



September 22, 2020

Mr. George Zakhari
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Via e-mail to: George.Zakhari@gswater.com

Subject: Results of a Desert Tortoise 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 focused protocol Mojave desert tortoise (*Gopherus agassizii*) 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 2020 survey are presented below. Following is an easy reference to the organization of the report:

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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 pipe (DIP) water transmission pipeline 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.



Map Date: 4/29/2020

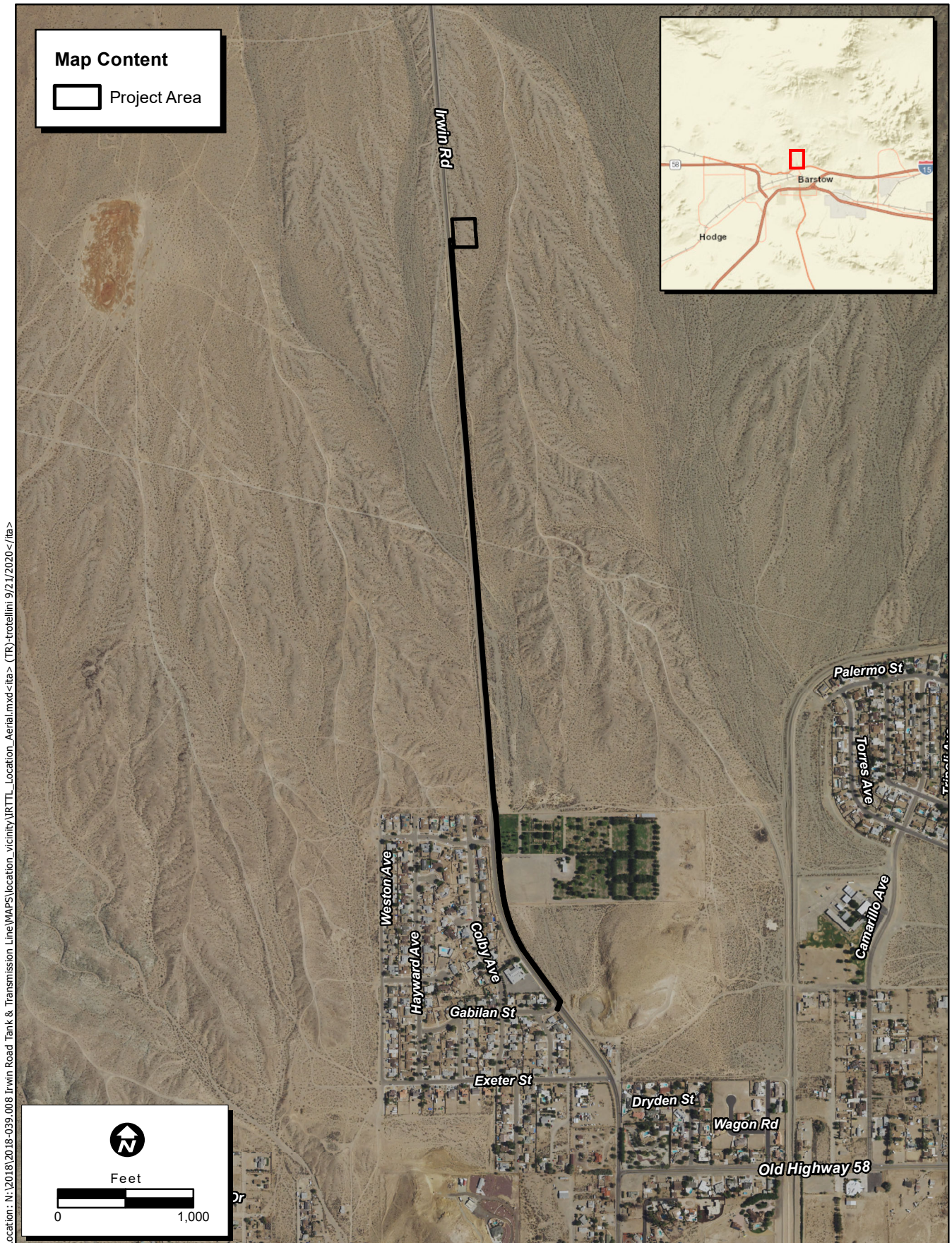
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Figure 1. Project Vicinity

2018-039.008 Irwin Road Tank & Transmission Line



Map Date: 9/21/2020

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Figure 2. Project Location

2018-039.008 Irwin Road Tank & Transmission Line

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 SE Topographic quadrangles, lies within Sections 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 MG 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 DIP water transmission pipeline, approximately 5,816 linear feet (1.1 miles) long will be buried between 36 and 42 inches below the surface within previously developed portions of the Irwin Road ROW, a County maintained road. 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.

PROJECT BACKGROUND

A protocol-level desert tortoise 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 in 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 prepared by Albert A. Webb Associates (2020). Both of these documents were reviewed prior to the start of the project surveys in 2020.

LITERATURE REVIEW

A review of the California Department of Fish and Wildlife (CDFW) California Natural Diversity Database identified multiple documented occurrences of desert tortoise within five miles of the Project site. No desert tortoises have been documented within the Project boundaries or the immediate vicinity. The two closest occurrences were documented in 2006 and are located within three miles of the Project, Occurrences 101 (to the east) and 110 (to the south). Occurrence 101 was a burrow with large, fresh scat on the burrow apron, and Occurrence 110 was multiple live desert tortoises and carcasses (CDFW 2020).

U.S. Fish and Wildlife Service (USFWS) conducts annual range-wide monitoring within Critical Habitat Units, including the Superior-Cronese, where the Project is located. In 2019, live desert tortoises were observed in the vicinity of the Project (USFWS 2019a). However, the population density for the overall Superior-Cronese Critical Habitat Unit was calculated at 1.9 desert tortoises per square mile, which is the second lowest density estimate of the Critical Habitat Units surveyed.

The Project is located within designated Critical Habitat for desert tortoise, the Superior-Cronese Critical Habitat Unit (Figure 3). 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 DRECP has identified Conservation and Management Actions (CMAs) for the Superior-Cronese ACEC that which the Project will be required to adhere. These CMAs can be found in the draft Environmental Assessment prepared for the Project (Albert A. Webb Associates 2020).

The northernmost portion of the project also overlaps with a Tortoise Conservation Area, as designated in the *Revised Recovery Plan for the Mojave Population of the Desert Tortoise (Gopherus agassizii)* (USFWS 2011).

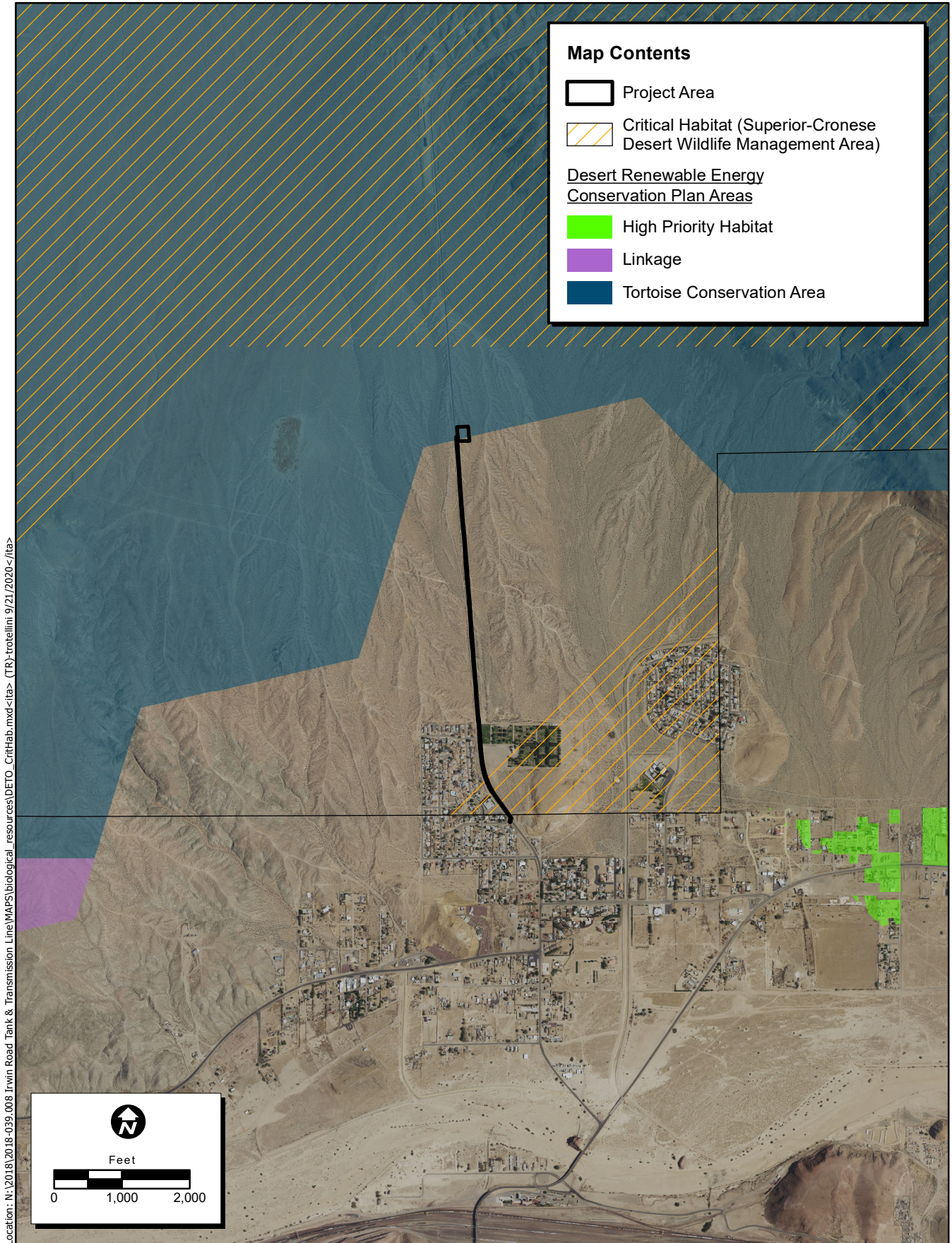


Figure 3. Desert Tortoise Critical Habitat and DRECP Tortoise Conservation Area
2018-039.008 Irwin Road Tank & Transmission Line

METHODS

A protocol desert tortoise survey was conducted within the Project boundaries and a 300-foot buffer by biologists with extensive experience conducting surveys for desert tortoise. The survey was conducted in accordance with the recommended survey protocol methods in the USFWS document *Preparing for Any Action That May Occur within the Range of the Mojave Desert Tortoise (Gopherus agassizii)* (USFWS 2019b). Methods used to conduct the survey are described below.

Biologists surveyed the entire Project area plus a 300-foot buffer using pedestrian transects spaced approximately 30 feet apart to provide 100-percent survey coverage of the site and surrounding areas. The biologists checked under shrubs and trees and visually inspected any burrows encountered for desert tortoise or desert tortoise sign. Some private lands located within the Desert Tortoise Survey Area were not surveyed on foot due to lack of access permissions. However, whenever possible, inaccessible areas were surveyed using binoculars. The biologists conducted surveys during atmospheric conditions most conducive to observing desert tortoise and avoided adverse conditions that might have inhibited tortoise activity, including high winds and temperature extremes (less than 50 degrees Fahrenheit [°F] and greater than 104°F). If encountered, desert tortoises or their sign (e.g., burrows, carcasses, scat, pellets, drinking sites, tracks, mating rings) were recorded using a global positioning system device. The date of observation, sign type, sign classification (according to the survey protocol), amount of sign, and any pertinent comments were recorded for any sign encountered. When feasible, photographs were taken of desert tortoises and representative desert tortoise sign.

In addition to the focused desert tortoise survey, surveys to detect other sensitive biological resources were conducted for the project, including a general biological reconnaissance and focused rare plant surveys, and protocol-level trapping for Mohave ground squirrel (*Xerospermophilus mohavensis*).

RESULTS

The survey was conducted by ECORP biologists Taylor Dee and Alden Lovaas on April 30, 2020, from 0630 to 1540. Weather conditions during the survey consisted of wind speed ranging from zero to 13 miles per hour, cloud cover ranging from zero to 80 percent, and temperatures ranging from 67 to 93 degrees Fahrenheit. Representative photographs taken during the survey are included in Attachment A; wildlife species observed during the survey are included in Attachment B; and the field data sheets are included in Attachment C.

Habitat on the Project site consisted of disturbed creosote bush scrub (Figure 4). Dominant plant species included creosote bush (*Larrea tridentata*), saltbush (*Atriplex* spp.), common stork's bill (*Erodium cicutarium*), and Mediterranean grass (*Schismus barbatus*). Disturbances associated with Irwin Road, off-road vehicle use, and nearby residences were present, and non-native plant species were prevalent throughout the project site.



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

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



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

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

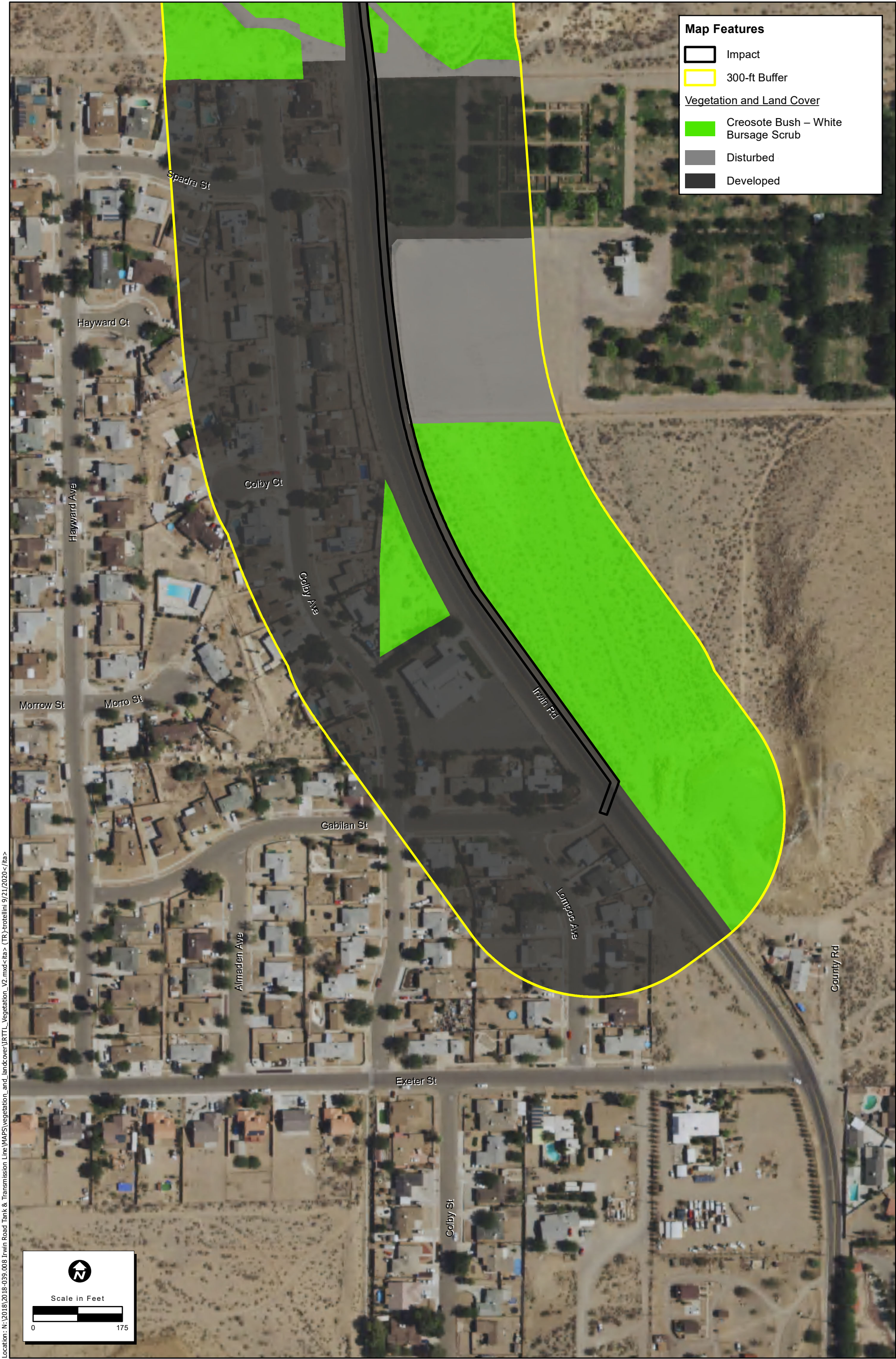


Figure 4. Vegetation Communities and Land Cover
Sheet 3 of 3

No live desert tortoises were observed on or adjacent to the Project site during the protocol survey. Thirteen observations of desert tortoise sign were documented during the protocol survey (Table 2; Figure 5). A total of five burrows were observed during the protocol desert tortoise survey; scat was observed on the aprons of two of the burrows. Representative photographs of a burrow and scat observed during the survey are included on Figures 6 and 7, respectively. Six carcasses were documented during the survey. Most of the carcasses identified during the protocol desert tortoise survey were either Class 2 or Class 5, indicating that there has been tortoise activity on the Project site in the past. All of the Class 5 carcasses observed were only pieces of a full carcass. The two Class 2 carcasses were both juveniles that showed signs of predation, one of which is shown on Figure 8. Presence of the Class 2 juvenile carcasses indicates successful desert tortoise breeding in the areas surrounding the Project.

Table 2. Desert Tortoise and Sign Observations- April 2020 Survey		
Desert Tortoise Sign	Class	Comments
Burrow	3	<ul style="list-style-type: none"> · 9" wide x 2" high x 4' deep · Pallet burrow · West aspect · No sign of recent use · Shallow and filling in
Burrow, Scat	3	<ul style="list-style-type: none"> · 8" wide x 6" high x 1.5' deep · East aspect · Curved burrow · Class 5 scat on apron · No sign of recent use · Collapsed/eroded
Burrow	5	<ul style="list-style-type: none"> · 7" wide x 3" high x 1' deep · No sign of recent use
Burrow	4	<ul style="list-style-type: none"> · 10" wide x 5" high x 3' deep · Caliche cave · West aspect · No sign of recent use
Burrow, Scat	2	<ul style="list-style-type: none"> · 7" wide x 3" high x 1' deep · West aspect · Under creosote bush · Multiple pieces of Class 3 scat on apron · Filling in slightly · No other sign of recent use
Carcass	2	<ul style="list-style-type: none"> · Juvenile · Mostly intact · Possible signs of predation
Carcass	5	<ul style="list-style-type: none"> · Few pieces · Bleached · Disarticulated

Table 2. Desert Tortoise and Sign Observations- April 2020 Survey		
Desert Tortoise Sign	Class	Comments
		· Likely sub adult or adult
Carcass	2	· Juvenile · Mostly intact · Signs of predation · Punctures in carapace (likely common raven)
Carcass	5	· One piece · Bleached · Some scent
Carcass	5	· One piece · Peeling scutes
Carcass	5	· One piece · Bleached · Peeling scute
Desert Tortoise Sign Classification		
<u>BURROWS</u>		
1 - Currently active, w/ tortoise or active sign		
2 - Good condition, definitely tortoise, no evidence of recent use		
3 - Deteriorated condition, definitely tortoise		
4 - Good condition, possibly tortoise		
5 - Deteriorated condition, possibly tortoise		
<u>SCAT</u>		
1 - Wet or freshly dried, obvious odor		
2 - Dry w/ glaze and some odor, no bleaching, dark brown		
3 - Dry w/o glaze or odor, light brown, tightly packed, signs of bleaching		
4 - Dry, very light brown to yellow, loose material; scaly		
5 - Bleached or consisting only of plant fiber		
<u>CARCASS</u>		
1 - Fresh or putrid		
2 - Normal color, scutes adhered to bone		
3 - Scutes peeled off bone		
4 - Shell bones falling apart; growth rings on scutes are peeling		
5 - Disarticulated and scattered		

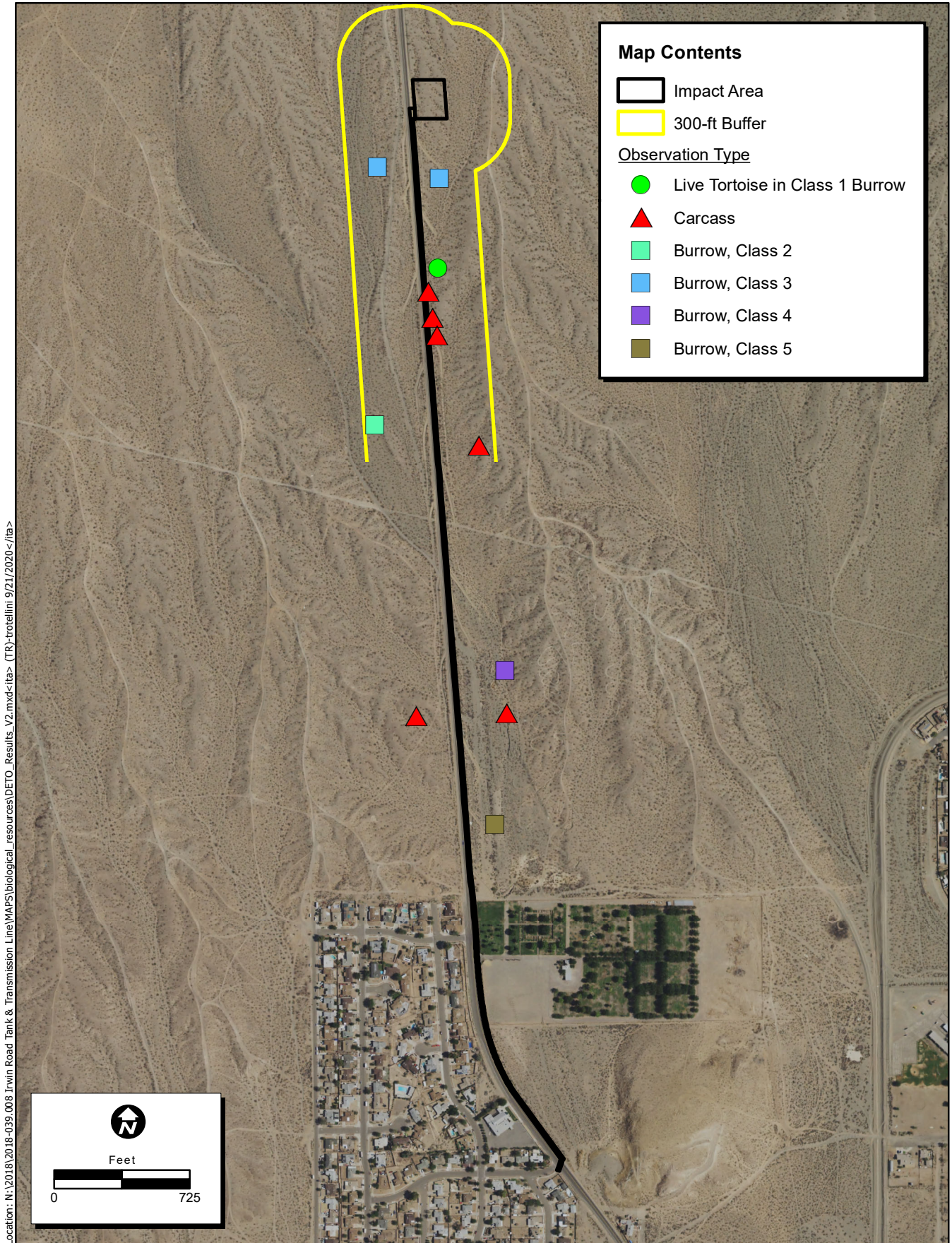


Figure 5. Desert Tortoise Results

2018-039.008 Irwin Road Tank & Transmission Line



Figure 6. Class 3 desert tortoise burrow.



Figure 7. Class 3 desert tortoise scat.



Figure 8. Juvenile desert tortoise carcass (Class 2).

One live adult desert tortoise was incidentally observed in the northern portion of the Project site during a protocol trapping survey for Mohave ground squirrel on May 27, 2020. The desert tortoise was observed inside a shallow, north-facing pallet burrow (approximately 13 inches wide by five inches high) at a new location not documented during the April 2020 survey. The burrow is located approximately 90 feet east of the proposed pipeline location. Based on visible wear on the back end (fifth vertebral and pygal scutes), likely from mating activities, it is presumed this individual is a female (Figure 8).



Figure 9. Live female adult desert tortoise incidentally observed during Mohave ground squirrel trapping on May 27, 2020.

IMPACTS ANALYSIS

The Project site consisted of mostly creosote bush 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 desert tortoise. Despite these disturbances, desert tortoise sign was observed throughout the Project site, and one live desert tortoise was incidentally 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 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 3 lists the acreage of occupied desert tortoise habitat that would be permanently affected by Project activities. Compensatory mitigation is required at a 5:1 ratio, in accordance with LUPA-BIO-COMP-1.

Table 3. Permanent and Temporary Impacts to Desert Tortoise Habitat		
Vegetation Community/Land Cover*	Tank Site Permanent Impacts (Acres)	Pipeline Permanent Impacts (Acres)
Creosote Bush Scrub (Disturbed)	0.77	0.01

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). Desert tortoise exclusion fencing will be permanently installed around the perimeter of the tank site location as well as along the pipeline installation work area during construction. Alternatively, short-term fencing could be installed around the pipeline installation work area and still be compliant with the text in LUPA-BIO-IFS-4. A clearance survey conducted by a designated tortoise biologist will take place inside the closed fence following fence installation activities to ensure tortoises are not trapped inside the fence. The fence will be inspected regularly by the designated biologist to ensure any damage to the fencing is repaired as it occurs (inspection timeframes are detailed in LUPA-BIO-IFS-4). Furthermore, a biological monitor will be present during initial ground-disturbing Project activities in accordance with LUPA-BIO-IFS-5 in the DRECP. Once the initial ground-disturbing activities are complete inside the fenced areas, then full-time biological monitoring would not be required. Full-time biological monitoring would be required in work areas that are not fenced, regardless of the type and duration of project activity.

Indirect impacts may occur during construction, operations, and maintenance 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 that will reduce impacts associated with construction, operations, and maintenance activities 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 the mitigation measure described in the Project's Environmental Assessment (Albert A. Webb Associates 2020) will reduce these impacts to a less than significant level.

The Project will be constructed 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 described in the Project's Environmental Assessment (Albert A. Webb Associates 2020).

RECOMMENDATIONS/MITIGATION MEASURES

Any impacts to the federally and State-listed desert tortoise or designated Critical Habitat would be considered to be significant under the California Environmental Quality Act (CEQA). 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 draft Environmental Assessment (Albert A. Webb Associates 2020). DRECP CMAs pertinent to the Project include the requirement for desert tortoise exclusion fencing installation (LUPA-BIO-IFS-4) and biological monitoring (LUPA-BIO-IFS-5). In addition to the DRECP CMAs, a mitigation measure pertinent to CEQA are recommended to reduce impacts to desert tortoise to a less than significant level is 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.

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 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

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

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

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).

- 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 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.

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.

- 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]

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.

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.

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

REFERENCES

- Albert A. Webb and Associates. 2020. *Environmental Assessment, Irwin Road Reservoir and Transmission Main, Screencheck No. 2*. Prepared for Bureau of Land Management, Barstow Field Office. March.
- RCA Associates, LLC. 2014. *Draft Biological Assessment, Irwin Road Reservoir and Transmission Main Project*. Prepared for Golden State Water Company, U.S. Fish and Wildlife Service, and U.S. Bureau of Land Management. June 30.
- USFWS. 2019a. *Range-Wide Monitoring of the Mojave Desert Tortoise (Gopherus agassizii): 2019 Annual Reporting DRAFT*. Report by the Desert Tortoise Recovery Office, U.S. Fish and Wildlife Service, Reno, Nevada.
- _____. 2019b. *Preparing for Any Action that May Occur within the Range of the Mojave Desert Tortoise (Gopherus agassizii)*. October 8.
- _____. 2011. *Revised Recovery Plan for the Mojave Population of the Desert Tortoise (Gopherus agassizii)*. U.S. Fish and Wildlife Services, Pacific Southwest Region, Sacramento, California. 222 pp.
- _____. 2009. *Desert Tortoise (Mojave Population) Field Manual (Gopherus agassizii)*. Region 8. Sacramento, California. December.

LIST OF ATTACHMENTS

Attachment A: Representative Photographs

Attachment B: Wildlife Species Observed

Attachment C: Data Sheets

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

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

ATTACHMENT C

Data Sheets

Date: 4/30/2020
GPS File: Collector

Desert Tortoise Survey



Project #: 2018-039:008
Client: _____

General Information		Weather Data	
Observers:	Time (24 hr)	Start: <u>0615</u>	End: <u>1842</u>
Taylor Dee	Temp* (°F) <small>6" above ground in shade</small>	Start: <u>67</u>	End: <u>93</u>
Aiden Loukas	Wind (mph)	Start: <u>0-2</u>	End: <u>5-13</u>
	% Cloud Cover	Start: <u>80</u>	End: <u>0</u>
Area(s) surveyed			
<u>project area + 300 ft buffer</u>			
Site Information			
Project Name: <u>Irwin Road Tank & Transmission Line</u>			
Location: <u>Barstow</u>		UTM Coordinates (NAD 83)	
County: <u>San Bernardino</u>		N:	[PHOTOS? <u> </u>]
Quad: <u>Barstow</u>		E:	[PHOTOS? <u> </u>]
T <u> </u> R <u> </u> S <u> </u>		S:	[PHOTOS? <u> </u>]
Parcel #:		W:	[PHOTOS? <u> </u>]
Physical Characteristics			
Elevation:	Aspect:	Soils: <u>sandy, rocky, desert pavement</u>	
Land Form*: <u> </u>	% Slope: <u> </u>	Other: <u> </u>	
* e.g. mesa, bajada, wash			
Land Uses: <u>BLM</u>			
NW: <u>open space - BLM</u>	SE: <u>res</u>		
NE: <u>open space - BLM</u>	SW: <u>residential development</u>		
Disturbances on Site: [e.g. tracks (vehicle, human, livestock, dog); trash; dump sites; bullet shells; blading; ravens; other]			
<u>vehicle/ATV tracks, trash, bullet shells, ravens, roads adjacent to road & power lines</u>			
Is site staked or marked? [Y] <input checked="" type="checkbox"/> [N] <input type="checkbox"/>			
Transect Width: <u>10 meters</u>			
Field Observations			
Vegetation Communities: <u>creosote bush scrub</u>			
Plants			
<u>creosote bush</u>		<u>Mojave woodcaster (xylorhiza tortifolia)</u>	
<u>desert dandelion</u>		<u>pin cushion</u>	
<u>beaver tail cactus (opuntia sp.)</u>		<u>amsinkia sp.</u>	
<u>Mojave desert star</u>		<u>saharan mustard</u>	
<u>Desert senna</u>		<u>goldfield</u>	
<u>indigo bush (psoralea sp.)</u>		<u>primrose</u>	
		<u>ephedra</u>	
Animals: [include: B - burrow, S - scat, O - observed, T - tracks, C - carcass, or Other (specify)]			
<u>BTSP ECHO</u>		<u>white antelope squirrel</u>	
<u>moDO desert cottontail</u>			
<u>SAPH desert iguana</u>			
<u>HbFI western side-blotch lizard</u>			
<u>CoPA harvester ant</u>			
<u>CoHA master blister beetle</u>			
<u>HOSP inflated beetle</u>			

Date: 4/30/2020
 Recorder: T. Dee
 GPS file: Collector

Desert Tortoise Survey



Project #: 2018-039.608
 Client: _____

Desert Tortoise Sign

	Time (24 hr)	Sign ^o	Class [*]	Easting UTM NAD83	Northing UTM NAD83	Comments (note aspect of burrows, Unique DT ID, measurements, behavior, etc.)
1	0636	C	2	34.93365803	-117.02149633	1 juvenile, possible signs of predation.
2						near road & powerline. mostly intact
3	0645	C	5	34.93267260	-117.02743020	1 bleached disarticulated. likely subadult
4						or adult. few pieces
5	0650	C	2	34.93241767	-117.02735110	1 juvenile carcass, mostly intact but signs
6						of predation: punctures in carapace likely
7						from CORA
8	0843	B	3	34.93489373	-117.02839120	9" w x 2" h x 4. pallet burrow. west aspect
9						shallow & filling in. no recent sign
10	0911	C	5	34.92682220	-117.02778513	1 piece of bleached carcass w/ some scutes
11	1050	B	3	34.93471900	-117.02728163	8" w x 6" h x 1.5' d, east aspect, curved,
12						1 piece of class 5 scat on apron, otherwise
13						no sign of recent use. collapsed/eroded
14	1131	B	5	34.92522510	-117.02640297	7" w x 3" h x 1' d. no sign of recent use
15	1230	C	5	34.93078957	-117.02661990	1 piece w/ peeling scutes.
16	1312	B	4	34.92748243	-117.02604433	caliche cave, west aspect, 10" w x 5" h x 3' d
17						straight, no sign
18	1323	C	5	34.92685863	-117.02617443	1 piece of bleached carcass, w/ peeling scutes
19	1359	B	2	34.93110240	-117.02848377	7" w x 3" h x 1' ft + d, west aspect, straight,
20						under creosote. filling in slightly otherwise
21						good. no sign of recent use except for
22						scat (class 3) on burrow apron.
23						multiple pieces
24						
25						
26						
27						
28						
29						
30						

^o T - tortoise, B - burrow, P - Pallet, S - scat, Tr - tracks, C - carcass, O - other (specify)

*BURROW / PALLET (Note Aspect)

- 1 - Currently active, w/tortoise or recent sign
- 2 - Good condition, definitely tortoise, no evidence of recent use
- 3 - Deteriorated condition (describe), definitely tortoise
- 4 - Good condition, possibly tortoise (describe)
- 5 - Deteriorated condition, possibly tortoise (describe)

*SCAT

- 1 - Wet or freshly dried, obvious odor
- 2 - Dry w/glaze and some odor, no bleaching, dark brown
- 3 - Dry, no glaze/odor, light brown, tightly packed, signs of bleaching
- 4 - Dry, very light brown to yellow, loose material; scaly appearance
- 5 - Bleached or consisting only of plant fiber

*LIVE TORTOISE (MCL, Max Width, Width at 7/8 Marginal, Height)

- 1 - Healthy
- 2 - URTD
- 3 - Shell Cracked
- 4 - Peeling scutes
- 5 - Ticks

- A - Foraging
- B - Basking
- C - In burrow
- D - Digging
- E - Traveling

*CARCASS

- 1 - Fresh or putrid
- 2 - Normal color, scutes adhered to bone
- 3 - Scutes peeled off bone
- 4 - Shell bone is falling apart; growth rings on scutes are peeling
- 5 - Disarticulated and scattered

- A - signs of predation
- B - No signs of predation