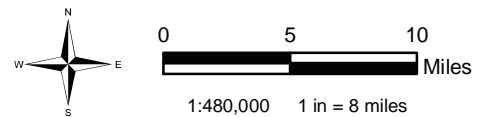






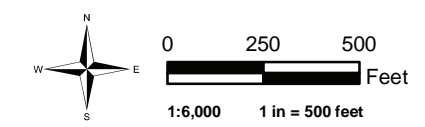
EXHIBIT 1: PROJECT LOCATION

GALE TO PISGAH PROJECT | SAN BERNARDINO COUNTY, CALIFORNIA



Legend

-  Survey Area
- Project Components**
-  Pole Work Areas
-  Pull Sites
-  Underground Work Area







Service Layer Credits - Sources: Esri, USGS, California Coastal Commission, City of Huntington Beach, CNES/Airbus DS, USDA, AEX, Garmin/Aerotri, IGN, IGP, and the GIS User Community

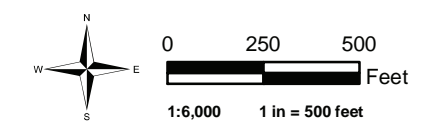
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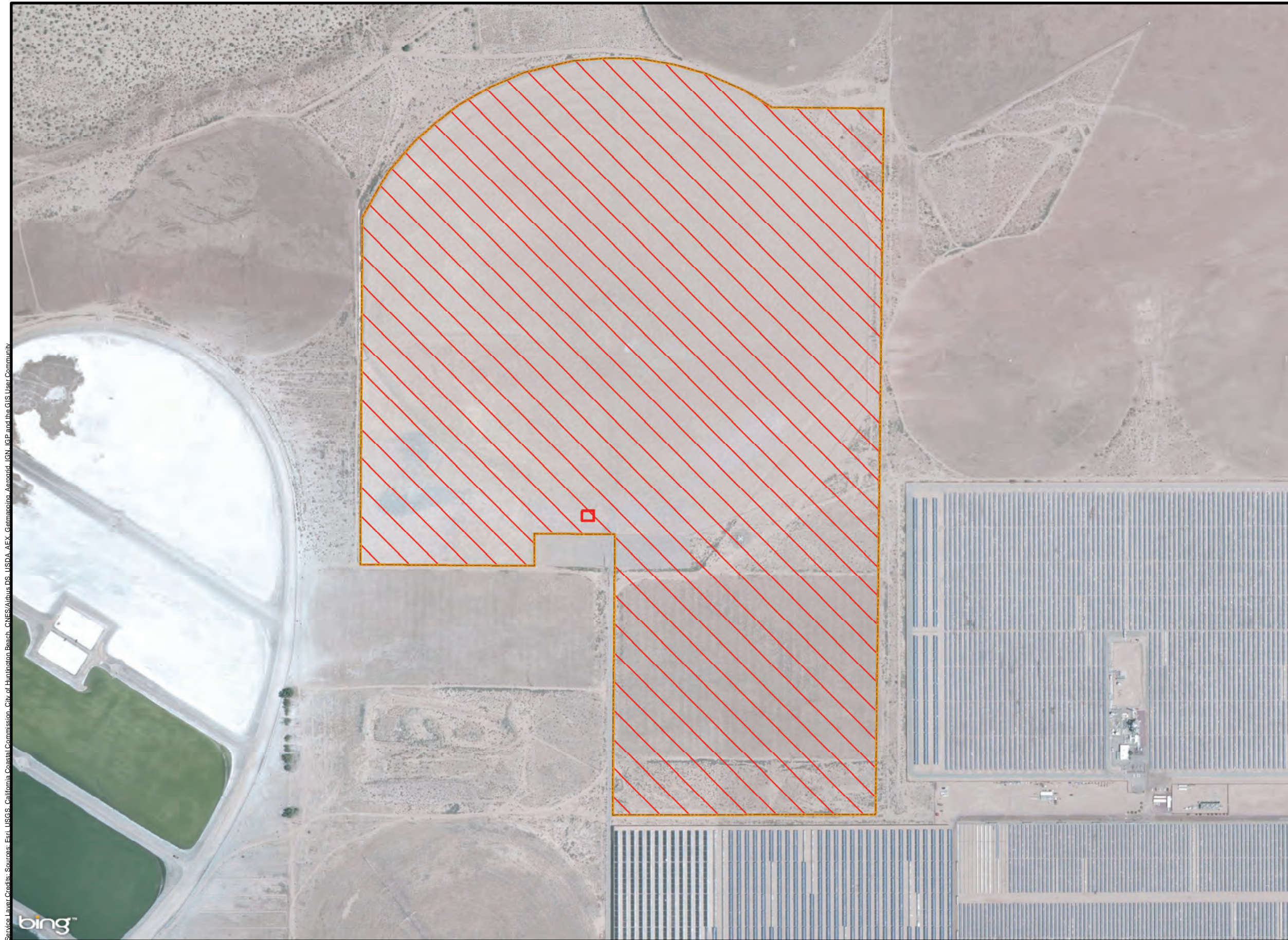
-  Survey Area
- Project Components**
-  Pole Work Areas
-  Pull Sites
-  Underground Work Area





Service Layer Credits - Sources: Esri, USGS, California Coastal Commission, City of Huntington Beach, CNES/Airbus DS, USDA, AEX, Garmin/Aerotrip, IGN, IGP, and the GIS User Community

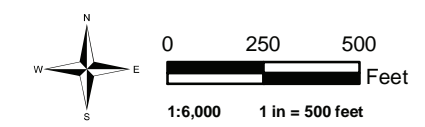
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Legend

-  Survey Area
-  Material Laydown Yard



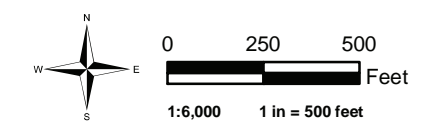
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- Legend**
- Survey Area
 - Project Components**
 - Pole Work Areas
 - Pull Sites
 - Material Laydown Yard



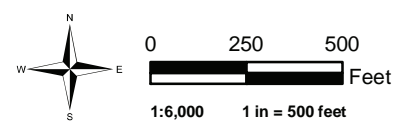
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- Legend**
- Survey Area
 - Project Components**
 - Pole Work Areas



Service Layer Credits - Sources: Esri, USGS, California Coastal Commission, City of Huntington Beach, CNES/Airbus DS, USDA, AEX, Garmin/DeLorme, Aerotribe, IGN, IGP, and the GIS User Community

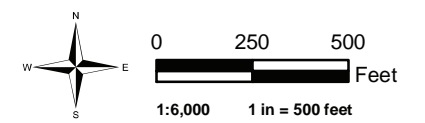
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Legend

- Survey Area
- Project Components**
- Pole Work Areas



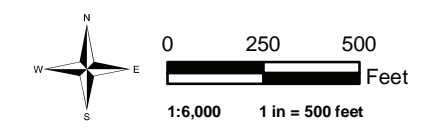
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- Legend**
- Survey Area
 - Project Components**
 - Pole Work Areas



Service Layer Credits - Sources: Esri, USGS, California Coastal Commission, City of Huntington Beach, CNES/Airbus DS, USDA, AEX, Garmin/Aerotrip, IGN, IGP, and the GIS User Community

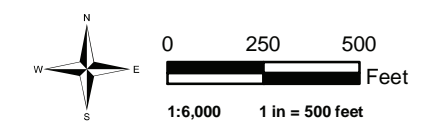
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Legend

- Survey Area
- Project Components**
- Pole Work Areas



Service Layer Credits - Sources: Esri, USGS, California Coastal Commission, City of Huntington Beach, CNES/Airbus DS, USDA, AEX, Garmin/Aerotrip, IGN, IGP, and the GIS User Community

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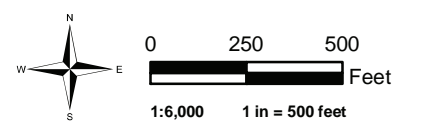
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Legend

- Survey Area
- Project Components**
- Pole Work Areas



Service Layer Credits - Sources: Esri, USGS, California Coastal Commission, City of Huntington Beach, CNES/Airbus DS, USDA, AEX, Garmin/Aerotrip, IGN, IGP, and the GIS User Community

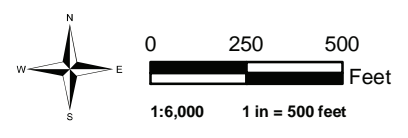


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- Legend**
- Survey Area
 - Project Components**
 - Pole Work Areas
 - Pull Sites



Service Layer Credits - Sources: Esri, USGS, California Coastal Commission, City of Huntington Beach, CNES/Airbus DS, USDA, AEX, Garmin/Aerotrip, IGN, IGP, and the GIS User Community



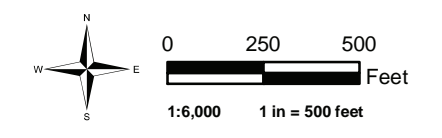
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Legend

- Survey Area
- Project Components**
- Pole Work Areas



Service Layer Credits - Sources: Esri, USGS, California Coastal Commission, City of Huntington Beach, CNES/Airbus DS, USDA, AEX, Garmin/Aerotrip, IGN, IGP, and the GIS User Community



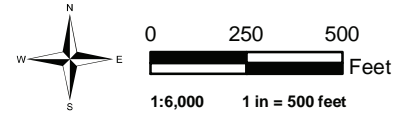
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Legend

- Survey Area
- Project Components**
- Pole Work Areas
- Pull Sites



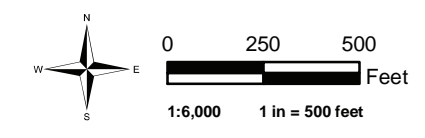
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- Legend
- Survey Area
 - Project Components**
 - Pole Work Areas



Service Layer Credits - Sources: Esri, USGS, California Coastal Commission, City of Huntington Beach, CNES/Airbus DS, USDA, AEX, Garmin/Aerotrip, IGN, IGP, and the GIS User Community

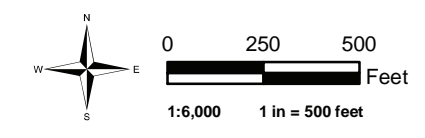
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Legend

- Survey Area
- Project Components**
- Pole Work Areas



Service Layer Credits - Sources: Esri, USGS, California Coastal Commission, City of Huntington Beach, CNES/Airbus DS, USDA, AEX, Garmin/DeLorme, Aerotrials, IGN, GIP, and the GIS User Community



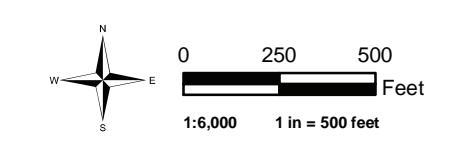
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Legend

- Survey Area
- Project Components**
- Pole Work Areas
- Pull Sites
- Underground Work Area



Service Layer Credits - Sources: Esri, USGS, California Coastal Commission, City of Huntington Beach, CNES/Airbus DS, USDA, AEX, Garmin/Aerial, IGN, IGP, and the GIS User Community

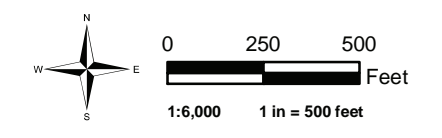
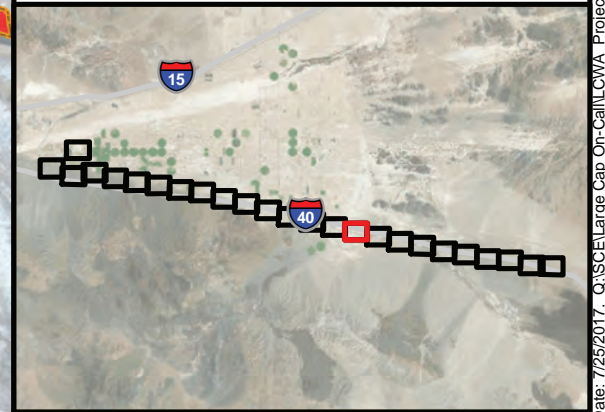
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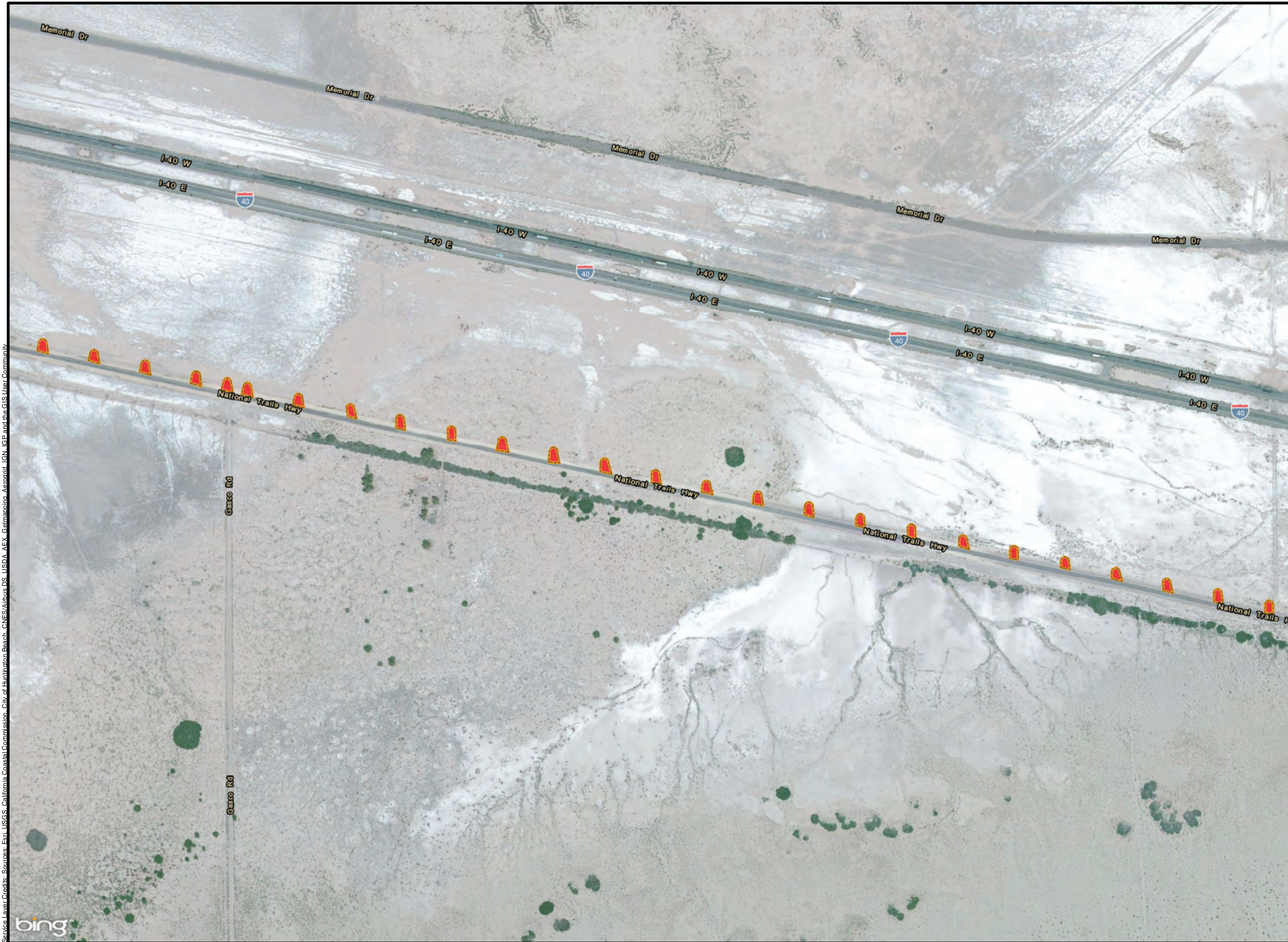
- Survey Area
- Project Components**
- Pole Work Areas



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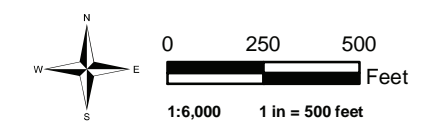
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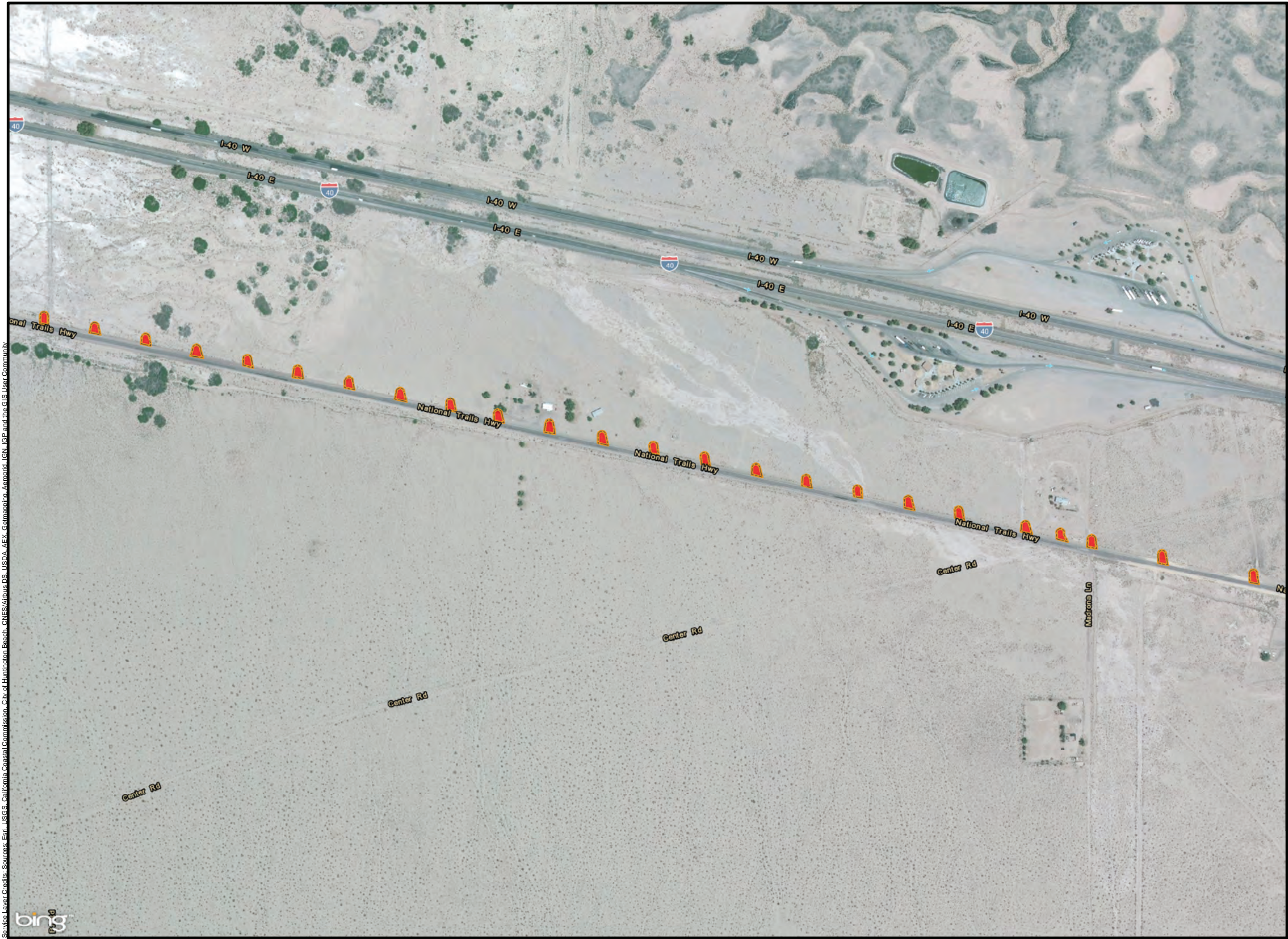
- Survey Area
- Project Components**
- Pole Work Areas



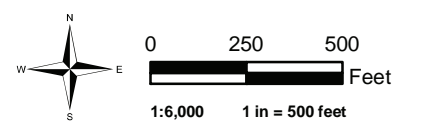
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- Legend**
- Survey Area
 - Project Components**
 - Pole Work Areas



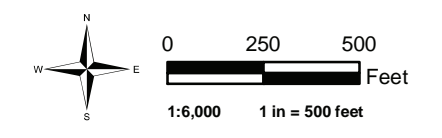
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- Legend**
- Survey Area
 - Project Components**
 - Pole Work Areas
 - Pull Sites
 - Pedestrian Access Structure Work Area



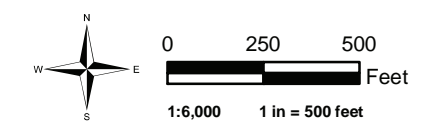
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- Legend**
-  Survey Area
 - Project Components**
 -  Pole Work Areas
 -  Pull Sites
 -  Pedestrian Access Structure Work Area







Service Layer Credits - Sources: Esri, USGS, California Coastal Commission, City of Huntington Beach, CNES/Airbus DS, USDA, AEX, Garmin/Aerotrip, IGN, IGP, and the GIS User Community

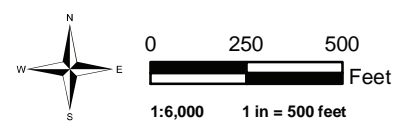
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Legend

-  Survey Area
- Project Components**
-  Pole Work Areas
-  Pull Sites
-  Pedestrian Access Structure Work Area



Service Layer Credits - Sources: Esri, USGS, California Coastal Commission, City of Huntington Beach, CNES/Airbus DS, USDA, AEX, Garmin/Aerial, IGN, IGP, and the GIS User Community

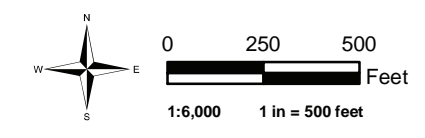


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- Legend**
- Survey Area
 - Project Components**
 - Pole Work Areas
 - Pull Sites
 - Pedestrian Access Structure Work Area



Service Layer Credits - Sources: Esri, USGS, California Coastal Commission, City of Huntington Beach, CNES/Airbus DS, USDA, AEX, Garmin/Aeromaps, IGN, IGP, and the GIS User Community

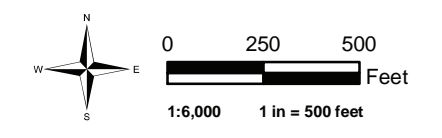
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Legend

- Survey Area
- Project Components**
- Pole Work Areas
- Pedestrian Access Structure Work Area



Service Layer Credits - Sources: Esri, USGS, California Coastal Commission, City of Huntington Beach, CNES/Airbus DS, USDA, AEX, Garmin/Aerotrip, IGN, IGP, and the GIS User Community



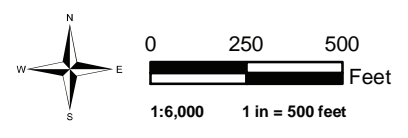
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Legend

- Survey Area
- Project Components**
- Pole Work Areas
- Pedestrian Access Structure Work Area



Service Layer Credits - Sources: Esri, USGS, California Coastal Commission, City of Huntington Beach, CNES/Airbus DS, USDA, AEX, Garmin/Aerotrip, IGN, IGP, and the GIS User Community

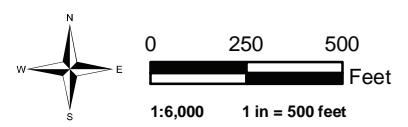
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Legend

- Survey Area
- Project Components**
- Helicopter Landing Zone
- Pole Work Areas
- Pull Sites
- XXXX Underground Work Area
- Pedestrian Access Structure Work Area



Service Layer Credits - Sources: Esri, USGS, California Coastal Commission, City of Huntington Beach, CNES/Airbus DS, USDA, AEX, Garmin/Aerotrip, IGN, IGP, and the GIS User Community




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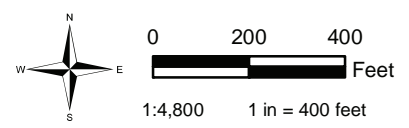




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-  Survey Area
-  Potential burrowing owl burrow
-  Active kit fox den



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-  Survey Area
-  Potential burrowing owl burrow
-  Active kit fox den

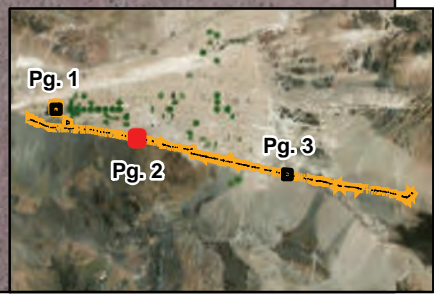
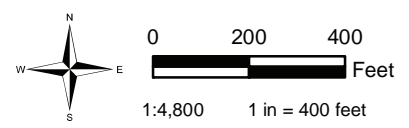
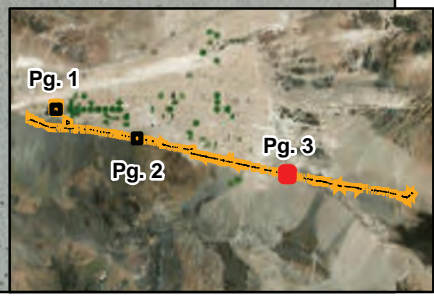
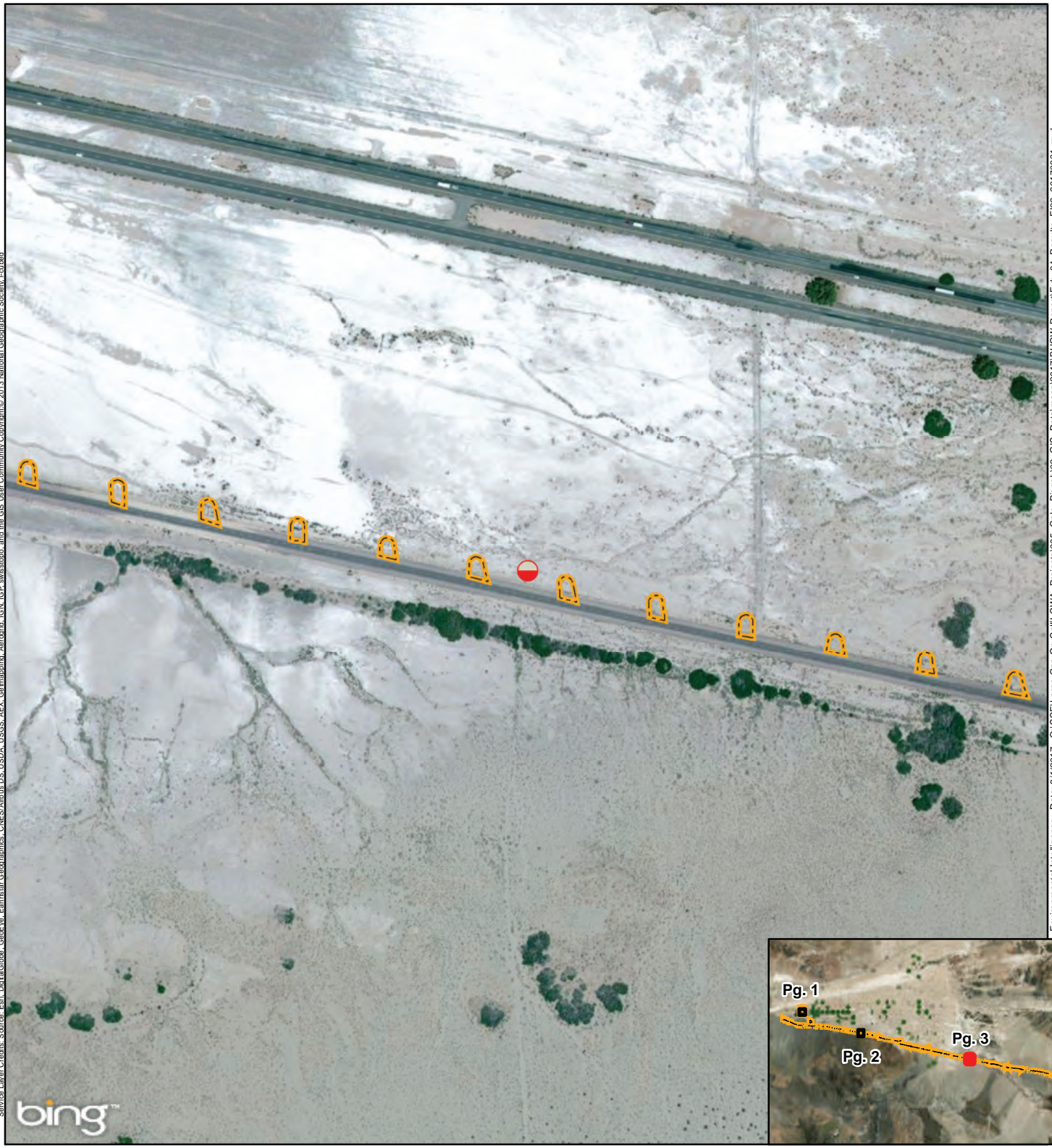





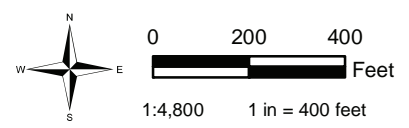
EXHIBIT 4: BURROWING OWL FOCUSED SURVEY RESULTS (PAGE 2 OF 3)
GALE TO PISGAH PROJECT | SAN BERNARDINO COUNTY, CALIFORNIA

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Environmental Intelligence. Date: 8/7/2017. Q:\SCE\Large Cap On-Call\LCWA_Projects\005_Gale_Pisgah\02_GIS_Data\maps\2017\BUOW_Report\Exh_04_Results_EI02_20170801.mxd



-  Survey Area
-  Potential burrowing owl burrow
-  Active kit fox den



APPENDIX B:
SITE PHOTOGRAPHS





PHOTO 1:

PHOTO OF *ATRIPLEX* SP. WITHIN PROJECT SURVEY AREA. *ATRIPLEX* COVER IS SPARSE AND SHORT PROVIDING SUITABLE BURROWING OWL HABITAT.

PHOTO 2:

MARGINALLY SUITABLE BURROWING OWL HABITAT. NATIVE SPARSE AND LOW GROWING CREOSOTE SHRUBLAND.



PHOTO 3:

VIEW OF POTENTIAL BURROW LOCATION.

PHOTO 4:

VIEW OF BURROW DETERMINED TO BE AN ACTIVE KITFOX BURROW.



APPENDIX C:
FAUNAL COMPENDIUM



<i>SCIENTIFIC NAME</i>	<i>COMMON NAME</i>
AVES - BIRDS	
ORDER PASSERIFORMES – PERCHING BIRDS	
<i>ALAUDIDAE</i>	
<i>Eremophila alpestris</i>	Horned lark
<i>CORVIDAE</i>	
<i>Corvus corax</i>	Common raven
<i>EMBERIZIDAE</i>	
<i>Melospiza crissalis</i>	California towhee
<i>FRINGILLIDAE</i>	
<i>Haemorhous mexicanus</i>	House Finch
MAMMALIA - MAMMALS	
ORDER CARNIVORA – CARNIVORES	
<i>CANIDAE</i>	
<i>Vulpes macrotis arsipus</i> (den)	Desert kit fox
REPTILIA - REPTILES	
ORDER SQUAMATA – LIZARDS/SNAKES	
<i>PHRYNOSOMATIDAE</i>	
<i>Callisaurus draconoides rhodostictus</i>	Western zebra-tailed lizard
<i>Uta stansburiana elegans</i>	Western side-blotched lizard
<i>TEIIDAE</i>	
<i>Aspidoscelis tigris tigris</i>	Great basin whiptail

