



September 22, 2020

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Subject: Results of a Biological Reconnaissance Survey for the Proposed Irwin Road Reservoir and Transmission Main Project, San Bernardino County, California

Dear Mr. Zakhari:

This letter report presents the results of the biological reconnaissance survey conducted by ECORP Consulting, Inc. for Golden State Water Company's (GSWC) proposed Irwin Road Reservoir and Transmission Main Project (Project). The methods and results of the survey are presented below. Following is an easy reference to the organization of the report:

PROJECT DESCRIPTION AND LOCATION	2
1.5-Million Gallon Water Storage Reservoir.....	2
Water Transmission Main Pipeline.....	2
PROJECT BACKGROUND	5
METHODS.....	5
Literature Review Methods.....	5
Biological Reconnaissance Survey Methods.....	6
RESULTS	7
Literature Review Results.....	7
Biological Reconnaissance Survey Results.....	7
Local Policies and Ordinances	17
IMPACTS ANALYSIS.....	18
Special-Status Species	18
Sensitive Natural Communities.....	22
Federally Protected Wetlands and Waters of the United States.....	22
Wildlife Corridors and Nursery Sites.....	22
Local Policies and Ordinances	23
Habitat Conservation Plans and Natural Community Conservation Plans	23
RECOMMENDATIONS	23
REFERENCES	32

PROJECT DESCRIPTION AND LOCATION

The Project site is located north of the city of Barstow, near the intersection of Irwin Road and Gavilan Street, along the Irwin Road right-of-way (ROW) in San Bernardino County, California (Figure 1). The proposed Project includes an above-ground, 1.5-million gallon, welded-steel water reservoir on Bureau of Land Management (BLM) land (Assessor's Parcel Number 042-316-141-0000) and a 1.1-mile-long, 12-inch-diameter ductile iron (DI) water transmission pipeline along the east side of Irwin Road that traverses through federal and private lands (Figure 2). Approximately 4,000 linear feet (0.75 mile) of the Project is located within land owned by the County of San Bernardino and 1,800 linear feet (0.34 mile) of the Project lies within BLM-managed lands. The reservoir will be constructed on a 0.80-acre site that will require permanent ROW from BLM. The entire Project site and surrounding area is designated as Rural Living (RL-40) by the San Bernardino County General Plan. The Project site, as depicted on U.S. Geological Survey 7.5-minute Series Barstow Topographic quadrangle, lies within Section 19 and 30 of Township 10 North and Range 1 West. Elevation on the Project site is approximately 2,335 feet above mean sea level.

1.5-Million Gallon Water Storage Reservoir

The reservoir will be approximately 102 feet in diameter and 36.5 feet in height, constructed from welded steel plates. The reservoir site will be secured by an eight-foot chain-link fence and a security gate at the point of entry. The reservoir site will require a permanent ROW grant from BLM.

Water Transmission Main Pipeline

A 12-inch-diameter DI water transmission pipeline, approximately 5,816 linear feet (1.1 miles) long will be buried between 36 and 42 inches below the surface within the Irwin Road ROW. The pipeline will convey water to/from the reservoir and will connect the reservoir with an existing water pipeline located at the intersection of Irwin Road and Gavilan Street. The entire pipeline alignment will be within the Irwin Road ROW. Other permanent Project facilities include air valves, blow-offs, fire hydrants, and valves for the pipeline along the pipeline alignment.



Map Date: 4/29/2020

Service Layer Credits: Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community



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Figure 1. Project Vicinity

2018-039.008 Irwin Road Tank & Transmission Line



Map Date: 9/21/2020

Service Layer Credits: Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community



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Figure 2. Project Location

2018-039.008 Irwin Road Tank & Transmission Line

PROJECT BACKGROUND

A protocol-level desert tortoise (*Gopherus agassizii*) survey was conducted for the Project in October 2013, results of which were positive (RCA Associates, LLC 2014; Albert A. Webb Associates March 2020). No live desert tortoise observations were made during the October 2013 protocol survey. A total of 22 desert tortoise burrows were identified during the October 2013 protocol surveys, including one Class 1 burrow (scat present in burrow), nine Class 2 burrows, and 12 Class 3 burrows (see Table 1 for burrow class definitions). The Class 1 burrow noted above was observed approximately 210 feet east of Irwin Road with a fresh scat present in the burrow. Given the presence of the scat, tortoises were assumed to be present in the Project area.

Table 1. Burrow Class Definitions (USFWS 2009)	
Burrow Class	Definition
1	Currently active, with desert tortoise or recent desert tortoise sign
2	Good condition, definitely desert tortoise; no evidence of recent use
3	Deteriorated condition that includes collapsed burrows; definitely desert tortoise
4	Good condition; possibly desert tortoise
5	Deteriorated condition that includes collapsed burrows; possibly desert tortoise

These results were used to develop two Project documents: a draft Biological Assessment prepared by RCA Associates, LLC. (2014) and a draft Environmental Assessment (EA) prepared by Albert A. Webb Associates (2020). Both documents were reviewed prior to the start of the Project surveys in 2020.

METHODS

Literature Review Methods

Prior to conducting the biological reconnaissance survey, ECORP biologists performed a literature review using the CDFW's California Natural Diversity Database (CNDDDB; CDFW 2020a) and the California Native Plant Society's (CNPS) Electronic Inventory (CNPSEI; CNPS 2020) to determine the special-status plant and wildlife species that have been documented near the Project site. The CNDDDB and CNPSEI database searches were conducted on March 26, 2020. ECORP searched CNDDDB and CNPSEI records within the Project site boundaries as depicted on USGS 7.5-minute Barstow topographic quadrangle, plus the surrounding eight topographic quadrangles, including Nebo, Daggett, Barstow SE, Hodge, Hinkley, Water Valley, Mud Hills, and Lane Mountain. The CNDDDB and CNPSEI contain records of reported occurrences of federally or state-listed endangered, threatened, proposed endangered or threatened species, California Species of Special Concern (SSC), and/or other special-status species or habitat that may occur within or

near the Project. Additional information was gathered from the following sources and includes, but is not limited to:

- State and federal Listed Endangered and Threatened Animals of California (CDFW 2020b);
- Special Animals List (CDFW 2020c);
- The Jepson Manual (Baldwin et al. 2012);
- The Manual of California Vegetation, 2nd Edition (Sawyer et al. 2009); and
- various online websites (e.g., Calflora 2020).

Using this information and observations in the field, a list of special-status plant and animal species that have the potential to occur on or near the Project site was generated. For the purposes of this assessment, special-status species are defined as plants or animals that:

- have been designated as either rare, threatened, or endangered by CDFW, CNPS, or the USFWS, and/or are protected under either the federal or California ESAs;
- are candidate species being considered or proposed for listing under these same acts; and
- are fully protected by the California Fish and Game Code, §§ 3511, 4700, 5050, or 5515; and/or are of expressed concern to resource and regulatory agencies or local jurisdictions.

Biological Reconnaissance Survey Methods

The biological reconnaissance survey was conducted by biologists who walked the entire Project site to determine the vegetation communities and wildlife habitats on the Project site. The biologists documented the plant and animal species present on the Project site, and the location and condition of the Project site were assessed for the potential to provide habitat for special-status plant and wildlife species. Data were recorded on a Global Positioning System (GPS) unit, field notebooks, and/or maps. Photographs were also taken during the survey to provide visual representation of the conditions within the Project site. The Project site was also examined to assess its potential to facilitate wildlife movement or function as a movement corridor for wildlife moving throughout the region. In addition, the biologist documented the vegetation communities present on the Project site.

Plant and wildlife species, including any special-status species that were observed during the survey, were recorded. Plant nomenclature follows that of *The Jepson Manual: Vascular Plants of California* (Baldwin et al. 2012). Wildlife nomenclature follows Society for the Study of Amphibians and Reptiles (SSAR; SSAR 2017), *Check-list of North American Birds* (Chesser et al. 2019), and the *Revised Checklist of North American Mammals North of Mexico* (Bradley et al. 2014).

In instances where a special-status species was observed, the date, species, location and habitat, and GPS coordinates were recorded. The locations of special-status species observations were recorded using a handheld GPS.

RESULTS

Summarized below are the results of the literature review and field surveys, including site characteristics, vegetation communities, wildlife, special-status species, and special-status habitats (including any potential wildlife corridors).

Literature Review Results

The Project is located within designated Critical Habitat for desert tortoise, the Superior-Cronese Critical Habitat Unit. The Project is also located within the Superior-Cronese Area of Critical Environmental Concern (ACEC) as designated under the Desert Renewable Energy Conservation Plan (DRECP) and is therefore subject to the goals and objectives of the DRECP. The northernmost portion of the Project site is located within a Tortoise Conservation Area (TCA), as designated by the as designated in the *Revised Recovery Plan for the Mojave Population of the Desert Tortoise (Gopherus agassizii)* (Figure 3; USFWS 2011). TCAs have been incorporated as part of the desert tortoise conservation in the DRECP and are mapped in relation to the DRECP-designated desert tortoise Linkages and High Priority Habitat areas.

A review of the available data for the DRECP found that the Project site is not located within any Mohave Ground Squirrel Important Areas, including the areas designated in the DRECP as Climate Change Extensions, Expansion Areas, Key Population Centers, or Linkages (source: <https://databasin.org/maps/new#datasets=c6d4382d9cd74318893064aa6cab252b>).

The literature review and database searches resulted in identification of seven special-status plant species and six special-status wildlife species with the potential to occur within the vicinity of the Project site. A list was generated from the results of the literature review and the Project site was evaluated for suitable habitat that could support any of the special-status plant or wildlife species on the list.

Biological Reconnaissance Survey Results

The biological reconnaissance survey was conducted on March 19 and 20, 2020, by ECORP biologists Lauren Simpson, Greg Hampton, and Caroline Garcia. Summarized below are the results of the biological reconnaissance survey, including site characteristics, plant communities, wildlife, special-status species, and special-status habitats (including any potential wildlife corridors). Weather conditions during the survey are summarized in Table 2.

Table 2. Weather Conditions During the Survey								
Date	Time		Temperature (°F)		Cloud Cover (%)		Wind Speed (mph)	
	Start	End	Start	End	Start	End	Start	End
03/19/2020	1230	1430	55	57	70	80	10-15	5-10
03/20/2020	0730	0930	45	50	70	15	0	0-1

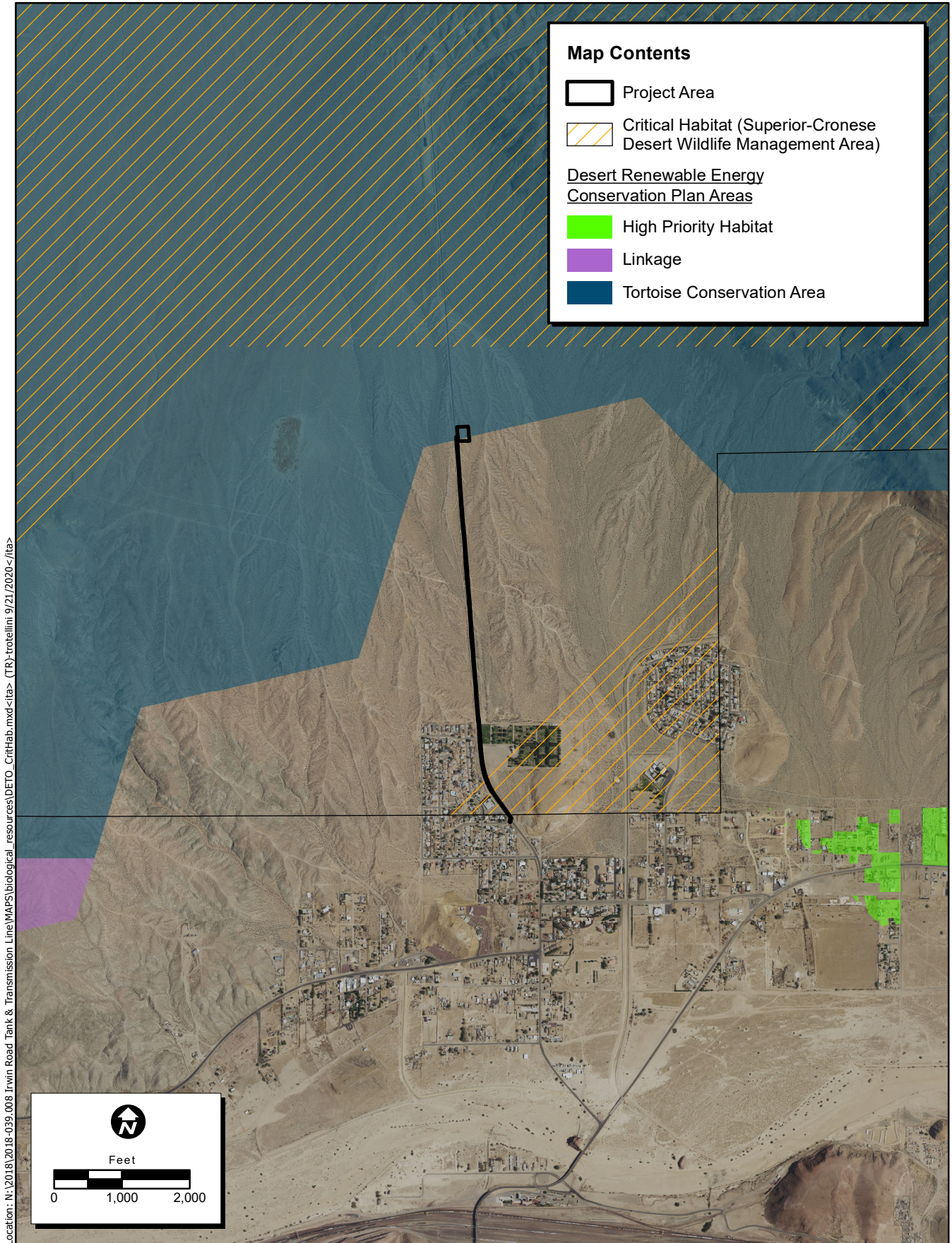


Figure 3. Desert Tortoise Critical Habitat and DRECP Tortoise Conservation Area
2018-039.008 Irwin Road Tank & Transmission Line

Property Characteristics

The majority of the Project area consists of undeveloped land adjacent to a heavily used paved road, Irwin Road. Numerous dirt roads cross through the site, including a dirt access road associated with a utility line that runs more or less parallel with the pipeline portion of the Project. The southern portion of the Project is adjacent to existing residential development to the west and a cemetery to the east. Several ephemeral washes are present throughout the Project site, although riparian vegetation was not observed. Soils ranged from sandy to rocky and gravelly; sand dunes or aeolian sand deposits were not present. Disturbances associated with Irwin Road and the nearby residential areas, such as unauthorized trash dumping and off-highway vehicle use, degraded the quality of the habitat on the site. Representative site photographs are presented in Attachment A. Lists of plant and wildlife species observed are included in Attachments B and C, respectively.

Vegetation Communities

This section includes information about the habitat types, the vegetation that was identified in each habitat, the dominant species present, and habitat quality. A complete map of vegetation communities observed during the survey can be found in Figure 4. Vegetation communities and notable plant species found within the Project site and surrounding area are described below.

Creosote Bush - White Bursage Scrub (*Larrea tridentata* - *Ambrosia dumosa* Shrubland Alliance)

The Creosote Bush – White Bursage Scrub community is characterized by intermediate to tall, widely spaced shrubs typically dominated by creosote bush (*Larrea tridentata*) and white bursage (*Ambrosia dumosa*). This community is found within well-drained secondary soils with very low available water holding capacity on slopes, fans, and valleys at elevations -75 meters below mean sea level (msl) to 1,600 meters above msl (Sawyer et al. 2009). Within the Project site, this community is dominated by creosote bush but also consists of white bur-sage, Cooper's box thorn (*Lycium cooperi*) and cheesebush (*Ambrosia salsola*). Annual species consisted of desert heron's bill (*Erodium texanum*), and rigid spiny herb (*Chorizanthe rigida*). This community is located mostly in the northern and mid-portions of the Project site and was mildly to moderately disturbed throughout, based on non-native species and anthropogenic causes (e.g., roads, tire tracks). There are 0.78 acres of Creosote Bush – White Bursage Scrub within the Project site.

Disturbed

The disturbed classification includes areas where the native vegetation community has been heavily influenced by human actions, such as grading, trash dumping, and off-road use, but lack development. Disturbed is not a vegetation classification, but rather a land cover type and is not typically restricted to a known elevation. Disturbed areas located throughout the Project site most commonly included dirt roads. In areas classified as disturbed, vegetation was absent or consisted primarily of nonnative species, such as red brome (*Bromus madritensis*), redstem filaree (*Erodium cicutarium*), and Mediterranean grass (*Schismus barbatus*). Approximately 0.04 acre of disturbed areas are present in the Project site.



Map Date: 9/21/2020
Photo Source: NAIP 2018

Figure 4. Vegetation Communities and Land Cover
Sheet 1 of 3



Location: N:\2018\2018-039.008 Irwin Road Tank & Transmission Line\MAPS\vegetation_and_landcover\IRRTL_Vegetation_V2.mxd<ita> (TR)-rotellini 9/21/2020</ita>

Map Date: 9/21/2020
Photo Source: NAIP 2018

Figure 4. Vegetation Communities and Land Cover
Sheet 2 of 3

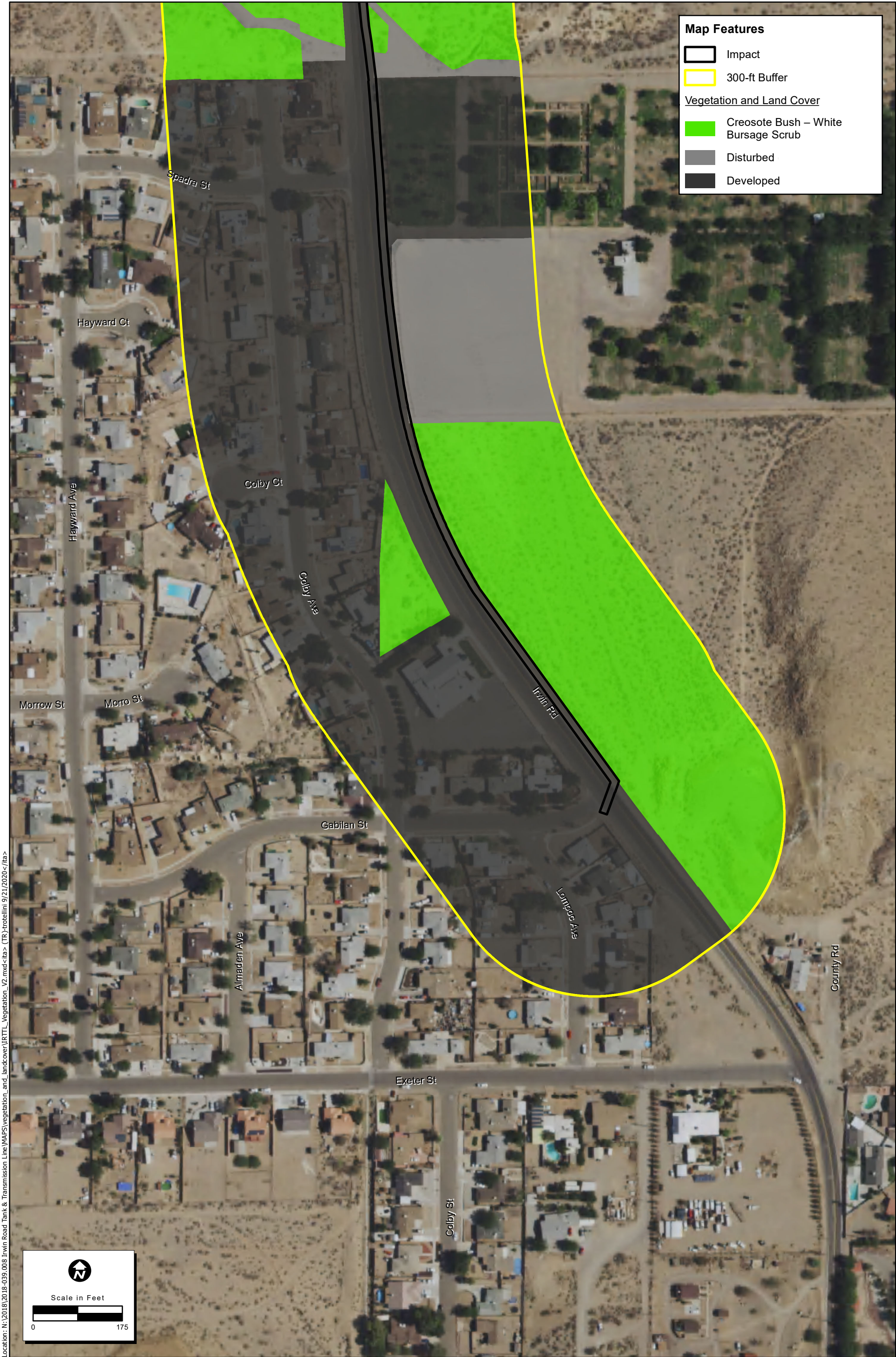


Figure 4. Vegetation Communities and Land Cover
Sheet 3 of 3

Developed

Areas designated as developed will have infrastructure present, and any vegetation in the immediate surroundings represents ornamental landscaping. Developed is not a vegetation classification, but rather a land cover type and is not typically restricted to a known elevation. Developed areas were located throughout the Project site and included residences and roadways. There are 2.00 acres of developed areas within the Project site.

Potential for Special-Status Plant and Wildlife Species to Occur on the Project Site

The literature review and database searches identified seven special-status plant species and five special-status wildlife species that with the potential to occur within the vicinity of the Project site. One special-status species, desert tortoise, was found to be present on the Project site. Several other special-status species were identified during the literature review; however, many of the species that appeared in the literature review were species associated with riparian habitats not present at the Project site and were thus presumed absent.

There were 12 special-status plant species that appeared in the literature review and database searches for the Project site (CDFW 2020a; CNPS 2020). Descriptions of the CNPS designations are found in Table 3. Of the 12 special-status plants identified, five have a moderate potential to occur and two have a low potential to occur on the Project site due to the presence of moderately suitable habitat in the disturbed creosote bush – white bursage scrub. The remaining five species identified in the literature review are presumed absent from the Project site.

Table 3. CNPS Status Designations	
List Designation	Meaning
1A	Plants Presumed Extirpated in California and Either Rare or Extinct Elsewhere
1B	Plants Rare, Threatened, or Endangered in California and Elsewhere
2A	Plants Presumed Extirpated in California, But Common Elsewhere
2B	Plants Rare, Threatened, or Endangered in California, But More Common Elsewhere
3	Plants about which we need more information; a review list
4	Plants of limited distribution; a watch list
List 1B, 2, and 4 extension meanings:	
.1	Seriously threatened in California (over 80 percent of occurrences threatened / high degree and immediacy of threat)
.2	Moderately threatened in California (20-80 percent occurrences threatened / moderate degree and immediacy of threat)

Note: According to CNPS (Skinner and Pavlik 1994), plants on Lists 1B and 2 meet definitions for listing as threatened or endangered under Section 1901, Chapter 10 of the California Fish and Game Code (California Department of Fish and Game [CDFG] 1984). This interpretation is inconsistent with other definitions.

There were 12 special-status wildlife species that appeared in the literature review and database searches for the Project site (CDFW 2020a). Of the 12 special-status wildlife species identified, one is present on the Project site, three have a moderate potential to occur, and two have a low potential to occur on the Project site due to the presence of moderately suitable habitat in the disturbed creosote bush – white bursage scrub. The remaining six species identified in the literature review are presumed absent from the Project site.

Present

The following species was observed or otherwise detected on the Project site:

- Desert tortoise (*Gopherus agassizii*), federal- and State-listed Threatened

Desert tortoise sign was observed on and adjacent to the Project site during the protocol-level desert tortoise survey as well as other surveys conducted on the site. An adult female desert tortoise was incidentally observed inside a pallet burrow during the Mohave ground squirrel (*Xerospermophilus mohavensis*) trapping survey. Figure 5 shows the location of the desert tortoise sign observed during the surveys.

Moderate Potential to Occur

The following species have a moderate potential to occur on the Project site because either habitat for the species occurs onsite and a known occurrence has been reported in the database, but not within five miles of the site; a historic documented observation was recorded within five miles of the Project site; or a known recently documented occurrence has been reported within five miles of the site and marginal or limited amounts of habitat occurs onsite.

The creosote bush – white bursage scrub present on the Project site provides suitable habitat for the species listed below; however, the presence of anthropogenic disturbances (e.g., unauthorized trash dumping, OHV use, proximity to a well-traveled paved road and urban development) likely limit the presence of these species. Protocol-level surveys for special-status plant species and Mohave ground squirrel conducted on the Project site were negative. Suitably sized burrows for American badger (*Taxidea taxus*) and burrowing owl (*Athene cunicularia*) were not identified during surveys conducted at the Project site. Historic and recent records for the species below were identified within five miles of the Project site:

- Mojave monkeyflower (*Diplacus mohavensis*), CNPS 1B.2, BLM Sensitive
- Barstow woolly sunflower (*Eriophyllum mohavense*), CNPS 1B.2, BLM Sensitive
- Mojave menodora (*Menodora spinescens* var. *mohavensis*), CNPS 1B.2, BLM Sensitive
- Creamy blazing star (*Mentzelia tridentata*), CNPS 1B.3, BLM Sensitive
- Beaver Dam breadroot (*Pediomelum castoreum*), CNPS 1B.3, BLM Sensitive
- Burrowing owl (*Athene cunicularia*), California SSC, BLM Sensitive

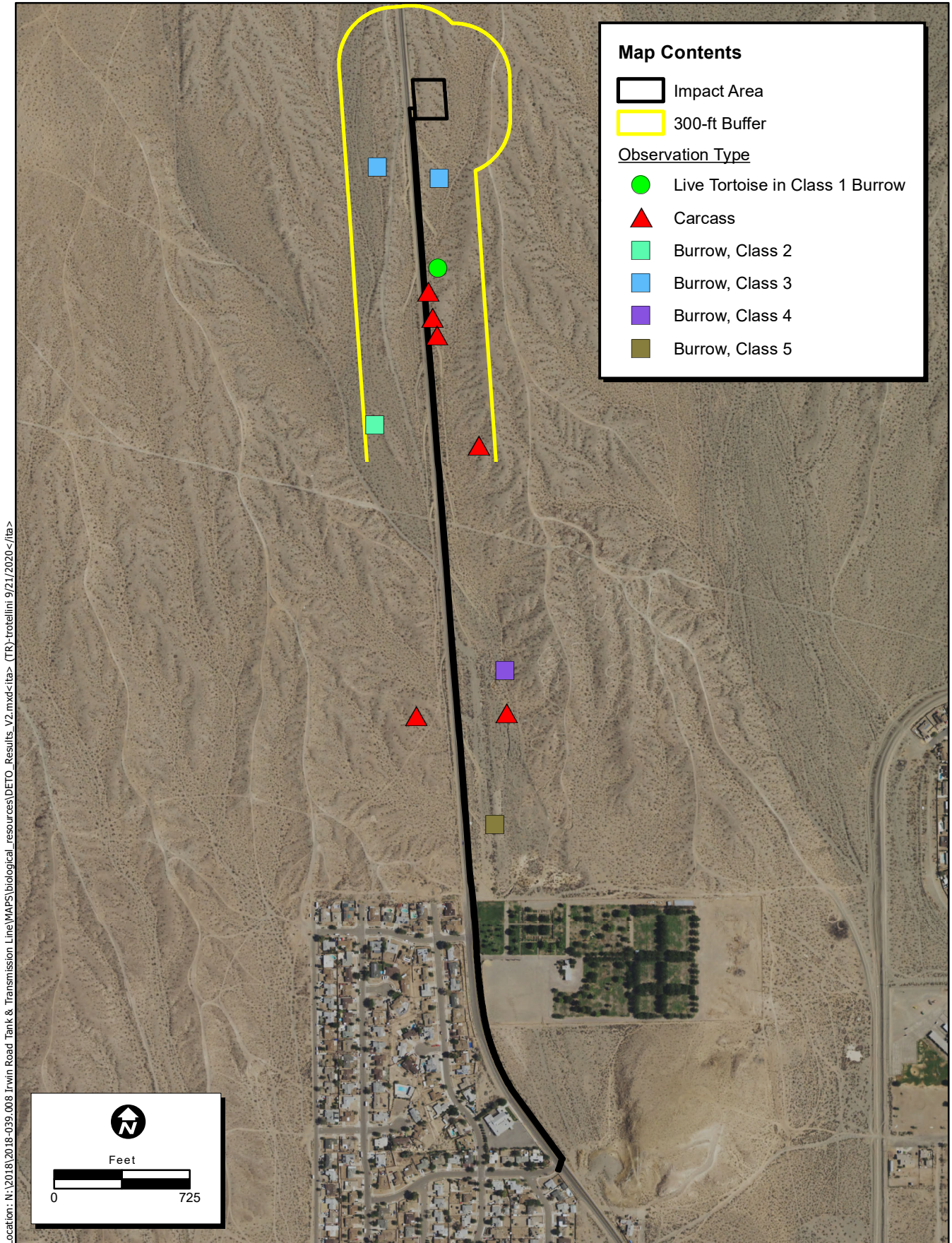


Figure 5. Desert Tortoise Results

2018-039.008 Irwin Road Tank & Transmission Line

- American badger (*Taxidea taxus*), California Species of Special Concern (SSC)
- Mohave ground squirrel (*Xerospermophilus mohavensis*), State-listed threatened, BLM Sensitive

Low Potential to Occur

The following species have a low potential to occur on the Project site because limited or marginal habitat for the species occurs within the Project site and a recently documented observation occurs within the database search, but not within five miles of the area; a historic documented observation (more than 20 years old) was recorded within five miles of the Project site; or suitable habitat strongly associated with the species occurs on site, but no records or only historic records were found within the database search:

- Spiny-hair blazing star (*Mentzelia tricuspidis*), CNPS 2B.1
- Parish's phacelia (*Phacelia parishii*), CNPS 1B.1, BLM Sensitive
- Golden eagle (*Aquila chrysaetos*), California fully protected species, BLM Sensitive
- Mountain plover (*Charadrius montanus*), California SSC, BLM Sensitive

Presumed Absent

The following species are presumed absent from the Project site due to the lack of suitable habitat, soil type, and/or elevation range at the Project site:

- California alkali grass (*Puccinellia simplex*), CNPS List 1B.2
- Chaparral sand-verbena (*Abronia villosa* var. *aurita*), CNPS List 1B.1, BLM Sensitive
- Desert cymopterus (*Cymopterus deserticola*), CNPS List 1B.2, BLM Sensitive
- Emory's crucifixion-thorn (*Castela emoryi*), CNPS List 2B.2
- Lane Mountain milk-vetch (*Astragalus jaegerianus*), CNPS List 1B.1
- Arroyo toad (*Anaxyrus californicus*), federal-listed endangered, California SSC
- Mohave tui chub (*Siphateles bicolor mohavensis*), federal- and State-listed endangered, California fully protected species
- Mojave fringe-toed lizard (*Uma scoparia*), California SSC, BLM Sensitive
- Townsend's big-eared bat (*Corynorhinus townsendii*), California SSC, BLM Sensitive
- Western yellow-billed cuckoo (*Coccyzus americanus occidentalis*), federal-listed threatened, State-listed endangered, BLM Sensitive
- LeConte's Thrasher (*Toxostoma lecontei*), California SSC, BLM Sensitive (note that both the SSC and BLM sensitive designations refer to the subspecies *T. l. macmillanorum*, the San Joaquin population [CDFW 2020c])

Raptors and Migratory Birds

Suitable nesting habitat for numerous species of migratory birds protected under the federal Migratory Bird Treaty Act (MBTA) and California Fish and Game Code is present on the Project site in some of the shrubs, Joshua trees, surrounding buildings and landscaping, and other anthropogenic structures (e.g., telephone poles). Therefore, nesting birds could use the Project site during the nesting bird season (typically February 15 through August 31).

Wildlife Movement Corridors, Linkages, and Significant Ecological Areas

The concept of habitat corridors addresses the linkage between large blocks of habitat that allow the safe movement of mammals and other wildlife species from one habitat area to another. The definition of a corridor varies, but corridors may include such areas as greenbelts, refuge systems, underpasses, and biogeographic land bridges. In general, a corridor is described as a linear habitat, embedded in a dissimilar matrix, which connects two or more large blocks of habitat. Wildlife movement corridors are critical for the survivorship of ecological systems for several reasons. Corridors can connect water, food, and cover sources, spatially linking these three resources with wildlife in different areas. In addition, wildlife movement between habitat areas provides for the potential of genetic exchange between wildlife species populations, thereby maintaining genetic variability and adaptability to maximize the success of wildlife responses to changing environmental conditions. This is especially critical for small populations subject to loss of variability from genetic drift and effects of inbreeding. The nature of corridor usage and wildlife movement patterns vary greatly among species.

The Project site was assessed for its ability to function as a wildlife corridor. The Project is not located within any designated DRECP linkages for desert tortoise or Mohave ground squirrel. In general, the Project site provides some wildlife movement opportunities because it is open. However, it is not located in an area that would be considered a movement corridor or linkage for wildlife due to its proximity to an existing well-traveled road (Irwin Road) and urban development to the south. While it is possible that the habitat and dirt roads present parallel to and running throughout the Project site are likely utilized by wildlife moving through the area, this area would not be considered a necessary linkage between conserved natural habitat areas and is therefore not considered a wildlife corridor or linkage.

Local Policies and Ordinances

The Project is located within the Superior-Cronese ACEC as designated under the DRECP and is therefore subject to the goals and objectives of the DRECP. The DRECP has identified Conservation and Management Actions (CMAs) for the Superior-Cronese ACEC to which the Project will be required to adhere. Full language for all DRECP CMAs can be found here: [https://eplanning.blm.gov/epl-front-office/projects/lup/66459/20012404/250016892/II.3 Preferred Alternative.pdf](https://eplanning.blm.gov/epl-front-office/projects/lup/66459/20012404/250016892/II.3_PREFERRED_Alternative.pdf).

IMPACTS ANALYSIS

Special-Status Species

Focused (i.e., protocol-level) surveys for special-status plant species, desert tortoise, and Mohave ground squirrel were conducted on the Project site in spring 2020. The special-status plant and Mohave ground squirrel surveys were negative; the desert tortoise survey identified multiple pieces of scat and burrows throughout the Project site, and a live desert tortoise was incidentally observed in a burrow onsite during the Mohave ground squirrel survey. Results of these surveys are presented under separate covers (ECORP 2020a, 2020b, 2020c, in prep); however, the impacts section below does take the results of the 2020 focused surveys into consideration.

The Project site consisted of mostly creosote bush – white bursage scrub with disturbed areas interspersed throughout. Disturbances related to off-highway vehicle use, Irwin Road, and nearby residences reduce the quality of habitat at the Project site for special-status plant and wildlife species.

Special-Status Plant Species

Focused surveys for special-status plants resulted in no detections or observations of special-status plant species. The disturbances present throughout the Project site likely preclude special-status plant species from occurring on or immediately adjacent to the Project. There are no expected impacts to special-status plant species as a result of the Project.

The Project is located within the Superior-Cronese ACEC and is therefore subject to the requirements of CMA LUPA-BIO-7, which requires cactus and succulents to be salvaged, stored, and replanted following construction of the Project. One live beavertail cactus and one skeleton of a dead Wiggin's cholla (*Cylindropuntia echinocarpa*) were identified during the plant survey. It is recommended the beavertail cactus be salvaged prior to the start of construction activities in order to maintain compliance with LUPA-BIO-7. The Wiggin's cholla will not need to be salvaged and replanted due to its deceased state. Depending on the time between the plant survey and the start of Project activities, it is possible that cactus or succulent species become established at other locations within or adjacent to the Project site. In order to identify these potential locations, a pre-construction survey for cactus and succulents is recommended prior to the start of construction to reduce impacts to cactus and succulents to a less than significant level. Implementation of Mitigation Measure BIO-1 is recommended. Mitigation Measures are outlined in the following section titled Recommendations.

Desert Tortoise

Despite the presence of disturbances, desert tortoise sign was observed throughout the Project site, and one live desert tortoise was observed in a burrow located in the northern portion of the Project. The Project will result in potential impacts to the desert tortoise. Direct impacts may occur in the form of habitat loss (including the loss of occupied designated Critical Habitat), mortality, injury, and disease. Loss of habitat through development of the reservoir and associated pipeline would affect foraging, reproduction, regional movement, and sheltering activities for desert tortoise. Table 4 lists the acreage of

occupied desert tortoise habitat that would be permanently affected by Project activities. Compensatory mitigation will be necessary to offset the impacts to habitat loss. Compensatory mitigation is required at a 5:1 ratio, in accordance with LUPA-BIO-COMP-1. Implementation of Mitigation Measure BIO-2 will reduce these impacts to a less than significant level. (Note that the language from Mitigation Measure BIO-2 was taken directly from the Project's EA [Albert A. Webb Associates 2020]).

Table 4. Permanent and Temporary Impacts to Vegetation and Land Cover	
Vegetation Community/Land Cover	Permanent Impacts (Acres)
Creosote Bush – White Bursage Scrub (Disturbed)	0.78
Disturbed	0.04
Developed	2.00

Mortality and injury could also occur to desert tortoises through collisions with vehicles and/or equipment or entrapment in trenches/open holes during construction activities. Desert tortoise exclusion fencing will be required for the Project in accordance with the CMA titled LUPA-BIO-IFS-4 in the DRECP (full language for all DRECP CMAs can be found here: [https://eplanning.blm.gov/epl-front-office/projects/lup/66459/20012404/250016892/II.3 Preferred Alternative.pdf](https://eplanning.blm.gov/epl-front-office/projects/lup/66459/20012404/250016892/II.3_PREFERRED_Alternative.pdf)). Furthermore, a biological monitor will be present during ground-disturbing Project activities in accordance with LUPA-BIO-IFS-5 in the DRECP. Implementation of Mitigation Measure BIO-2 will reduce these impacts to a less than significant level.

Indirect impacts may occur in the form of ground vibrations, increased human activity, visual disturbances, dust, and habitat degradation. These impacts are associated with construction activities and operations and maintenance activities conducted for the tank and associated pipeline. DRECP CMAs that will be implemented during the Project include:

- LUPA-BIO-5: implementing a worker education program
- LUPA-BIO-6: limiting subsidized resources for predators to desert tortoises, including but not limited to the common raven
- LUPA-BIO-10: preventing the spread of weedy plant species
- LUPA-BIO-11: controlling invasive plant species
- LUPA-BIO-14: implementing general standard practices to protect special-status species, including trash containment, prohibiting pets onsite, checking under vehicles and equipment for wildlife, and covering open holes and trenches
- LUPA-BIO-15: using construction and installation techniques that minimize disturbances, erosion, and vegetation removal
- LUPA-BIO-IFS-7: inspecting under vehicles and equipment prior to moving to prevent crushing of desert tortoises seeking shade

Implementation of the aforementioned CMAs and Mitigation Measure BIO-2 will reduce these impacts to a less than significant level.

The Project will be constructed within, adjacent to, and along an existing paved road. Impacts to desert tortoise linkages or fragmentation of occupied habitat are not expected as a result of this Project.

The northernmost portion of the Project site at the proposed water storage reservoir is located within a Tortoise Conservation Area (TCA), as designated in the *Revised Recovery Plan for the Mojave Population of the Desert Tortoise (Gopherus agassizii)* (USFWS 2011). TCAs have been incorporated as part of the desert tortoise conservation in the DRECP and are mapped in relation to the DRECP-designated desert tortoise Linkages and High Priority Habitat areas. Three CMAs that specifically address impacts to desert tortoise in TCAs are discussed in the DRECP, CONS-BIO-IFS-1 through -3. However, CONS-BIO-IFS-1 and -2 do not apply to Project because the Project is not large enough to result in the minimum qualifying impacts discussed in these particular CMAs. Adherence with CONS-BIO-IFS-3, limiting disturbance caps in ACECs, will be conducted through implementation of Mitigation Measure BIO-2.

Burrowing Owl

Burrowing owls and burrowing owl sign (e.g., whitewash, pellets, feathers, bones of prey items) were not identified during surveys conducted on and adjacent to the Project site. The desert tortoise burrows documented throughout the Project site would be considered potential burrowing owl burrows because owls could use them at any time. Riprap located at the southern portion of the Project site also provides suitable burrow habitat for the species. The species has a moderate potential to occur on the Project site. Although no burrowing owls or sign of burrowing owl presence was documented during the surveys, it is possible that, due to their migratory and highly mobile nature, the species could use and/or occupy the site prior to the start of ground-breaking project activities. If present, Project-related impacts could occur through habitat loss, mortality or injury due to collisions with vehicles and equipment or entombing inside burrows, ground vibrations, noise, and increased human activity. The Project would need to comply with LUPA-BIO-IFS-12, which requires monitoring of occupied burrows within 200 meters of the Project site during the species' nesting period. Implementation of Mitigation Measure BIO-3 is recommended to reduce impacts to the species to a less than significant level. If active burrowing owl burrows are present on or adjacent to the Project site and impacts are unavoidable, then the Project would be required to comply with LUPA-BIO-IFS-13, passive relocation in coordination with BLM and CDFW.

Golden Eagle

Golden eagle was found to have a low potential for occurrence on the Project site; a previously recorded occurrence was documented more than five miles from the Project site (CDFW 2020a). Suitable nesting substrates are not present on or immediately adjacent to the Project site. The Project site does, however, provide low-quality foraging habitat for the species. Presence of the anthropogenic disturbances and proximity to urban development limit the quality of the habitat on the Project site. Furthermore, higher-quality, undeveloped, and expansive native desert habitat is present to the north, east, and west of the Project site, and these areas are likely more conducive to and suitable for golden eagle foraging activities.

The loss of approximately 0.78 acres of foraging habitat in the form of disturbed creosote bush – white bursage scrub habitat would not be considered significant.

Mohave Ground Squirrel

The Project site is not located within any DRECP-designated Linkages or Key Population Centers for Mohave ground squirrel. Protocol-level trapping for Mohave ground squirrel was conducted on the Project site over three weeks between March 15 and July 15, 2020, the results of which were negative. If the Project will begin ground-breaking construction activities within one year of the survey, then the species is considered absent from the Project site and Project activities may commence without expected impacts to the species. If ground-breaking Project activities do not occur within one year of the end of the 2020 trapping survey, July 14, 2020, then another trapping survey will need to occur or the Project will need to implement mitigation measures to offset potential impacts to the species. If the species is present, direct impacts in the form of habitat loss and injury or mortality due to collision with Project vehicles and equipment could occur. If present, indirect impacts in the form of ground vibrations, noise, and increased human and vehicular presence on the Project site could also occur. The Mohave ground squirrel is a State-listed (threatened) species and also considered a BLM Sensitive species and any impacts would be considered significant. The Project would need to adhere to the following CMAs in the DRECP pertaining to Mohave ground squirrel:

- LUPA-BIO-IFS-39: perform pre-construction clearance surveys for Mohave ground squirrel during the active season (February 1 through August 31) and biological monitoring during construction activities
- LUPA-BIO-IFS-41: flag and avoid all occurrences of Mohave ground squirrel
- LUPA-BIO-IFS-42: prohibit use of rodenticides

Compliance with LUPA-BIO-IFS-39 was achieved through the protocol-level trapping survey conducted for Mohave ground squirrel in 2020, results of which were negative. Therefore, Project activities may commence within one year of the trapping survey without the requirement of additional mitigation measures for this species, per CDFW guidance. If Project activities do not commence within one year of the 2020 Mohave ground squirrel trapping survey, July 14, 2020, implementation of Mitigation Measure BIO-4 is recommended. An Incidental Take Permit (ITP) under Section 2081 of the California Endangered Species Act may be necessary to authorize incidental take to Mohave ground squirrel if the species is detected onsite during future survey efforts. If an ITP is obtained, it is expected that additional avoidance and minimization measures as well as mitigation measures will be included as permit conditions.

Other Special-Status Wildlife Species

American badger and mountain plover have a moderate and low potential to occur on the site, respectively, due to the presence of potential habitat and documented occurrences in the vicinity of the Project (more than five miles away). Potential burrows and American badger sign were not observed during surveys conducted on the Project site; however, due to the mobile and elusive behavior of the species and the presence of suitable foraging habitat, it is possible for the American badger to use the

Project site. Mountain plover has a low potential to use the habitat onsite for overwintering purposes. Mountain plovers do not breed and nest in this area, so impacts to mountain plover nesting activities are not expected.

Project-related impacts to American badger and mountain plover could occur in the form of loss of foraging habitat, loss of wintering habitat (for mountain plover) death or injury due to collisions with vehicles or equipment, noise, ground vibrations, and increased human activity. Loss of foraging and wintering habitat is not expected to be significant because it is such a small amount (approximately 0.78 acres of creosote bush – white bursage scrub) compared to the large amounts of undisturbed and undeveloped habitat in the vicinity. Furthermore, the proximity of the Project to Irwin Road further reduces the quality of habitat and subsequent use of the habitat by both species. Impacts to both species in the form of death or injury due to collisions with vehicles or equipment, noise, ground vibrations, and increased human activity are also not expected to contribute substantially to the overall decline of these species because this habitat is not expected to support dense populations of these species. Therefore, impacts to these species are not expected to be significant.

There are no DRECP-designated CMAs for these two species.

Sensitive Natural Communities

The Project site consisted entirely of disturbed creosote bush – white bursage scrub and disturbed or developed areas. The Project site did not contain any riparian habitat or sensitive natural communities that would need to be preserved and no Project-related impacts to these types of resources are anticipated with the development of the Project.

Federally Protected Wetlands and Waters of the United States

The results of the Aquatic Resources Delineation and discussion of potential impacts on State or federally protected wetlands or Waters of the U.S. are discussed in the Aquatic Resources Delineation Report (ECORP 2020d, in prep), prepared under a separate cover.

Wildlife Corridors and Nursery Sites

The Project site is located within and adjacent to areas containing existing disturbances (e.g., paved and dirt roads, unauthorized trash dumping, and urban developments). Due to its proximity to an existing well-traveled road (Irwin Road) and urban development in the south, the Project site does not provide wildlife movement or travel opportunities that the surrounding undeveloped areas do not already provide. Furthermore, the loss of a minimal amount of habitat (approximately 0.78 acres) would not affect existing wildlife movement activity in the area. Loss of the habitat within the Project site would not result in a significant impact to regional or local wildlife travel. Therefore, no impacts to wildlife corridors are expected to occur during the development of the Project site.

If ground-disturbing activities occur during the nesting bird season, typically from February 1 through August 31, Project activities could directly affect birds and raptors and their nests protected by the California Fish and Game Code and the federal MBTA. Project-related direct impacts to nesting birds could occur through the removal of habitat and indirectly through increased noise, increased human

activity, and ground vibrations. In order to reduce impacts to nesting birds and raptors a less than significant level, implementation of Mitigation Measure BIO-5 is recommended.

Local Policies and Ordinances

The Project is located within the planning area for the DRECP, specifically within the DRECP-designated Superior-Cronese ACEC. A portion of the Project occurs on BLM-managed lands; therefore, compliance with the DRECP as well as the specific goals and management actions designated for the Superior-Cronese ACEC is required. The DRECP has identified CMAs for the Superior-Cronese ACEC to which the Project will be required to adhere. A comprehensive list of CMAs pertinent to the Project can be found in the EA prepared for the Project (Albert A. Webb Associates 2020). The Superior-Cronese ACEC also has designated disturbance cap that has already been exceeded and will require compensatory mitigation at a 5:1 ratio, as discussed in the EA (Albert A. Webb Associates 2020):

“Within the DRECP, the Project site is located within the Superior-Cronese Area of Critical Environmental Concern (ACEC) and is subject to specific goals, standards, and objectives identified for this area, as well as general practices and uses. The Superior-Cronese ACEC has a disturbance cap of 0.5 percent or 16,533.5 acres. The ground disturbance cap is a limitation on ground disturbing activities and cumulatively considered past, present, and future ground disturbance. At this time, BLM has determined the baseline ground disturbance for this ACEC exceeds the disturbance cap. Thus, ground disturbance mitigation is included in the Proposed Action for the water tank site and pipeline alignment. These impacts will be mitigated at a ratio of 5:1, for a total of eight acres.”

Nesting of compensatory mitigation requirements for disturbance cap allowances and impacts to occupied desert tortoise habitat is allowable. Compensatory mitigation requirements performed during implementation of Mitigation Measure BIO-2 will reduce impacts to the Superior-Cronese ACEC disturbance cap designations to a less than significant level.

Although no sensitive vegetation communities as designated by CDFW are present on the Project site, LUPA-BIO-7 in the DRECP requires restoration of Project temporary impact areas within habitat for special-status species. The Project site contains occupied desert tortoise habitat in the creosote bush – white bursage scrub. Therefore, implementation of Mitigation Measure BIO-6 is recommended to reduce impacts to a less than significant level. (Note that the language from Mitigation Measure BIO-6 was taken directly from the Project’s EA [Albert A. Webb Associates 2020]).

Habitat Conservation Plans and Natural Community Conservation Plans

The Project site is not located within an HCP or NCCP. Therefore, development of the Project site will not conflict with the provisions of an adopted HCP, NCCP, or other approved local, regional, or State HCP.

RECOMMENDATIONS

The Project will be required to comply with the pertinent CMAs outlined in the DRECP, a complete list of which may be found in the EA (Albert A. Webb Associates 2020). Mitigation measures pertinent to CEQA

are recommended to reduce impacts to sensitive biological resources to a less than significant level are included below.

It is also recommended that the Project proponent initiate informal consultation with USFWS and CDFW to discuss permitting under the federal and State Endangered Species Acts with regard to potential Project-related “take” of desert tortoise. If obtained, permits acquired under the federal and State Endangered Species Acts will contain additional avoidance and minimization measures as well as additional mitigation measures to further reduce impacts to the species.

BIO-1 Pre-Construction Survey for Cactus and Succulents: Within 60 days prior to the start of ground-breaking activities, a qualified biologist with experience identifying cactus and succulent species occurring in the Mojave Desert will conduct an inventory survey in order to document the locations of cactus and succulent species. One beavertail cactus was identified during the special-status plant surveys conducted in 2020, and it is possible that additional germinated specimens may become established in the time between the survey and the start of ground-breaking Project activities. Locations of the cactus and succulents will be documented with a sub-meter global positioning system (GPS) unit and flagged for salvage activities conducted in accordance with the DRECP CMA LUPA-BIO-7. Specimens shall be salvaged prior to the start of ground-breaking construction activities. Healthy specimens shall be cared for and, to the maximum extent practicable, replanted at the Project site following completion of the Project. Salvage, care, and replanting of beavertail cactus should be performed by an experienced individual who is familiar with BLM protocols and who will be able to maintain the specimens until Project construction is complete.

BIO-2 Desert Tortoise Protection¹: The following shall be implemented:

- a. The Project proponent shall designate a field contact representative (FCR) who will be responsible for overseeing compliance with protective stipulations for the desert tortoise and for coordination on compliance with the BLM. The FCR must be on-site during all Project activities, including geotechnical borings or vehicle movement. The FCR shall have the authority to halt all Project activities that are in violation of the stipulations. The FCR shall have a copy of all stipulations when work is being conducted on the site. The FCR may be a crew chief or field supervisor, a Project manager, any other employee of the Project proponent, or a contracted biologist.
- b. All employees of the Project proponent who work on-site shall participate in a tortoise education program prior to initiation of field activities. The Project proponent is responsible for ensuring that the education program is developed and presented prior to conducting activities. New employees shall receive formal, approved training prior to working on-site. The worker education program will provide interpretation for non-English speaking workers and provide the same instruction for new workers prior to their working on site. The employee education program must be received, reviewed, and approved by the BLM Resource Area Office at least 15 days prior to the presentation of the program. The program may consist of a class presented by a qualified

¹ The language for this Mitigation Measure was taken directly from the Tortoise Mitigation section in the Project’s EA (Section 4.6.3; Albert A. Webb Associates 2020) for consistency.

biologist (BLM or contracted) or a video. Wallet-sized cards or a one-page handout with important information for workers to carry are recommended. The program shall cover the following topics at a minimum:

- i. distribution of the desert tortoise,
 - ii. general behavior and ecology of the tortoise,
 - iii. sensitivity to human activities,
 - iv. legal protection,
 - v. penalties for violations of State or federal laws,
 - vi. reporting requirements, and
 - vii. Project-protective mitigation measures.
- c. Only biologists authorized by the USFWS, CDFW, and the BLM shall handle desert tortoises. The BLM or Project proponent shall submit the name(s) of proposed authorized biologist(s) to the USFWS for review and approval at least 15 days prior to the onset of activities. No handling activities shall begin until an authorized biologist is approved. Authorization for handling shall be granted under the auspices of the Section 7 consultation.
- d. The area of disturbance shall be confined to the smallest practical area, considering topography, placement of facilities, location of burrows, public health and safety, and other limiting factors. Work area boundaries shall be delineated with flagging or other marking to minimize surface disturbance associated with vehicle straying. Special habitat features, such as burrows, identified by the qualified biologist shall be avoided to the extent possible. To the extent possible, previously disturbed areas within the Project site shall be utilized for the stockpiling of excavated materials, storage of equipment, location of office trailers, and parking of vehicles. The qualified biologist, in consultation with the Project proponent, shall ensure compliance with this measure.
- e. Where practical, no access road shall be bladed to the Project site. Cross-country access shall be the standard for temporary activities. For development activities, a short driveway (no more than 0.3 miles) from the nearest access road may be constructed if necessary. To the extent possible, access to the Project site shall be restricted to designated "open" routes of travel. A qualified biologist shall select and flag the access route, whether cross-country or bladed, to avoid burrows and to minimize disturbance of vegetation. All constructed access roads are to be considered temporary; after Project abandonment (or completion, if a short-term activity), the route shall be rehabilitated using ripping, raking, and other accepted techniques.
- Except when absolutely required by the Project and as explicitly stated in the Project permit, cross-country vehicle use by employees is prohibited during work and non-work hours.
- f. Desert tortoises may be handled only by the authorized biologist and only when necessary. In handling desert tortoises, the authorized biologist shall follow the techniques form handling

desert tortoises in "Guidelines for Handling Desert Tortoises during Construction Projects" (Desert Tortoise Council 1994²).

- g. The authorized biologist shall maintain a record of all desert tortoises handled. This information shall include for each tortoise:
 - i. the locations (narrative and maps) and dates of observations;
 - ii. general condition and health, including injuries and state of healing and whether animals voided their bladders;
 - iii. location moved from and location moved to;
 - iv. diagnostic markings (i.e., identification numbers or marked lateral scutes); and
 - v. slide photograph of each handled desert tortoise as described in a previous measure.
- h. No later than 90 days after completion of construction or termination of activities, the FCR and authorized biologist shall prepare a report for the BLM. The report shall document the effectiveness and practicality of the mitigation measures, the number of tortoises excavated from burrows, the number of tortoises moved from the site, the number of tortoises killed or injured, and the specific information for each tortoise as described previously. The report may make recommendations for modifying the stipulations to enhance tortoise protection or to make it more workable. The report shall provide an estimate of the actual acreage disturbed by various aspects of the operation.
- i. Upon locating a dead or injured tortoise, the Project proponent or agent is to notify the BLM Resource Area Office. The BLM must then notify the appropriate field office (Carlsbad³ or Ventura) of the USFWS by telephone within three days of the finding. Written notification must be made within five days of the finding, both to the appropriate USFWS field office and to the USFWS Division of Law Enforcement in Torrance. The information provided must include the date and time of the finding or incident (if known), location of the carcass or injured animal, a photograph, cause of death, if known, and other pertinent information.

An injured animal shall be transported to a qualified veterinarian for treatment at the expense of the Project proponent. If an injured animal recovers, the appropriate field office of USFWS should be contacted for final disposition of the animal.

The BLM shall endeavor to place the remains of intact tortoise carcasses with educational or research institutions holding the appropriate State and federal permits per their instructions. If

² The *Guidelines for Handling Desert Tortoises During Construction Projects* document was revised in July 1999. Handling of desert tortoises shall also follow the techniques outlined in the USFWS Desert Tortoise Field Manual (2009).

³ The Project is located within the jurisdiction of the Palm Springs Fish and Wildlife Office, which is a sub-office of the Carlsbad Fish and Wildlife Office.

such institutions are not available or the animal's remains are in poor condition, the information noted above shall be obtained and the carcass left in place. If left in place and sufficient pieces are available, the BLM (or its agent) shall attempt to mark the carcass to ensure that it is not reported again. Arrangements for disposition to a museum shall be made prior to removal of the carcass from the field.

- j. Except on county-maintained roads, vehicle speeds shall not exceed 15 miles per hour through desert tortoise habitat.
- k. Workers shall inspect for tortoises under a vehicle or construction equipment prior to moving it. If a tortoise is present, it may move on its own. If it does not move within 15 minutes, a designated biologist may remove and relocate the animal to a safe location.
- l. All construction materials will be visually checked for the presence of wildlife prior to their movement or use. Any wildlife encountered during the course of these inspections will be allowed to leave the construction area unharmed.
- m. All steep-walled trenches or excavations used during the Project will be covered, except when being actively used, to prevent entrapment of wildlife. If trenches cannot be covered, they will be constructed with escape ramps, following up-to-date design standards to facilitate and allow wildlife to exit, or wildlife exclusion fencing will be installed around the trench(s) or excavation(s). Open trenches or other excavations will be inspected by a designated biologist immediately before backfilling, excavation, or other earthwork.
- n. Domestic pets are prohibited on sites. This prohibition does not apply to the use of domestic animals (e.g., dogs) that may be used to aid in official and approved monitoring procedures/protocols, or service animals (dogs) under Title II and Title III of the American with Disabilities Act.
- o. All activity work areas will be kept free of trash and debris. Particular attention will be paid to "micro-trash" (including such small items as screws, nuts, washers, nails, coins, rags, small electrical components, small pieces of plastic, glass or wire, and any debris or trash that is colorful or shiny) and organic waste that may subsidize predators. All trash will be covered, kept in closed, raven-proof containers, or otherwise removed from the Project site at the end of each day or at regular intervals prior to periods when workers are not present at the site to reduce the attractiveness of the area to ravens and other tortoise predators.
- p. The application of water and/or other palliatives for dust abatement in construction areas and during Project operations and maintenance will be done with the minimum amount of water necessary to meet safety and air quality standards and in a manner that prevents the formation of puddles, which could attract wildlife and wildlife predators.
- q. Feeding of wildlife, leaving of food or trash as an attractive nuisance to wildlife, collection of native plants, or harassing of wildlife on a site is prohibited.

- r. Project proponents shall salvage and relocate any cactus from the site prior to disturbance using BLM protocols. To the maximum extent practicable for short-term disturbed areas, the cactus shall be replanted back to the original site.
- s. Project proponents shall stockpile any vegetation grubbed or bladed from the Project site and access road. Following completion of the Project, the access road and Project site (if a temporary disturbance) shall be recontoured to approximate pre-Project condition and the stockpiled vegetation randomly spread across the recontoured area. [Due to the variation in substrate types, additional revegetation measures (e.g., imprinting, reseeding) shall be considered.]
- t. Compensation for permanent loss of 1.6 acres of habitat⁴ shall be required in the Superior-Cronese critical habitat unit at a 5:1 ratio, according to BLM requirements. Disturbance cap mitigation will be nested with desert tortoise mitigation. The Project proponent shall [choose] either one or a combination of the following: 1) acquire the compensation lands and deliver the deed to the BLM; 2) provide adequate funds, to be determined by the BLM, to the BLM for the acquisition of compensation lands or for other activities approved by the USFWS; or 3) make permanent improvements to tortoise habitat upon agreement of the USFWS, CDFW, and the BLM. Lands to be acquired must be within Category I or II of the same tortoise management unit. If acquiring lands (option 1 above), the Project proponent must work closely with the BLM in selecting the lands most benefitting the conservation and recovery efforts. Compensation activities must be initiated or completed within 12 months from the time the resource impact occurs (e.g. ground disturbance, habitat removal, route obliteration, etc. for construction activities; wildlife mortality, visual impacts, etc. due to operations).
- u. Any wildlife encountered during the course of an activity, including construction and operation, shall be allowed to leave the area unharmed.

BIO-3 Pre-construction Survey for Burrowing Owl: A pre-construction survey for burrowing owl shall be conducted between 14 and 30 days prior to the start of ground-disturbing activities to determine whether burrowing owls are present on or within 200 meters of the Project site. The survey shall follow the methods described in the CDFW's *Staff Report on Burrowing Owl Mitigation* (CDFG 2012). If burrowing owls and/or suitable burrowing owl burrows with sign (e.g., whitewash, pellets, feathers, prey remains) are identified on the Project site during the survey, and Project activities are expected to occur during the burrowing owl nesting period, defined as February 1 through August 31 (CDFG 2012), then activity-specific biological monitoring in accordance with DRECP CMA LUPA-BIO-IFS-12 shall be conducted to ensure occupied burrows and a 200-meter buffer are avoided. and impacts to those features are unavoidable. Coordination with the BLM and/or CDFW may be necessary in order to determine the appropriate level of monitoring the occupied burrows would require. If avoidance of impacts to occupied burrows during the nesting season are unavoidable, then consultation with BLM and/or CDFW shall be

⁴ Note that there is an acreage discrepancy between this biological reconnaissance survey report and the acreage presented in the EA prepared by Albert A. Webb Associates. ECORP calculated 0.78 acres of impacts based on data received from GSWC in July and August 2020.

performed. If passive relocation and burrow exclusion will be necessary, methods shall follow those described in the CDFW's *Staff Report on Burrowing Owl Mitigation* (CDFG 2012) and in CMA LUPA-BIO-IFS-13 shall be followed.

BIO-4 Mohave Ground Squirrel Protection: A protocol-level trapping survey for Mohave ground squirrel was conducted in 2020, results of which were negative. Due to the negative finding, ground-disturbing activities shall commence within one year of the protocol-level Mohave ground squirrel trapping survey, which was completed on July 14, 2020. If ground-disturbing activities do not occur within one year of the 2020 survey, then another protocol-level trapping survey for Mohave ground squirrel shall be conducted by a qualified biologist in possession of a Memorandum of Understanding with CDFW to perform trapping surveys for the species. The trapping survey shall be conducted at the appropriate survey timing described in the most current and CDFW-accepted survey guidelines. At the time this document was prepared, the Mohave Ground Squirrel Survey Guidelines (CDFG 2003, revised 2010) is the most current protocol survey document. If Mohave ground squirrels are not detected or observed during the trapping survey, then Project activities may commence without implementation of additional mitigation or avoidance and minimization measure for the species. If Mohave ground squirrels are detected during the trapping survey, or if ground-disturbing Project activities do not start within one year of a protocol-level trapping survey, then additional avoidance and minimization measures such as burrow avoidance, biological monitoring, compensatory mitigation, and pre-construction surveys shall be implemented in accordance with DRECP CMA LUPA-BIO-IFS-39 and -41. Additionally, consultation with CDFW regarding application for an ITP under the California ESA Section 2081 may be necessary. If an ITP is obtained for the Project, then additional avoidance and minimization measures as well as mitigation measures developed in consultation with CDFW may be incorporated as permit conditions.

BIO-5 Pre-construction Nesting Bird Survey: If construction or other Project activities are scheduled to occur during the bird breeding season (February 1 through August 31), a pre-construction nesting bird survey shall be conducted by a qualified biologist to ensure that active bird nests will not be disturbed or destroyed. The survey shall be completed no more than three days prior to initial ground disturbance. The nesting bird survey shall include the Project site and adjacent areas where Project activities have the potential to affect active nests, either directly or indirectly due to construction activity, noise, or ground disturbance. If an active nest is identified, a qualified avian biologist shall establish an appropriate non-disturbance limit buffer around the nest using flagging or staking. Construction activities shall not occur within any disturbance limit buffer zones until the nest is deemed inactive by the qualified biologist.

BIO-6 Vegetation Protection and Restoration⁵: The following measures will be implemented during Project construction:

- a. Clearing will be performed to preserve roots to the extent practicable, stockpile or dispose of vegetation wastes to maintain stability of the site, and provide erosion control. Brush will generally be cut with a chain saw or similar equipment. Vegetation cut during clearing operations

⁵ The language for this Mitigation Measure was taken directly from the Vegetation Mitigation section in the Project's EA (Section 4.3.3; Albert A. Webb Associates 2020) for consistency.

will be stockpiled on the ROW (brush, etc.). In some cases trees, stumps, or slash may be scattered back over the ROW after seeding to aid in erosion control.

- b. Cleared vegetation will be disposed of as directed by the BLM's field representative on federal lands. Where feasible and when agreed to by the BLM field representative, the Contractor may use slash for on-site reclamation. Placement of slash shall not interfere with other reclamation activities including seeding and planting.
- c. On private lands, cleared vegetation will be disposed of as requested by the property owner.
- d. Implement site-specific habitat restoration actions for the areas affected in compliance with the DRECP CMA discussed in Table 1 [of the EA], including specifying and using:
 - i. The appropriate seed (e.g., certified weed- free, native, and locally and genetically appropriate seed)
 - ii. Appropriate soils (e.g., topsoil of the same original type on site or that was previously stored by soil type after being salvaged during excavation and construction activities)
 - iii. Equipment
 - iv. Timing (e.g., appropriate season, sufficient rainfall)
 - v. Location
 - vi. Success criteria
 - vii. Monitoring measures
 - viii. Contingency measures, relevant for restoration, which includes seeding that follows BLM policy when on BLM administered lands.
- e. Integrated weed management actions, shall be carried out during all phases of activities in compliance with the DRECP CMA discussed in Table 1 [of the EA], as appropriate, and at a minimum shall include the following
 - i. Thoroughly clean the tires and undercarriage of vehicles entering or re-entering the Project site to remove potential weeds.
 - ii. Store Project vehicles on site in designated areas to minimize the need for multiple washings whenever vehicles re-enter the Project site.
 - iii. Properly maintain vehicle wash and inspection stations to minimize the introduction of invasive weeds or subsidy of invasive weeds.
 - iv. Closely monitor the types of materials brought onto the site to avoid the introduction of invasive weeds and non-native species.
 - v. Reestablish native vegetation quickly on disturbed sites.

- vi. Monitor and quickly implement control measures to ensure early detection and eradication of weed invasions to avoid the spread of invasive weeds and non-native species on site and to adjacent off-site areas.
- vii. Use certified weed-free mulch, straw, hay bales, or equivalent fabricated materials for installing sediment barriers.

Thank you for the opportunity to work on your Project. If you have any questions regarding the contents of this letter report, please contact me at (909) 307-0046.

Sincerely,

ECORP Consulting, Inc.



Kristen Wasz
Biology Manager/Senior Biologist

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LIST OF ATTACHMENTS

Attachment A: Representative Photographs

Attachment B: Plant Species Observed

Attachment C: Wildlife Species Observed

ATTACHMENT A

Representative Photographs



Photograph 1. Representative habitat in northern portion of Project site, looking south.



Photograph 2. Representative habitat in proposed tank location, looking south.



Photograph 3. Representative habitat in southern portion of Project site, looking north.



Photograph 4. Small ephemeral wash crossing Project area.



Photograph 5. Example of existing disturbances within Project site.



Photograph 6. Unauthorized trash dumping.

ATTACHMENT B

Plant Species Observed

Irwin Road Reservoir and Transmission Main Project Project Plant Species Compendium	
Scientific Name	Common Name
VASCULAR PLANTS	
GYNOSPERMS (GNETALES)	
EPHEDRACEAE	EPHEDRA FAMILY
<i>Ephedra nevadensis</i>	Nevada jointfir
ANGIOSPERMS (EUDICOTS)	
ARECACEAE	PALM FAMILY
<i>Washingtonia robusta</i> *	Mexican fan palm
ARALIACEAE	GINSENG FAMILY
<i>Hedera helix</i> *	English ivy
ASTERACEAE	SUNFLOWER FAMILY
<i>Ambrosia acanthicarpa</i>	annual bur-sage
<i>Ambrosia dumosa</i>	white bursage
<i>Ambrosia salsola</i>	cheesebush
<i>Chaenactis fremontii</i>	Fremont's pincushion
<i>Chaenactis stevioides</i>	desert pinsuchion
<i>Eriophyllum wallacei</i>	Wallace's woolly daisy
<i>Lactuca serriola</i>	prickly lettuce
<i>Logfia depressa</i>	dwarf cottonrose
<i>Malacothrix glabrata</i>	desert dandelion
<i>Sonchus asper</i> *	spiny sowthistle
<i>Stephanomeria pauciflora</i>	wirelettuce
APOCYNACEAE	DOGBAIN FAMILY
<i>Nerium oleander</i> *	oleander
BORAGINACEAE	BORAGE FAMILY
<i>Amsinckia tessellata</i>	bristly fiddleneck
<i>Cryptantha angustifolia</i>	narrow leaved cryptantha
<i>Cryptantha circumscissa</i>	cushion cryptantha
<i>Cryptantha nevadensis</i>	Nevada cryptantha
<i>Cryptantha pterocarya</i>	wingnut cryptantha
<i>Heliotropium curassavicum</i>	Chinese parsley
<i>Pectocarya linearis</i>	comb-bur
<i>Pectocarya penicillata</i>	winged combseed
<i>Phacelia tanacetifolia</i>	tansy phacelia
BRASSICACEAE	MUSTARD FAMILY
<i>Brassica tournefortii</i> *	Saharan mustard
<i>Caulanthus lasiophyllus</i>	California mustard
<i>Lepidium lasiocarpum</i>	peppergrass
<i>Sisymbrium</i> sp.	mustard
CACTACEAE	CACTUS FAMILY
<i>Cylindropuntia echinocarpa</i>	Wiggins' cholla (dead)
<i>Opuntia basilaris</i> var. <i>basilaris</i>	beavertail cactus**
CHENOPODIACEAE	GOOSEFOOT FAMILY
<i>Atriplex canescens</i>	fourwing saltbush
<i>Atriplex polycarpa</i>	allscale saltbush
FABACEAE	LEGUME FAMILY
<i>Melilotus indicus</i> *	annual yellow sweetclover
<i>Senna armata</i>	desert senna
GERANIACEAE	GERANIUM FAMILY
<i>Erodium cicutarium</i> *	coastal heron's bill
<i>Erodium texanum</i>	desert heron's bill
LOASACEAE	LOASA FAMILY

Irwin Road Reservoir and Transmission Main Project Project Plant Species Compendium	
<i>Mentzelia albicaulis</i>	whitestem blazingstar
MALVACEAE	MALLOW FAMILY
<i>Malacothamnus parishii</i>	Parish's bush mallow
ONAGRACEAE	EVENING PRIMROSE FAMILY
<i>Chylismia claviformis</i> subsp. <i>claviformis</i>	browneyed primrose
PAPAVERACEAE	POPPY FAMILY
<i>Eschscholzia minutiflora</i>	coville poppy
PLANTAGINACEAE	PLANTAIN FAMILY
<i>Plantago ovata</i>	desert indian wheat
POLEMONIACEAE	PHLOX FAMILY
<i>Langloisia setosissima</i>	lilac sunbonnet
POLYGONACEAE	BUCKWHEAT FAMILY
<i>Chorizanthe brevicornu</i> var. <i>brevicornu</i>	brittle spineflower
<i>Chorizanthe rigida</i>	rigid spiny herb
<i>Eriogonum angulosum</i>	anglestem buckwheat
SOLANACEAE	NIGHTSHADE FAMILY
<i>Lycium cooperi</i>	Cooper's box thorn
TAMARICACEAE	TAMARISK FAMILY
<i>Tamarix aphylla</i>	athel tamarisk
ZYGOPHYLLACEAE	CALTROP FAMILY
<i>Larrea tridentata</i>	South American creosote bush
ANGIOSPERMS (MONOCOTS)	
LILIACEAE	LILLY FAMILY
<i>Agapanthus praecox</i> *	African lilly
POACEAE	GRASS FAMILY
<i>Bromus madritensis</i> subsp. <i>rubens</i> *	red brome
<i>Cynodon dactylon</i> *	Bermuda grass
<i>Hordeum murinum</i> *	foxtail barley
<i>Schismus barbatus</i> *	common Mediterranean grass

* Not native to California.

ATTACHMENT C

Wildlife Species Observed

SCIENTIFIC NAME	COMMON NAME
<i>Accipiter cooperii</i>	Cooper's hawk
<i>Amphispiza bilineata</i>	black-throated sparrow
<i>Ammospermophilus leucurus</i>	white-tailed antelope squirrel
<i>Cysteodemus</i> sp.	Inflated beetle
<i>Corvus corax</i>	common raven
<i>Dipsosaurus dorsalis</i>	desert iguana
<i>Gopherus agassizii</i>	Mojave desert tortoise (scat, carcass, burrow)
<i>Haemorhous mexicanus</i>	house finch
<i>Lytta magister</i>	master blister beetle
<i>Passer domesticus</i>	house sparrow
<i>Pogonomyrmex</i> sp.	harvester ant
<i>Sayornis saya</i>	Say's phoebe
<i>Streptopelia decaocto</i>	Eurasian collared dove
<i>Sylvilagus audubonii</i>	desert cottontail
<i>Uta stansburiana</i>	side-blotched lizard
<i>Zenaida macroura</i>	mourning dove